Equity: a cornerstone in designing national education policies

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Les Documents de Travail de l'IREDU
Working Papers

Institut de Recherche sur l'Education
Sociologie et Economie de l'Education
Institute for Research in the Sociology and Economics of Education

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Avril 2014
DT 2014/2

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Equity: a cornerstone in designing national education policies

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Abstract: This paper aims to cover some at least of the most significant dimensions that can help document, based on a sampling of countries, the issues surrounding equity and children's right to attend school, to stay in school long enough and to receive appropriate education services to ensure access to adult life with the basic knowledge and skills that will give them a chance at a decent economic and social life. Above and beyond its quantitative observations, this analysis identifies connections with various active or passive education policies found in national education systems. Additionally, to the extent that they provide a better understanding of the situation and point out stumbling blocks in the various sample countries used, these analyses can also be used to identify avenues for action.

December 2013

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Introduction: background and overall architecture of the study

Funding and efficiency are key issues in education; quantity and quality are clearly just as important. But it is also essential to consider two cross-cutting dimensions, which feed into both of the aforementioned aspects: these are (i) administrative and instructional governance and management and (ii) equity which, in the broader sense, does not focus on average cases, but rather on the distribution of schooling related elements around the average, as well as on disparities between individuals and between population groups. The focus of this document is on aspects of equity, it being understood that it will necessarily overlap with the other themes that inform the debate on education policy[1].

There are two additional approaches to these questions of equity in education that need no doubt be considered, knowing that in this document we will mainly deal with the first of these approaches, and leave the second one to be covered in a future paper:

* A "**system**" approach which focuses on the education sector as a whole, by examining in the wider sense (i) how the overall architecture of the system produces a more or less inegalitarian structure and (ii) how inequalities are built up cumulatively and sequentially between the different segments it comprises;

* An approach that focuses more specifically on the **grassroots level**, which is justified by the fact that it involves the most basic rights of the child to (i) effectively receive full basic schooling (at least at primary level) and (ii) access a quality of services that leads to reasonable learning outcomes for all children and providing young learners with at least the basic skills of reading, writing and arithmetic to equip them for adulthood.

Lastly, it should be noted that in this paper we shall deal essentially with "normal" situations without covering more specific issues of conflict (and post-conflict) circumstances and displaced populations. Such circumstances obviously have major negative implications for school enrolment, equity in education and children's rights to education. They have an impact on both supply of services (schools devastated or occupied by armed forces, teachers fleeing, etc.) and on demand for schooling (children's priority is often not school but survival or contributing to a subsistence economy, when the children themselves are not enlisted in war activities). But, this subject is particular and requires special treatment, while data on this count are generally quite scarce.

[1] This is due to the fact that systems must first of all be efficient, because it is then that wiggle room can be found to allow inclusion of those who would otherwise have been excluded. There is no conflict but rather a convergence between efficiency and equity. Furthermore, while equity is held to be an important value, it should be emphasised that it is produced (albeit often implicitly or by default) by education policy and that this production should itself be efficient (there are ways of wasting resources in the name of equity, when it could be possible, for example, to be just as equitable using less expensive instruments).

Furthermore, although this is sometimes an important aspect, we cannot appropriately deal with cases implying specific family circumstances. Schematically, we can distinguish three types of situations: (i) the most common one, where the child is living with both parents; (ii) the child is living with one parent (father or mother deceased or absent) and (iii) the child is living in a situation where both biological parents are absent.

While the first two cases do not pose problems in terms of analysis, the same cannot always be said about the third. This is because, if a child is living with extended family (which is taking care of the child because the parents are absent or because the child was placed in their care), for statistical purposes, he or she will be counted as living in his or her environment. However, if a child lives with a different family and is not considered a relative but is mainly employed in domestic tasks, this child, who is not enrolled at school, may sometimes not even be counted at all (neither in the original family nor in the "host" family); this is generally also the case if the child has been entrusted to a marabout, and even more so in the case of "street children", whose social ties have been mostly severed.

The research proposed in this paper therefore concentrates on the "ordinary" operation of education system in the countries of the region, for children in “ordinary” living circumstances. Our main focus here will not be either on specific short-term circumstances such as conflict/post-conflict situations; but this does not preclude that some of the analyses, reflections or tools proposed here may however turn out to be useful in such circumstances.

At overall system level, and irrespective of the social characteristics of the young people enrolled at various levels of schooling, its architecture itself contributes to create more or less pronounced disparities. Then, within the structural shell of the system (that sets a more or less restrictive context as a result of systemic policy choices), social disparities do appear, materialising unequal opportunities for individuals and groups. These inequalities can conveniently be separated out into those related to schooling career and student learning on the one hand, on those characterizing the appropriation of public education resources.

Beyond an overview of the system as a whole, it can also be useful to distinguish between the different legs in the potential school career of an individual, from primary school access through to higher education; in this way we can reconstitute the pattern of gradual sedimentation of social disparities; in this perspective, a certain number of variables, such as gender, geographic environment, wealth, and also perhaps region or province, ethnic group, etc, can be usefully considered. It is however to be noted that while the first three variables are amenable to international comparisons (precautions being taken), this is not the case of the last two, given that their definition is country-specific. Let us examine these different perspectives in turn.

I. The structural dimension of the education system as a whole

I.1 An initial global vision: efficiency and equity in one/several countries

Not all countries mobilise the same volume of public resources for their education systems; there is in fact a wide diversity between sub-Saharan African countries in this respect. The

resources used also produce varying amounts of human capital, as witnessed by school life expectancy (SLE), which is often taken as a global indicator to this end. Human capital may also be produced more or less efficiently and more or less equitably (and its quality may also vary).

* Production of human capital can be more or less efficient as we observe that the countries that spend the most are not systematically those who provide the population with the best overall school coverage. This situation is illustrated by the fact that, among countries with comparable volumes of public expenditure, some have a school life expectancy that is shorter than others, whereas, among countries with comparable school life expectancies, some achieve this by mobilizing more (or less) public resources. An quick and easy way to extend the general comparison of this aspect of overall quantitative efficiency to all of the countries consists in calculating an indicator that directly relates the value of SLE to that of the resources mobilised for the system (expressed as a percentage of the country's GDP). By doing so, we can identify the number of years of schooling a country can buy by devoting one per cent of its GDP to education, taking account of the prevailing education system organisation at the time of the analysis.

* Production of human capital can also be more or less equitable. For that, one should consider that the global school coverage of a country is, in fact, the average of the coverage provided to the different population groups.

. An average school life expectancy of 6 years of study is indeed compatible with a situation in which the indicator would also be 6 years for boys and girls, urban and rural dwellers, rich and poor (or any other social category that may be relevant in a particular country); in which case we would draw the conclusion that there is a high level of equity in the country, which, otherwise, may or may not be efficient in the sense of the previous point.

. However, an average school life expectancy of 6 years of study is also compatible with a case in which, to illustrate with gender, (i) boys have an SLE of 7 years and girls 5 years, or (ii) boys have an SLE of 8 years and girls only 4 years. Based on that example, the magnitude of gender disparities can easily be assessed in all the countries of the sample studied. The same procedure can be applied to criteria other than gender (rural/urban environment or wealth). This helps first to evaluate the relative weight of these social dimensions of social disparities in school in a given country; it helps also to provide a useful mapping of social differentiations by social dimension and country.

A country can therefore turn out to be both more or less efficient and more or less socially equitable. It is then useful to examine the relationships that may exist between these two aspects based on international comparisons. Table 1 below presents the main figures and basic indicators.

Table 1: School life expectancy and population groups in the different countries

Country	All			Population group (years of study)						Disparity index (ratios)			
	SLE (years)	EE/GDP (%)	Efficiency (Years/%)	G	B	R	U	Q123	Q45	Gender	Environment	Income	Overall
Benin	6.38	4.2	1.52	5.33	7.25	5.19	7.73	4.63	8.35	1.36	1.49	1.80	1.55
Burkina Faso	3.58	4.6	0.78	3.31	3.86	2.43	6.93	2.20	5.42	1.17	2.86	2.47	2.16
Cameroon	7.24	2.9	2.50	7.02	7.44	5.25	8.99	5.30	9.78	1.06	1.71	1.84	1.54
Cape Verde													
Congo	8.30	2.7	3.07	8.05	8.57	6.45	8.98	6.97	9.76	1.06	1.39	1.40	1.29
Côte d'Ivoire	6.10	4.6	1.33	5.40	6.77	4.70	7.56	4.99	7.72	1.26	1.61	1.55	1.47
Gabon	8.98	2.7	3.33	8.74	9.25	6.99	9.31	8.30	10.00	1.06	1.33	1.20	1.20
The Gambia	6.05	2.0	3.02	5.73	6.46	4.92	7.40	4.59	7.90	1.13	1.50	1.72	1.45
Ghana	7.81	5.4	1.45	7.73	7.92	6.46	9.40	6.34	10.18	1.03	1.45	1.61	1.36
Guinea	5.13	1.7	3.02	4.29	5.81	3.43	8.08	2.54	7.72	1.35	2.36	3.03	2.25
Equatorial Guinea													
Guinea-Bissau	5.51	1.3	4.24	5.19	5.80	3.73	7.20	3.92	6.77	1.12	1.93	1.73	1.59
Liberia	5.75	3.1	1.86	5.19	6.40	3.76	8.17	3.53	8.04	1.23	2.17	2.28	1.89
Mali	3.61	3.4	1.06	3.23	3.96	2.43	5.66	2.19	5.43	1.23	2.33	2.48	2.01
Mauritania	5.47	3.9	1.40	5.03	5.96	3.86	7.21	4.46	7.64	1.18	1.86	1.71	1.59
Niger	3.54	3.7	0.96	2.97	4.06	2.57	6.84	2.40	4.82	1.36	2.66	2.01	2.01
Nigeria	7.70	3.5	2.20	7.32	8.05	6.43	10.41	5.61	11.42	1.10	1.62	2.04	1.58
Central African Rep.	4.62	1.3	3.56	3.89	5.38	2.75	6.56	2.52	6.41	1.38	2.38	2.54	2.10
Democratic Rep. of Congo	6.33	1.7	3.72	5.76	6.86	4.65	8.50	4.51	8.46	1.19	1.83	1.88	1.63
Sao Tomé	6.61	6.4	1.03	6.77	6.45	6.32	6.82	5.47	7.70	0.95	1.08	1.41	1.15
Senegal	4.22	5.1	0.83	4.13	4.30	2.60	5.93	2.94	5.96	1.04	2.28	2.03	1.78
Sierra Leone	5.98	4.3	1.39	5.80	6.10	4.30	7.95	3.88	7.93	1.05	1.85	2.04	1.65
Chad	2.98	3.2	0.93	2.40	3.52	2.03	6.14	1.55	4.61	1.47	3.02	2.97	2.49
Togo	7.10	4.0	1.78	6.30	7.72	5.69	8.79	5.77	8.86	1.23	1.55	1.54	1.44
Average	**5.86**	**3.44**	**2.04**	**5.44**	**6.27**	**4.41**	**7.75**	**4.30**	**7.77**	**1.15**	**1.77**	**1.81**	**1.57**

The **school life expectancy** statistic takes on an average value of 5.9 years of study for all of the countries considered (left column of the table); but there is significant variability around this average, ranging from just 3.0 years in Chad to 9.0 years in Gabon. At the same time, a statistic indicating the ratio of the amount of public education expenditure to the country's GDP shows that countries mobilise relatively variable amounts of public spending for the education and training sector (although they unanimously claim to make tremendous efforts for the sector). Variations range from 1.3% in the Central African Republic and Guinea-Bissau to 6.4% in Sao Tomé and Principe, while the average of the sample countries is estimated at 3.44%.

If we calculate the ratio of SLE to the value of this last indicator, we obtain an indicator of the quantitative efficiency of the system. Its average value is 2.04 for all of the countries in the

sample, but it also varies widely from one country to another, ranging from 0.78 in Burkina Faso to 4.24 in Guinea-Bissau[2].

Concerning **social disparities in terms of SLE,** the principal basic figures for bivariate distributions, separately by gender, place of residence and family income, are shown in the six columns located in the central part of the table. We may note, for example, that school life expectancy in Benin is 5.33 years for girls compared to 7.35 years for boys, while in Ghana a rural child has a school life expectancy of 6.46 years of study whereas an urban child has an SLE of 9.40 years; or the fact that in Senegal, school life expectancy is only 2.94 years for a child whose family belongs to the poorest 60%, compared to 5.96 years if the family is among the richest 40% in the country[3]. The gaps are wider of we take more specific population groups, as we can see in table A1 in the annex, in which we can see that, across the whole sample, rural girls have an SLE of 3.91 years whereas urban boys have an SLE of 8.24 years. The differences are considerable.

But beyond the general observation that gender, environment and family wealth create differences in the school life expectancy of young people in the different countries, it is also important to determine the respective weights of these three factors. The data in the right-hand columns of the table provide information on this point. For each of the three dimensions considered, the disparity indicator is simply calculated as a ratio of the most privileged group (boy, urban, rich) to the least privileged one (girl, rural, poor).

If we focus first of all on the average values for the sample of 22 countries under consideration, it appears quite clearly that there is a hierarchy, with a figure of 1.15 for gender, 1.76 for the geographical area and 1.81 for family wealth. These figures show (with the use of logarithms) gaps on average some 4 times greater for environment and household income than for gender. Overall, there is therefore no doubt that the strong emphasis placed on the gender dimension, both in a certain number of sociological works and in the interventions of most aid agencies, can be called into question in light of the proven existence of greater disparities between urban and rural, on the one hand, children from rich and poor households, on the other (and even more so if we consider the case of the poorest and richest quintiles).

Given the magnitude of the differences associated with the three aforementioned social dimensions, we find that gender still plays the weakest role, and according to the country, the strongest role may be linked to environment or wealth (with groupings by quintiles). We can also observe that gender disparities are greatest in countries which have difficulty managing disparities linked to the other two factors, and this is especially true regarding the influence of poverty.

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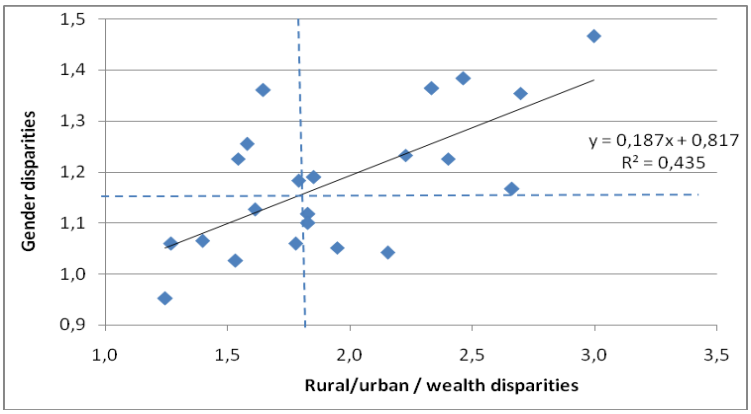
[2] There seems to be virtually no statistical relationship between the amount of public expenditure on education and overall school coverage, which suggests that the use the country makes of the expenditure is more important than the amount of resources they use.

[3] Greater variances are of course obtained if we compare the poorest quintile with the richest, but this comparison would apply to more extreme situations than those characterising gender (boys and girls at 50%/50%) or rural/urban, with respective proportions of approximately 30 and 70% on average for the sampled countries).

This being said, while gender still plays a lesser role than the other two factors, the estimates show that the weight of gender also varies greatly from one country to another. Thus we identify, on the one hand, a certain number of countries where gender disparities from the overall standpoint of the system are small: Sao-Tomé and Principe (B/G ratio = 0.95), Ghana (1.03), Senegal (1.04), Sierra Leone (1.05), Cameroon or the Congo (B/G ratio = 1.06). But we also identify countries where the gender disparities are considerably greater, in particular in Guinea with a B/G ratio of 1.35, but also Benin (1.36), the Central African Republic (1.38) and particularly Chad, with a B/G ratio estimated at 1.47.

In addition to the influence of gender, that of environment and poverty level can also differ by country, as these two dimensions tend to be either stronger or weaker in the same countries[4]. The intensity of the effect associated with gender is also statistically related to that of the other two dimensions (consolidated here), but the relationship is globally imperfect (R^2 of 0.43), identifying more specific configurations of the different countries as can be seen from the data in Graph 1, below.

Graph 1: The weight of gender, urban/rural and income in the different sample countries



Certain countries, such as Sao Tomé and Principe, the Congo or Ghana, have low levels of disparity (in relative terms) in both areas, while others, such as Chad, Guinea or the Central African Republic, combine strong disparities on both levels. On the other hand, Benin and Togo are characterised by moderate disparities in terms of rural/urban and wealth but by relatively strong gender disparities; "symmetrically", Senegal and Sierra Leone present average to strong disparities rural/urban and wealth wise, but relatively low disparities according to gender.

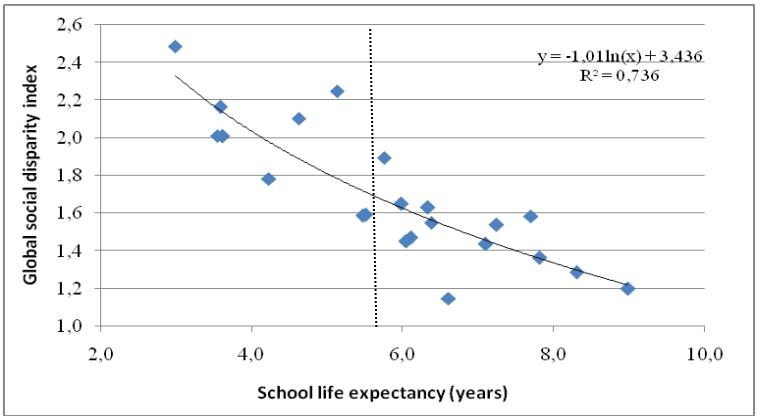
Lastly, it is also of interest to consolidate the influence of these various factors to determine an overall measure of the level of social disparities in education in the different countries under consideration. There are several technical possibilities, but we have observed that they make very little difference to the conclusions that could be drawn from the data. We have then chosen an indicator calculated simply as the arithmetic mean of the three components (last column of table 1, above). Not surprisingly, there is a wide variability with an average

[4] This is particularly the case in Guinea, Chad, the Central African Republic and Burkina Faso, with high figures for disparities linked to both environment and household income.

indicator value estimated at 1.57 and variations ranging from 1.15 in Sao Tomé and Principe (1.29 in the Congo and 1.36 in Ghana) to 2.49 in Chad (2.25 in Guinea and 2.16 in Burkina Faso).

One of the only "true", well-identified laws of sociology (in general and for education too) is that social inequalities in appropriating goods and services tend to be greater the lower the degree of availability of these goods and services[5]. This law holds true for our data, as can be seen in Graph 2 below.

Graph 2: General index of social inequalities and quantitative development of the system



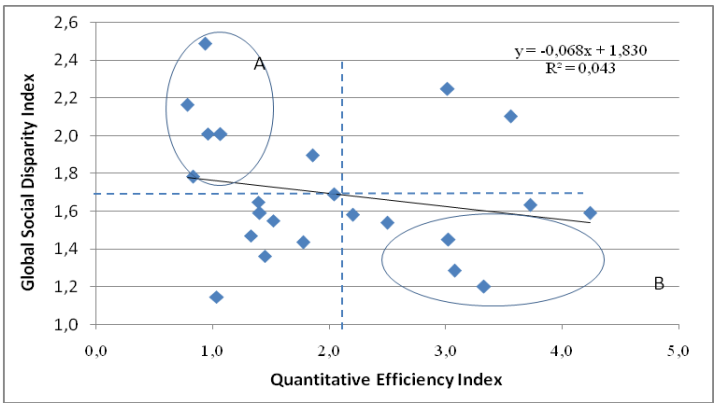
Generally speaking, it appears clearly that the broader the coverage of education in a country, the smaller the magnitude of the social disparities within it. And there is a strong and statistically very significant relationship between the two statistics with a value of 0.737 for R^2. From this, it can be inferred that the situation of significant social inequalities noted in Burkina Faso is largely due to the low level of coverage of the school system; similarly, the low level of inequalities identified in the Congo is generally consistent with its level of coverage, much higher than in Burkina Faso. The existence of this fairly strong correlation suggests that, while targeted measures may well be envisaged to combat social disparities in a country (such as actions to enrol girls at school), one of the basic strategies for achieving the goal of equity is simply quantitative: by extending coverage of the system; **quantity and equity tend to go together** (in general or specifically at certain levels of study; we will return to this point further on in this paper).

Although there is a strong overall relationship, there are also countries that tend to diverge from it. This is notably the case of Guinea, which, with a social disparity index of 2.25, is well above what is observed in sample countries with comparable overall school coverage (SLE) (the overall index is estimated in the area of 1.80). We can also observe that the performance of countries such as Senegal or Mali is better than that of Guinea in the sense that there is a lower level of social disparity despite lower schooling coverage.

[5] In the most extreme situation, when the availability of an asset is extremely low, it is appropriated by the socially "fittest", whereas, when it is available to all, there are, by definition, no longer any social disparities.

We can now come to the point of finding out to what extent the countries which perform best in terms of quantitative efficiency (those providing the population with good school coverage with respect to the public resources allocated to the education sector), also perform better (or not) in terms of the social disparities generated within their systems. With this in mind, it is convenient to make a graph (Graph 3, below) which locates the position of each country in the sample within this efficiency-equity quadrant.

Graph 3: Overall efficiency and equity in the sample countries considered



Ordinarily, one would tend to think that the status of a country's education system would be better when quantitative efficiency is high and overall social disparities are low.

Overall, for all 22 countries in the sample studied, we can first of all note that while there is quite strong variability between countries in both dimensions, there is no significant statistical relationship between them (the value of R^2 being 4%). This means that a country's system can be efficient (or not) on the quantitative level and perform well (or not) in terms of social disparities. This being said, it is also possible to distinguish between two groups of countries that emerge in two extreme configurations that are worth highlighting:

* In the first instance, there are countries that combine a high level of efficiency (a positive quantitative result given the often modest public resources used) and a relatively low level of social disparity (circle B in Graph 3 above); this group includes the Congo, The Gambia, Guinea-Bissau, the Democratic Republic of the Congo and Cameroon.

* In the second instance, we can identify countries in opposite circumstances, i.e. they have a low level of quantitative efficiency and also have relatively pronounced social disparities. This group of countries (circle A in the Graph), includes Chad, Burkina Faso and Mali.

I.2 Financial aspects: a context that facilitates or puts pressure upon equity

Among the issues that have an impact on equity in education systems, it may be useful to take the financial aspect as a starting point. This factor itself has two main sides: the first concerns

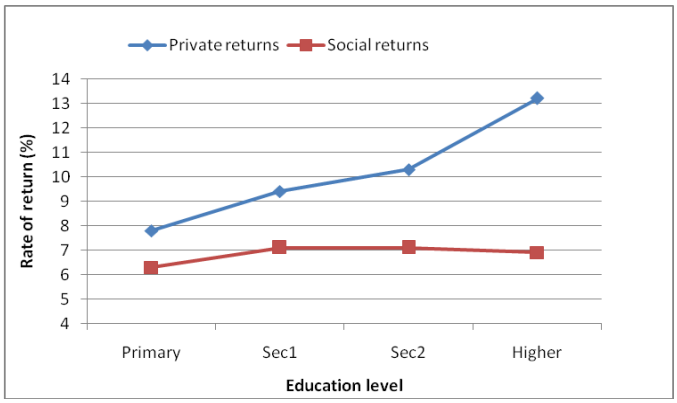
the weight given to private funding in proportion to public funding, or total funding, in a country; the second concerns the amount and distribution of the public funding. We shall briefly examine both aspects in turn.

I.2.1 The issue of private funding of education

Generically, the argument is often put forward that education, which is often considered a public good, should receive public funding, with a view to both efficiency and equity: from the standpoint of overall efficiency, the aim is to avoid making an investment in human capital that would be lower than what is socially desirable; from an equity perspective, it is a question of making sure recourse to private funding does not penalise more particularly the economically vulnerable and socially traditional families (individuals for whom the demand for school enrolment is lowest – girls, for example).

This argument is in fact too generic to be perfectly true. It is not exactly true, especially from the perspective of equity. In the first instance, while everyone agrees that education is, to some extent, a public good, this is more the case in the early levels of education. In the higher part of an education system, especially in its terminal levels (technical education & vocational training, and higher education), the private component of the investment becomes quite significant[6]. This can be illustrated by the average structure of private and social returns on education by level of studies in nine French-speaking countries in the region for which data is available (Graph 4, below).

Graph 4: Private and social returns on education in 9 sub-Saharan African countries



Under these circumstances, the private component of investment at the higher level suggests that it could be relevant that individuals contribute to the funding of their training[7]. In so doing, assuming a constant budget for the sector, the public resources saved in this way could be redistributed for the benefit of the lower part of the system, that is for the benefit of the majority (therefore contributing to integrate some of those currently "excluded" from the

[6] For example, if I am trained as a refrigeration technician, this is no doubt a good thing for the country if there is a real demand for this qualification, but it is also good for me as I will find a job and earn a decent living as a consequence.

[7] In so doing, also helping to regulate the flows in different training specialities depending on labour market demand and promote efficient organisation (less costly, better targeted on jobs) on the part of training providers.

system), while the upper part, in particular higher education, is characterised by a disproportionately high presence of the socially privileged population[8].

But private funding can also apply to segments located in the lower part of the system; to what extent is this a problem? The answer to this question is not straightforward either, as we can consider several configurations in which families are called upon to contribute:

. In the case of private schools, this poses no problems as long as they correspond to a reasonable proportion of the number of pupils, and that children from underprivileged households can "still" find a public facility that is free and of the appropriate quality. Instead of being a problem, it could rather be considered a positive set-up for underprivileged children, as the public resources saved due to the private supply of education will enable higher overall coverage and/or better quality services for underprivileged children than would have been possible in the absence of private schools.

The situation is obviously different (i) if the share of coverage in private schools is large, implying that children of modest means may be obliged to use them, or (ii) if the public education services offer inadequate quality, inciting individuals (whether rightly or wrongly) to turn to enrolling in private schools (these two points may act in a complementary manner).

. Another case is when private funding takes the form of schooling in community schools, generally set up on the initiative of the communities when the State fails to create a public school locally, even though, as is observed in many countries, the ministry may partially contribute to the functioning of these schools and integrate them into its statistics alongside the public schools.

Depending on the circumstances, the parents must contribute a certain amount to the costs for running the school, and often to the teacher's salary. As these communities are poorly served by public action and often economically underprivileged, it is easy to conceive that these schools (whose services are, in addition, sometimes of modest quality), materialise very problematic situations in terms of equity.

. Lastly, parents may also be called upon to contribute financially when their children are schooled in “standard” public schools. Two types of situations may be encountered: (i) the first, and most common, involves “incidental” expenses that must be paid for school enrolment; these may take the form of enrolment fees but more often of fees for the cooperative, the parent-teacher association or the purchase of books, school supplies or equipment of various kinds (including uniforms, etc.); (ii) in the second case, the State does not provide enough teachers for a school and families must pay the salaries of “parents' teachers”[9]. Whatever the form they take or the amount paid (sometimes substantial), these expenses covered by families undermine the concept of free schooling and can exert a negative influence on school enrolment, for children from underprivileged families in particular, for whom price elasticity has often been shown to be rather high.

[8] Obviously, it would therefore be useful to implement targeted measures for economically vulnerable individuals whose schooling could be negatively affected by enrolment fees at these levels of study.
[9] Parents' teachers are more often found in underprivileged communities, which have little political influence.

*** The weight of the private sector, its forms and consequences**

Countries in the sub-region show considerable variability in the share of students in private schools, although the private sector in this context is chiefly defined by school funding and covers two very different realities. These are (i) private schools in urban areas which are used to diversify and increase the supply of school enrolment and (ii) community schools in rural areas funded by the poorest households, due to an inadequate public supply. The proportion of primary school pupils enrolled in the "standard" private sector in the countries of the region varies on a broad continuum from 82% in DRC, 50% in Equatorial Guinea, 43% in Togo, 40% in Mali, 22% in Cameroon, but also 5% in Nigeria, 4% in Niger and less than 1% in Sao Tome and Cape Verde.

Focussing now on the contribution of households to finance parents' teachers in public and community schools, it is observed that while this type of personnel is practically non-existent in Cape Verde, Gabon, Burkina Faso, Mauritania and Niger, the proportion is very high in Mali (31%), Cameroon (34%), the Congo (49%), Chad (51%) and the Central African Republic (55%).

Since our main interest is focused on equity, we examine the relationship between the social disparity index in primary completion and, on the one hand the percentage of pupils enrolled in "standard" private schools and the percentage of community teachers, on the other. Table 2, thereafter, provides the results obtained in the statistical analysis

Table 2: Analysis of the level of social disparity in the completion of primary education according to variables describing the weight and type of private funding

	Coefficient	Student t-test
Percentage of pupils in private schools	- 0.0323	- 2.33 **
Percentage of community teachers	0.0175	2.10 **
Intercept	2.252	6.34 ***
R^2: Proportion of variance explained (adjusted R^2)	0.427 (0.323)	

The estimated model illustrates the empirical validity of the assumptions made above, to wit that the level of social disparity in education within a country (i) tends to be lower when there is larger provision of "standard" private education, but (ii) tends to increase when there are more parents' teachers in the public (and community) education sector in the country; this is partly because a financial contribution is required from the families and a certain number of modest families are unable to pay this contribution.

*** Household education spending, magnitude and patterns**

In total, if we consolidate its different forms, household expenditure on schooling of children contributes a variable proportion of each country's national education effort. Table 3, below, presents a few statistics taken from analyses conducted on the basis of household surveys (consumption budgets) in 13 countries of West and Central Africa.

Table 3: Contribution of households as a % of national education expenditure by level of study in a sample of 13 countries

Country	Level of study				
	Primary	Secondary 1	Secondary 2	Higher	All
Benin	26.7	60.9	57.9	23.2	38.4
Burkina Faso	25.6	66.7	50.0	21.8	35.9
Cameroon	49.2	50.2	57.0	33.6	48.6
Congo	27.5	36.2	17.0	5.6	23.7
Côte d'Ivoire	25.0	46.2	49.4	37.4	36.9
Guinea-Bissau	42.5	65.7	70.3	72.3	54.1
Mali	19.3	14.1	13.1	10.0	16.3
Mauritania	23.5	21.0	23.8	28.4	23.6
Niger	8.5	17.8	22.6	10.8	13.1
Senegal	17.0	46.5	17.4	14.3	20.8
Sierra Leone	65.3	75.1	86.7	26.2	58.3
Chad	24.7	25.9	24.9	8.5	22.2
Togo	44.8	41.1	36.8	12.9	38.7
Average	**30.7**	**43.6**	**40.5**	**23.5**	**33.1**

This table can be summarised first of all by examining its extremes:

. Between the different countries, first of all, we can see that the proportion of national education expenditure borne by households is extremely variable, ranging from only 13% in Niger, to figures in the area of 50% (or even higher) in Cameroon, Guinea-Bissau and Sierra Leone.

. Secondly, between the different levels of study, for the countries considered we can observe that, on average, (i) the share of private funding in national current spending is lower in higher education than in primary, which is quite clearly contrary to the principles recalled above, and (ii) it is at secondary level that household contributions are proportionally highest.

This pattern applies more or less on average to the different countries, but it can be seen that household contributions are particularly low in higher education (under 10%) in the Congo and Chad, whereas they are especially high in primary in Sierra Leone, Cameroon and, to a lesser degree, in Togo.

It should be noted that the data in Table 3 above was estimated on dates ranging from 2004 to 2010 and that changes are no doubt underway. These dynamics are likely to reduce the weight of household funding at primary school level due to the action taken under EFA, and increase it at higher education level due to increasing enrolment in private institutions at this level of study (in response to mass enrolment and the deterioration of learning conditions in public institutions at this level of study[10]). At the secondary level, the high proportion of private funding will no doubt be maintained (or increased?) to the extent that pupil numbers are increasing greatly in this segment and governments often find it difficult to mobilize the requisite amount of resources for this level of study given the overall competition within the sector[11].

[10] Unit spending was divided by an average factor of 2.5 between 1999 and 2009, due to the explosion in student numbers (which tripled) added to a modest increase in public funding.

[11] It has been noted that the concept of "parents' teachers", initially found mainly in primary, is spreading into the first secondary cycle.

If we focus now on private expenditure in primary education, we can see that the proportion varies widely depending on the country; this variability also concerns the amount, which ranges from 1.4 to 4.1% of the country's per capita GDP. We can then examine how this expenditure is distributed between different groups of households according to their income level; it is of particular interest to look at the magnitude of the funding paid by the group of the 40% poorest households in the country.

Table 4 below shows the findings of a statistical analysis that relates the level of social disparity in primary schooling and overall private funding on the one hand, private funding by the most modest families in the country on the other.

Table 4: Analysis of the level of social disparity in primary schools according to household funding variables

	Coefficient	Student t-test
Household expenditure per pupil (as a % of per capita GDP)	- 0.044	- 0.69 ns
Proportion of this expenditure paid by the poorest 40% of households	0.066	2.73 **
Intercept	0.488	0.696 ns
R^2: Proportion of variance explained (adjusted R^2)	0.538 (0.422)	

If we consider in the first instance the overall impact of household spending levels on social disparities, we can see that while the coefficient is negative, it is not significant. But it is estimated that the greater the share of the poorest households in this spending, the stronger the social disparities; and this impact is indeed significant.

By way of summary of the previous analysis, it seems reasonable to conclude that it is not private funding in itself that has a negative impact in terms of equity, but the form the funding takes. This is the case, for example, when parents help fund current spending in public schools, paying the salaries of parents' teachers, but not only. The existence of private funding of “standard” private schools appears, on the contrary, to have a positive impact on equity. The reason for this pattern is of course that private schools attract children from a wealthier social background while allowing increase public funding in public schools, whereas parents' teachers tend to be found more in schools that attract an underprivileged population.

I.2.2 The volume and distribution of public resources in education

Countries may differ, firstly, in the volume of public resources they allocate to their education system and, secondly, in how they distribute these resources among the different levels of schooling. These two basic aspects of any national education policies may have in themselves significant impacts on equity at system level; this is even more so if we consider the implications for primary education which may have detrimental consequences from the perspective of children's rights.

Public resources for the education sector depend, on the one hand, on the resources mobilized by the State (internally[12] and externally[13]) and, on the other hand, on the budget priority each government assigns to its education and training system. In both areas, very strong variations emerge between countries.

On the basis of the public resources mobilised for the sector, new trade-offs need to be made by each country to define the proportions to be allocated to each level of the education system. On this level as well, significant variability has been observed between the different countries in the region.

Factoring in these combined variations means that public resources for the different levels of study does vary quite substantially from one country to another. This is true both in absolute and in relative terms. For instance, if we take as a reference statistic the proportion of the country's Gross Domestic Product allocated to primary education, it ensues from the variations between countries that discussions on children's rights in a given country will depend quite significantly on the numerical value of this statistic and on its determining factors. It is probably not appropriate to consider only the specific actions which could be envisaged within this budget; the overall budget amount is clearly also to be considered.

I.2.3 The distribution of school enrolment and unit expenditure

* In this approach, the first item to be considered is school coverage, and in particular the shape of the enrolment pyramid at the different levels of study in a country's education system. The data in the first row of Table 5, below, compares three countries (A, B and C) with a different school enrolment pyramid. Countries A and B are characterised by strong school coverage in the lower part of the system (90 % in primary and 50 % in the first secondary cycle) while their coverage is low in the upper part of the system (5 % at higher education level, 15 % in the second secondary cycle). In contrast to this, country C has made different choices with only 60 % coverage in primary level and 25 % at higher education level. We intuitively have the idea that the distribution of school enrolments in countries A and B is more equitable than in country C, as it allows a greater proportion of children to be schooled, at least at primary level, the minimum right to which all children are entitled.

Table 5: School pyramid and unit costs by level of education in three hypothetical countries

	Country A:	Country B	Country C
School coverage (%)			
Primary	90	90	60
Secondary 1	50	50	40
Secondary 2	15	15	25
Higher	5	5	15
Unit cost (monetary unit)			
Primary	30	20	20
Secondary 1	60	50	50
Secondary 2	80	100	100
Higher	150	300	300

[12] Here the level of GDP of the country intervenes jointly with its fiscal/parafiscal capacity.
[13] Particularly for general budget support; but external resources earmarked for the sector also play a role.

* To complete the structural perspective, we can focus on the choices made in terms of the unit costs of schooling at the different levels of study in the three hypothetical countries; the bottom row of Table 5 shows the relevant data. In this row, countries B and C have the same unit cost structure, but it differs from that of country A, which is characterised by a higher level of expenditure per student in the lower part of the education system (and in primary education in particular) than in the other two countries, while the opposite is true in the upper part of the system, including higher education. An intuition comparable to that seen in the previous point suggests that structural equity is higher in country A than in the other two countries; the reason is that A makes greater financial efforts for the mass of primary pupils, while the other two countries are more elitist and "neglect" public expenditure on primary education in favour of higher education where student numbers are lower.

But the structural reality of an education system, regarding public choices, combines the distribution of school coverage **with** the that of the average expenditure per student; and we can clearly see that these two distributions will compete to define the distribution of the aggregate public resources appropriated by a pseudo-generation due, on the one hand, to its pattern of school careers and, on the other hand, to the pattern of financial efforts made by the State to take in all students at the different levels of study. Taking both of these dimensions into account in Table 5, above, leads us to imagine that country C is the one where public resources in education are probably the most inequitably distributed, and that country A is the one where the degree of structural equity in the distribution of public funding is the best of the three countries considered, with country B coming somewhere between countries A and C.

The two main distributions that need to be estimated involve (i) the final level of schooling of the individuals in a generation (the highest level of study reached), and (ii) the overall amount of public resources accumulated throughout their school career up to that final level. The amount of public resources received by individuals according to their final level of school enrolment can be estimated on the hand from the duration of the different cycles of study and on the other from estimates of the unit costs in each of these cycles. Thus, individuals who have never been enrolled in school have obviously not received any public resources; where primary education is the final level (assuming that the primary cycle was completed), the resources accrued correspond to the unit cost per year of study multiplied by the number of years of study in the cycle; similarly, people who left school after the 1st secondary cycle received (i) the amount accrued in primary education, plus (ii) the amount obtained in the first secondary cycle; and so on, following the same logic up to higher education level (combining the resources previously accumulated in primary education and the two secondary cycles with those accrued in higher education itself).

The public resources mobilised by the population as a whole are determined on the basis of the amount of public resources appropriated by each individual, depending on their highest final level of schooling and the number of individuals (in a hypothetical population of 100) at each of these levels. The distribution of the (i) highest levels of schooling and (ii) public resources can be represented cumulatively by a Lorenz curve. In this framework, two indices can then be calculated:

* The first is the Gini index, which is calculated as the ratio of the area that lies between the Lorenz curve and the diagonal line of equal distribution over the area of the triangle formed by points identifying 100%, respectively of the population and of the cumulative resources in the Lorenz curve. As a logical result, its numerical value lies between 0 and 1; 0 corresponds to perfect equity in the distribution of public resources for education (x% of the children of a generation obtain x% of the public resources, irrespective of the value of x), while 1 corresponds to the concentration of all the public resources mobilised for the sector for the benefit of a single individual.

*The second indicator which can be used to measure the concentration of public funding consists in calculating the proportion of public resources appropriated by the most educated 10% of the generation considered. This proportion is estimated either by interpreting the Lorenz curve directly, or, preferably, by linear interpolation.

The numerical estimates of these indices of structural concentration of public resources in education are shown in table 6, below.

Table 6: Indicators of structural inequality in the sample countries

Country	Gini coefficient	% resources for the most educated 10%	Country	Gini coefficient	% resources for the 10 % most educated
Benin	64.4%	40.0%	Liberia	62.3%	41.8%
Burkina Faso	80.0%	67.1%	Mali	79.7%	63.8%
Cameroon	57.1%	32.0%	Mauritania	65.1%	56.1%
Cape Verde			Niger	76.2%	49.7%
Congo	60.9%	50.1%	Nigeria	53.1%	24.5%
Côte d'Ivoire	61.7%	38.6%	Central African Rep.	69.8%	54.4%
Gabon	43.3%	36.0%	Dem. Rep. of Congo	64.3%	46.4%
The Gambia	67.5%	57.9%	Sao Tomé		
Ghana	49.1%	30.0%	Senegal	75.1%	59.8%
Guinea	69.7%	45.7%	Sierra Leone	64.2%	48.6%
Equatorial Guinea			Chad	81.9%	70.3%
Guinea-Bissau	58.5%	34.9%	Togo	57.3%	42.1%
			All	**64.8%**	**47.1%**

Of the two indicators, the Gini coefficient is a priori preferable in descriptive terms, as it covers the whole distribution, whereas the proportion of public resources for the most educated 10% only targets the top of the distribution. This being said, the majority of analysts and decision makers in education are unfamiliar with the value of the Gini coefficient (0.65 on average and variation ranging from 0.43 in Gabon to 0.80 in Burkina Faso); in contrast, measuring the share of the sector budget appropriated by the most educated 10% of a generation has an immediate perceived meaning. Furthermore, these two measurements are strongly correlated (R^2=0.75), so it is generally preferable to use the latter.

The estimated average value of the indicator is 47.1%. This means that approximately half of the public resources mobilised by the education sector for a given age category in a typical sample country is in fact appropriated by the most educated 10%. This figure can "normatively" be considered high; it also varies from one country to another, ranging from 25% in Nigeria (30% in Ghana) to 70% in Chad (67% in Burkina Faso).

It should be noted that the approach followed focused on disparities in education systems with reference to their own internal structures only; at this stage it did not introduce the social characteristics of people with long or short periods of schooling (or no schooling at all); these disparities in the appropriation of public resources in education are inherent to the very structure of the system (structure of school enrolments and unit costs at the different levels of schooling). However, since whether schooling careers are long or short carries in reality a social dimension, this factor will play an role in addition to that of the structure of the system in itself. Social disparities in the pattern of school enrolments are to results in social disparities in the appropriation of the public funding a country allocates to its school system. These aspects are examined in the following two sections.

II. A cross-sectional and descriptive approach to social disparities in the system

II.1 The data likely to be used

At first sight, the approach is simple; it consists to a large extent in correlating two types of statistics: (i) data on the schooling of individuals (access to primary, secondary or higher studies, continuation through and completion of the different study cycles, transitions between successive cycles of study) and (ii) data on the social characteristics of the individuals (gender, environment, geographic origin, ethnic group) or their parents (level of income in particular).

Two sources of information can be used to conduct the analysis: (i) administrative data (school statistics and demographic projections) and (ii) household survey data.

* **Administrative data** (school statistics and associated demographic data) provides fairly immediate estimates, traditionally of school enrolment ratios and, more recently, of schooling profiles; but their quality is sometimes uncertain, for several reasons:

(i) school statistics can be imperfect for multiple reasons, and, in particular, due to (i) incomplete coverage of schools[14], (ii) headmasters encouraging over/under reporting[15], (iii) errors in reporting, data entry and data formatting[16].

(ii) Demographic data also (often) poses problems. For example, the most recent census may not be very recent at all (sometimes 10 years or more) and experience shows that it can also be a source of various difficulties: (i) the sometimes imperfect quality of the census, (ii) figures observed at a given date may be "polluted" by population displacements[17], and projections unfortunately reflect this, and (iii) gaps in the civil registry due to illiteracy in

[14] This is all the more problematic as the rate of coverage of school surveys can vary from one year to the next, whereas data from two consecutive school years is often required.

[15] Experience shows that the heads of education institutions may overestimate student numbers if they are entitled to bonuses that depend on the size of the school or if the ministry uses the number of pupils as a basis for allocating staff and educational resources; under-reporting has also been observed when fees are collected at the schools and paid over (in full or in part) to the education or tax authorities.

[16] The most common (and easily identifiable) syndrome is the presence of "duplications" in the files; when school data is compared over several consecutive years, considerable errors can also be seen and these are not generally identified.

[17] If the country or a neighbouring country has been in a conflict situation, for example.

certain population groups leads to false reporting on age, particularly in children. These contingencies in the reporting of age are not too serious when dealing with age groups; on the other hand they are much more so when individual years are used, as is required to calculate the primary completion rate, to take one instance. In addition, errors may occur in making projections, both in the choice of the methods used and in the parameters taken into account to apply them concretely. Experience often shows internal inconsistencies of considerable magnitude in the demographic projections used by education planning services.

Besides the quality of the administrative data, their use is also a serious source of limitations in terms of education systems analysis[18]. One reason is that school statistics are always established at the level of the schools being surveyed and not at the level of the individual. For a certain number of questions, this is not a problem. However, where the equity dimension is concerned, school data presents obvious limitations. For example, as the data on environment (urban/rural) is attached to the school, it is difficult, after the primary level, to infer the actual location of the pupils on the basis of that of the school they are attending in the course of an academic year. One would think that data on administrative locations (region, province) poses no problems as the geographic location of a school can be identified unambiguously and we would expect it to be the same as that of its students. But very significant problems appear if we analyse disparities in school coverage between different administrative entities, due to the generally low quality and reliability of the demographic projections produced at the level of these entities[19].

But no doubt the greatest limitations when broaching questions of equity arise from the fact that the administrative data (both on schooling and demographics) is confined to considering the gender variable, whereas other variables can also play a very significant role[20]; this is indeed the case with environment (urban/rural) and administrative location (regions, provinces, etc.), as identified above; but we also find that the parents' income level, the degree of dispersion of the populations or membership in a group (such as an ethnic group), can have implications that are strongly differentiating, possibly even stronger than those attached to gender.

* **Household surveys,** on the other hand, present particular advantages. Their main advantage is that they are conducted at the individual and household level in a context where all children in the household are found in a single database that also includes each child's schooling status (has previously attended school/has never been to school; out of school/in school at the time of the survey and if in school, in which grade, etc.). In addition, there are variables describing each of the children (age, gender, etc.), as well as the household (location, distance from the nearest social infrastructure for some of them–including primary and secondary school–, level of income, mother's education level, population group, etc.).

[18] A major limitation, which we shall come back to later, concerns the fact that only children enrolled in school are known; those not enrolled must be inferred, and the methods for doing so are highly problematic in their approach and very imprecise in their application.

[19] The problems are related, in particular, to the fact that migratory phenomena within the national territory are not taken into account; these difficulties are all the more acute the smaller the administrative units targeted.

[20] This is no doubt one of the reasons why this variable is given special attention, to the detriment of other variables that are sometimes more relevant to equity in schooling.

Household survey data help calculate most of the common coverage indicators used, including enrolment rates and schooling profiles (coverage, access, completion, transition), without the disadvantages mentioned above. It is also possible to deal more completely with the issues of social equity in schooling (in addition to a more direct approach to issues involving out-of-school children[21].

On the basis of what is thought to be the most appropriate data (household survey data), it is possible to estimate for a given country (or for the different countries in a sample) both (i) the coverage of the education system at different levels of study and (ii) a detailed schooling profile identifying the access points in the first and last years of each cycle of study as well as the retention rate within each of these cycles[22] and the transition between successive cycles. Beyond the overall national situation, it is also possible to bring in the different social dimensions by distributing these elements according to gender, urban/rural and income.

II.2 Measuring social disparity by level of schooling

The approach has been applied in the 22 countries of Western and Central Africa for which the data of a reasonably recent household survey have been available. Analysis has helped identify the proportion of the new entrants within the population in each grade of the education system at the time of the survey[23]; these statistics have then been broken down according to gender, environment (rural/urban) and quintile of family wealth.

This data is shown in Table 7, below. But given the sheer bulk of the information this analysis produces, we shall confine ourselves to a summary which: (i) only targets the first and last grades of each of the study cycles and (ii) considers only the univariate effects of the three social variables considered (gender, environment, wealth) without including the cumulative impacts when two or more social dimensions are crossed to identify more specific populations girls versus urban boys, etc.).

The family wealth variable

Concerning the measure of the level of family wealth, the identification procedure used is based on a factor analysis based on household assets and conditions of living). The starting point consists in identifying the first axis which gives a continuous measure of wealth, a magnitude which is then used (according to the usual practice) to build wealth quintiles (from Q1, comprising the poorest 20% of households, to Q5, with the richest 20%). This division into five categories could of course be used within the framework of Table 7, and subsequently to build schooling profiles, but it has both advantages and disadvantages. In terms of its advantages, it can be used to examine the school situation of young people living in difficult social and economic conditions (the first quintile, but in that case, why not the first decile, etc.); but this breakdown can also have disadvantages:

(i) the first is that it is difficult to simply compare the differentiations generated by the different social variables, to the extent that gender involves numerically balanced population groups (50% boys and 50% girls) whereas taking Q1 and Q5 into account would involve more contrasted cases;

(ii) the second is that it is even difficult to present the entirety of the results obtained. In Table 7, we opted for an opposition between one group aggregating the households belonging to the poorest three quintiles (Q1 to Q3), and another group comprising the households belonging to the richest two quintiles (Q4 and Q5) in each country.

Table 7: Proportion of the population with access to the first and last grades of the different education cycles according to gender, environment and income level

Country	Prim. Access.	Prim. Comp.	S1 Access	S1 Comp.	S2 Access	S2 Comp.	Higher Ed. Access
Benin	0.750	0.530	0.482	0.322	0.263	0.159	0.098
Girls	0.688	0.447	0.399	0.251	0.190	0.106	0.059
Boys	0.802	0.600	0.550	0.382	0.323	0.204	0.130
Rural	0.707	0.458	0.402	0.210	0.166	0.071	0.040
Urban	0.828	0.631	0.588	0.428	0.353	0.234	0.146
Bottom 3 quintiles	0.674	0.410	0.349	0.174	0.135	0.049	0.020
Top 2 quintiles	0.882	0.689	0.649	0.463	0.381	0.250	0.156
Burkina Faso	0.508	0.323	0.249	0.166	0.089	0.053	0.014
Girls	0.464	0.283	0.233	0.156	0.090	0.058	0.022
Boys	0.551	0.360	0.265	0.176	0.089	0.052	0.011
Rural	0.425	0.229	0.142	0.063	0.026	0.010	0.001
Urban	0.846	0.625	0.535	0.397	0.220	0.134	0.041
Bottom 3 quintiles	0.400	0.202	0.131	0.044	0.022	0.005	0.001
Top 2 quintiles	0.700	0.498	0.403	0.285	0.153	0.094	0.026
Cameroon	0.913	0.669	0.521	0.303	0.238	0.137	0.095
Girls	0.901	0.657	0.513	0.288	0.225	0.124	0.076
Boys	0.924	0.681	0.527	0.317	0.251	0.149	0.112
Rural	0.875	0.507	0.335	0.102	0.066	0.036	0.027
Urban	0.966	0.822	0.688	0.460	0.372	0.216	0.149
Bottom 3 quintiles	0.879	0.532	0.347	0.107	0.072	0.019	0.008
Top 2 quintiles	0.987	0.872	0.764	0.536	0.431	0.262	0.186
Congo	0.977	0.803	0.725	0.338	0.253	0.147	0.080
Girls	0.977	0.765	0.693	0.326	0.240	0.142	0.071
Boys	0.977	0.843	0.759	0.349	0.265	0.152	0.091
Rural	0.973	0.682	0.551	0.129	0.066	0.017	0.001
Urban	0.980	0.851	0.793	0.408	0.316	0.192	0.107
Bottom 3 quintiles	0.976	0.723	0.614	0.181	0.133	0.041	0.007
Top 2 quintiles	0.978	0.897	0.854	0.509	0.383	0.255	0.149
Côte d'Ivoire	0.726	0.529	0.440	0.303	0.213	0.166	0.094
Girls	0.666	0.464	0.367	0.252	0.173	0.146	0.098
Boys	0.782	0.591	0.509	0.351	0.251	0.187	0.093
Rural	0.672	0.442	0.334	0.212	0.099	0.054	0.011
Urban	0.822	0.640	0.556	0.393	0.302	0.248	0.150
Bottom 3 quintiles	0.834	0.452	0.350	0.241	0.159	0.082	0.021
Top 2 quintiles	0.678	0.662	0.581	0.400	0.291	0.248	0.154
Gabon	0.989	0.850	0.752	0.457	0.317	0.173	0.074
Girls	0.989	0.851	0.738	0.420	0.286	0.155	0.079
Boys	0.989	0.849	0.768	0.502	0.354	0.195	0.126
Rural	0.985	0.655	0.532	0.246	0.153	0.083	0.052
Urban	0.990	0.879	0.786	0.494	0.347	0.190	0.113
Bottom 3 quintiles	0.987	0.808	0.696	0.366	0.272	0.140	0.060
Top 2 quintiles	0.995	0.922	0.848	0.598	0.385	0.220	0.148
The Gambia	0.738	0.542	0.506	0.413	0.306	0.164	0.040
Girls	0.776	0.504	0.455	0.383	0.260	0.107	0.028
Boys	0.702	0.584	0.566	0.450	0.361	0.245	0.055
Rural	0.678	0.435	0.410	0.307	0.211	0.080	0.024
Urban	0.842	0.681	0.625	0.506	0.392	0.259	0.054
Bottom 3 quintiles	0.647	0.386	0.363	0.312	0.195	0.088	0.019
Top 2 quintiles	0.880	0.737	0.680	0.521	0.427	0.275	0.065
Ghana	0.889	0.740	0.673	0.337	0.322	0.102	0.090
Girls	0.895	0.750	0.676	0.310	0.293	0.095	0.079
Boys	0.883	0.731	0.670	0.367	0.355	0.111	0.103
Rural	0.850	0.651	0.570	0.197	0.183	0.037	0.032
Urban	0.950	0.858	0.806	0.484	0.468	0.167	0.149
Bottom 3 quintiles	0.848	0.643	0.559	0.185	0.172	0.027	0.025
Top 2 quintiles	0.973	0.911	0.871	0.565	0.545	0.204	0.178

Country	Prim. Access.	Prim. Comp.	S1 Access	S1 Comp.	S2 Access	S2 Comp.	Higher Ed. Access
Guinea	0.581	0.404	0.369	0.271	0.239	0.163	0.096
Girls	0.538	0.340	0.303	0.223	0.188	0.124	0.045
Boys	0.621	0.460	0.424	0.310	0.278	0.192	0.130
Rural	0.482	0.260	0.232	0.143	0.111	0.077	0.057
Urban	0.825	0.655	0.603	0.457	0.411	0.280	0.162
Bottom 3 quintiles	0.428	0.190	0.164	0.066	0.050	0.040	0.032
Top 2 quintiles	0.789	0.624	0.577	0.445	0.397	0.262	0.150
Guinea-Bissau	0.814	0.505	0.427	0.280	0.211	0.176	0.034
Girls	0.796	0.467	0.396	0.247	0.198	0.160	0.025
Boys	0.836	0.536	0.453	0.308	0.223	0.190	0.041
Rural	0.733	0.287	0.211	0.121	0.084	0.067	0.009
Urban	0.937	0.700	0.611	0.414	0.317	0.268	0.055
Bottom 3 quintiles	0.741	0.317	0.241	0.124	0.091	0.075	0.011
Top 2 quintiles	0.909	0.646	0.561	0.385	0.292	0.244	0.049
Liberia	0.785	0.494	0.418	0.296	0.249	0.182	0.067
Girls	0.769	0.426	0.337	0.248	0.207	0.163	0.056
Boys	0.800	0.573	0.509	0.350	0.296	0.205	0.079
Rural	0.679	0.309	0.233	0.130	0.095	0.054	0.011
Urban	0.903	0.710	0.642	0.509	0.451	0.349	0.136
Bottom 3 quintiles	0.667	0.288	0.216	0.110	0.068	0.037	0.005
Top 2 quintiles	0.894	0.694	0.622	0.501	0.449	0.344	0.134
Mali	0.478	0.318	0.280	0.191	0.157	0.088	0.051
Girls	0.446	0.286	0.254	0.162	0.128	0.072	0.038
Boys	0.509	0.348	0.305	0.216	0.182	0.102	0.061
Rural	0.411	0.224	0.188	0.084	0.048	0.017	0.008
Urban	0.655	0.508	0.458	0.336	0.287	0.168	0.099
Bottom 3 quintiles	0.391	0.207	0.165	0.064	0.028	0.005	0.002
Top 2 quintiles	0.633	0.482	0.441	0.322	0.276	0.162	0.095
Mauritania	0.741	0.428	0.372	0.286	0.247	0.230	0.086
Girls	0.738	0.406	0.337	0.286	0.202	0.190	0.050
Boys	0.743	0.452	0.409	0.241	0.298	0.275	0.130
Rural	0.645	0.284	0.216	0.152	0.129	0.110	0.056
Urban	0.877	0.583	0.529	0.415	0.360	0.338	0.120
Bottom 3 quintiles	0.694	0.338	0.288	0.207	0.171	0.157	0.042
Top 2 quintiles	0.883	0.625	0.551	0.415	0.396	0.372	0.157
Niger	0.543	0.309	0.249	0.147	0.059	0.028	0.021
Girls	0.460	0.252	0.215	0.132	0.048	0.029	0.001
Boys	0.613	0.362	0.280	0.158	0.073	0.033	0.033
Rural	0.489	0.232	0.159	0.045	0.020	0.001	0.003
Urban	0.833	0.585	0.522	0.375	0.190	0.123	0.063
Bottom 3 quintiles	0.460	0.201	0.114	0.053	0.053	0.005	0.002
Top 2 quintiles	0.677	0.434	0.372	0.226	0.089	0.042	0.058
Nigeria	0.735	0.672	0.586	0.530	0.485	0.431	0.143
Girls	0.698	0.641	0.546	0.499	0.455	0.410	0.147
Boys	0.769	0.702	0.625	0.560	0.513	0.451	0.140
Rural	0.662	0.588	0.496	0.428	0.378	0.322	0.083
Urban	0.903	0.865	0.789	0.750	0.707	0.650	0.253
Bottom 3 quintiles	0.621	0.536	0.433	0.361	0.308	0.240	0.042
Top 2 quintiles	0.963	0.935	0.875	0.836	0.792	0.737	0.289
Central African Rep.	0.791	0.362	0.272	0.138	0.113	0.056	0.031
Girls	0.734	0.286	0.214	0.095	0.076	0.036	0.015
Boys	0.842	0.445	0.336	0.183	0.151	0.076	0.048
Rural	0.702	0.138	0.083	0.022	0.009	0.004	0.003
Urban	0.894	0.579	0.459	0.261	0.225	0.113	0.063
Bottom 3 quintiles	0.651	0.129	0.065	0.015	0.004	0.002	0.002
Top 2 quintiles	0.898	0.554	0.447	0.252	0.215	0.105	0.058
Demo. Rep. Congo	0.894	0.572	0.470	0.403	0.319	0.150	0.040
Girls	0.869	0.523	0.417	0.350	0.257	0.107	0.031
Boys	0.918	0.617	0.518	0.451	0.378	0.192	0.048
Rural	0.851	0.391	0.280	0.214	0.154	0.061	0.001
Urban	0.955	0.795	0.706	0.647	0.546	0.271	0.088
Bottom 3 quintiles	0.843	0.375	0.267	0.203	0.142	0.050	0.001
Top 2 quintiles	0.961	0.783	0.690	0.623	0.528	0.278	0.099

Country	Prim. Access.	Prim. Comp.	S1 Access	S1 Comp.	S2 Access	S2 Comp.	Higher Ed. Access
Sao Tomé & Principe	0.993	0.649	0.536	0.442	0.296	0.132	0.020
Girls	0.996	0.686	0.569	0.468	0.320	0.138	0.001
Boys	0.990	0.614	0.503	0.416	0.272	0.126	0.040
Rural	0.999	0.651	0.493	0.367	0.222	0.079	0.019
Urban	0.987	0.648	0.572	0.503	0.353	0.169	0.020
Bottom 3 quintiles	0.991	0.495	0.371	0.280	0.149	0.092	0.001
Top 2 quintiles	0.994	0.805	0.693	0.591	0.436	0.180	0.031
Senegal	0.652	0.307	0.247	0.144	0.144	0.096	0.068
Girls	0.650	0.295	0.248	0.144	0.144	0.084	0.055
Boys	0.655	0.317	0.248	0.145	0.145	0.103	0.076
Rural	0.544	0.172	0.122	0.044	0.044	0.023	0.007
Urban	0.823	0.446	0.370	0.229	0.229	0.154	0.117
Bottom 3 quintiles	0.574	0.199	0.146	0.065	0.065	0.034	0.016
Top 2 quintiles	0.805	0.452	0.379	0.236	0.236	0.161	0.120
Sierra Leone	0.766	0.600	0.536	0.369	0.305	0.039	0.001
Girls	0.770	0.586	0.517	0.355	0.266	0.020	0.001
Boys	0.763	0.610	0.549	0.378	0.326	0.063	0.003
Rural	0.698	0.428	0.341	0.156	0.112	0.002	0.001
Urban	0.901	0.798	0.746	0.560	0.470	0.106	0.007
Bottom 3 quintiles	0.672	0.397	0.293	0.103	0.053	0.001	0.001
Top 2 quintiles	0.912	0.789	0.740	0.554	0.473	0.101	0.009
Chad	0.513	0.225	0.171	0.094	0.077	0.047	0.018
Girls	0.458	0.171	0.116	0.058	0.047	0.031	0.017
Boys	0.563	0.276	0.223	0.125	0.103	0.061	0.021
Rural	0.454	0.123	0.086	0.035	0.028	0.011	0.001
Urban	0.762	0.536	0.432	0.290	0.241	0.159	0.017
Bottom 3 quintiles	0.374	0.077	0.063	0.027	0.014	0.000	0.001
Top 2 quintiles	0.708	0.382	0.287	0.162	0.140	0.087	0.034
Togo	0.889	0.655	0.554	0.331	0.208	0.139	0.060
Girls	0.846	0.578	0.468	0.270	0.156	0.103	0.055
Boys	0.926	0.713	0.616	0.376	0.247	0.165	0.068
Rural	0.853	0.564	0.454	0.175	0.085	0.025	0.005
Urban	0.967	0.792	0.694	0.481	0.318	0.237	0.110
Bottom 3 quintiles	0.853	0.567	0.456	0.190	0.096	0.033	0.007
Top 2 quintiles	0.969	0.802	0.708	0.483	0.317	0.241	0.111
Sample average	**0.758**	**0.522**	**0.447**	**0.298**	**0.232**	**0.139**	**0.061**
Girls	0.733	0.485	0.410	0.269	0.202	0.118	0.048
Boys	0.780	0.557	0.482	0.323	0.261	0.160	0.075
Rural	0.698	0.396	0.312	0.163	0.112	0.057	0.020
Urban	0.884	0.690	0.614	0.445	0.358	0.228	0.105
Bottom 3 quintiles	0.684	0.385	0.304	0.158	0.111	0.056	0.015
Top 2 quintiles	0.874	0.691	0.618	0.450	0.365	0.233	0.110
G - R – bottom 3 quintiles	0.637	0.299	0.215	0.111	0.051	0.025	0.004
B – U- top 2 quintiles	0.922	0.782	0.711	0.528	0.453	0.303	0.152

As a star, we examine the findings that apply across the whole sample of 22 countries on which the analysis was conducted; and consider first of all the overall pattern identified, setting aside social disparities for the moment.

The school access rate is estimated at 75.8% of the relevant age group, thereby leaving 24% of young people with no access to schooling, at the various dates of the different surveys. Unsurprisingly, the access rate then gradually decreases as higher points are considered in the schooling career. Average primary completion rate stands at 52%, while 45% of population get access to the first secondary cycle, 23% to the second secondary cycle and just over 6% to higher education. This pattern is estimated with a cross sectional perspective, therefore slightly overestimating the actual selectivity of the education system of a typical country in

the sample due to the dynamics of student numbers over time; but it still suggests very clearly that there is a high level of selectivity in education, overall in the countries under consideration.

Regarding overall quantitative selectivity for the whole sample, a structural question of significant political importance is to what extent, respectively, the overall selection mechanism results from the retention during the different cycles of study and to what extent it results from the transitions between study cycles. To identify the role played by each factor, we first proceed by reconstructing total selection (ratio of completion of upper secondary education to access in primary education. Total selection result of the multiplicative impacts associated to the different mechanisms at play throughout the education system. Then, moving on to the logarithms, we derive the weight of each mechanism in the total selection carried out in the system. Table 8, below, shows the results obtained.

Table 8: The weight of the various mechanisms accounting for overall selection in the system

	Primary		Secondary 1		Secondary 2		
	Access	Completion	Access	Completion	Access	Completion	
Sample average (% access)	0.758	0.522	0.447	0.298	0.232	0.139	
Specific multiplicative effect		Retent. P	Trans. PS1	Retent. S1	Trans. S1S2	Retent. S2	Total
		0.689	0.856	0.667	0.779	0.599	0.183
Log (specific multiplicative effect)		- 0.373	- 0.155	- 0.405	- 0.250	- 0.512	- 1.696
% specific effect in total selection		22.0%	9.1%	23.9%	14.8%	30.2%	100%

Beyond the access to school considerable selection takes place over the schooling career. On average in the sample countries, it appears that selection in student flows is much more intense within cycles of schooling (retention) than between the different cycles (transition). We have identified that the retention phases taken together account for approximately 76% of total quantitative selectivity, while transitions, taken together, only account for 24%[24].

Once the overall pattern has been examined, we can factor in social disparities. To do so, we first focus on a given level in the education system and examine the disparities in access to the study level according to one of the three social dimensions considered. As an illustration, we take the case of completion of lower secondary education: an average of 30% of the age category in the sample has access to this level in the education system, and statistic can be further broken down into 27% for girls and 32% for boys (a 5-point gap), and into 16% for rural students and 45% for urban (a 29-point gap). Comparing these gaps shows that a pupil's living environment has a much stronger (five times higher) discriminatory impact than gender for this level of study in the system in a cross-sectional perspective.

Crossing these two discriminatory factors shows the impact of a combination of two social handicaps, with a figure of 14.0% for rural girls and 48.4% for rural boys; the gap is estimated

[24] It is true that the crosscutting perspective applied here tends to slightly overestimate the weight of retention due to the temporal dynamics of the system; this is of a nature that slightly modifies the weight of each of the two components, but is unlikely to affect the conclusion according to which retention has a much greater weight than transition.

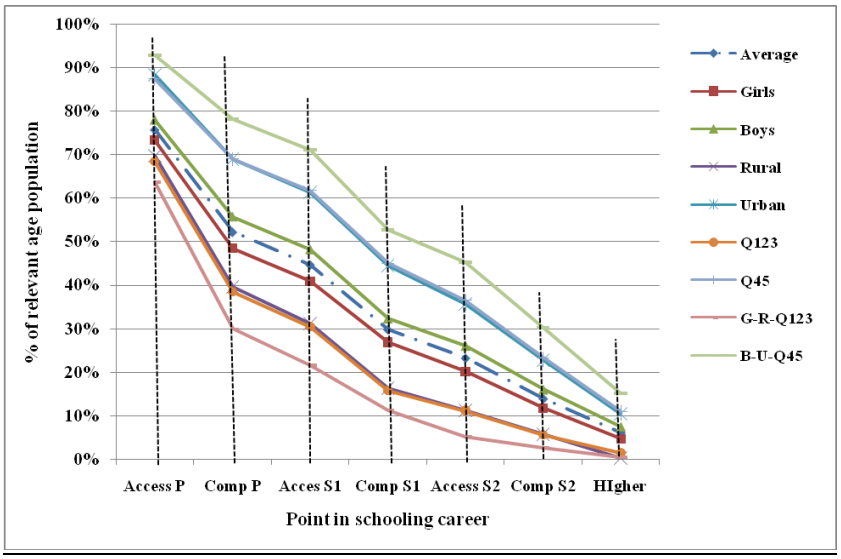
at 44%, a figure that is higher than the sum of the two multivariate effects, suggesting that the difficulties are amplified when an individual simultaneously carries more than one of the social factors that impact the schooling careers of individuals.

Regarding the influence of household wealth, figures of 15.8 and 45.0% respectively were observed for the poorest 60% and the richest 40% (a gap of 29.2 points). The impact of this variable is of an order of magnitude comparable to that of the living environment[25]. It should be noted that while these two dimensions do not coincide, they are nonetheless quite closely related statistically (although poor people do exist in urban settings, the vast majority of the poor live in rural areas). Taking the level of wealth into account jointly with the other two social dimensions considered leads to an opposition between (i) rural girls belonging to the lowest three wealth quintiles (11.1% completion of the first secondary cycle) and (ii) urban boys belonging to the top two wealth quintiles, with a figure of 52.5%. This is a significant gap (more than 40 points); it is valid for an average country in the region, suggesting that there may be even greater variances in one or another of the 22 countries considered.

II.3 Estimating cross-sectional schooling profiles

Beyond the illustrative examples just presented, it is preferable to examine the whole of the schooling profile built from the data for all levels of schooling, again for all 22 countries considered. Graph 5, below, shows these profiles according to the three social dimensions.

Graph 5: Cross-sectional schooling profiles according to the different social dimensions, whole sample of 22 countries



While the general shape of the different profiles is largely similar for the different population categories considered, there are also substantial differences from one group to another. Generally speaking, all curves lie between those of the two extreme categories considered,

[25] It would have been greater had we opposed the first and fifth quintiles, but we decided to avoid comparing categories that are "too" extreme.

which identify gaps of a very substantial magnitude. An individual from the privileged group is therefore 2.6 times more likely to complete primary education than an individual from the underprivileged group; 3.3 times more likely to access lower secondary education; 8.9 times more likely to get to the upper secondary cycle and 12.1 times more likely to complete it.

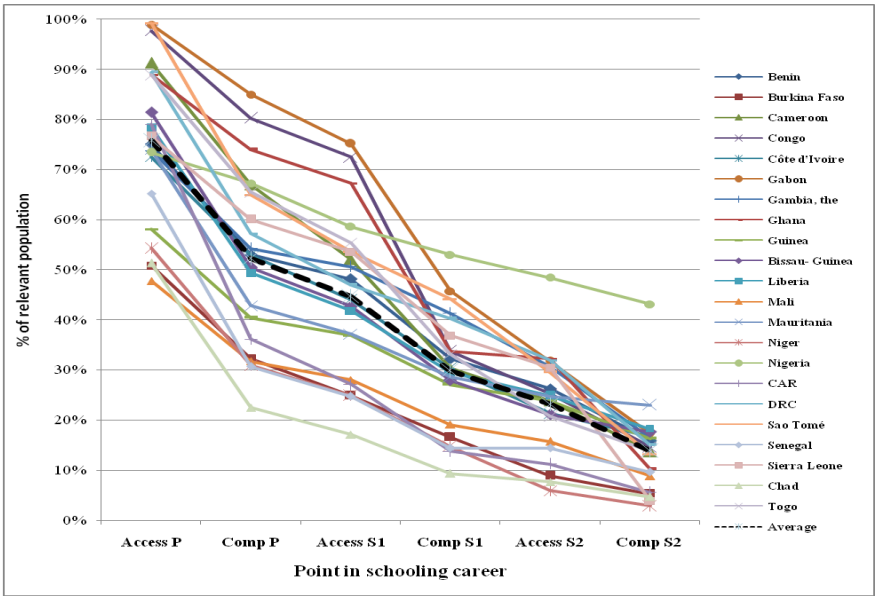
Between these two extreme curves, we find, very close, two by two, the four curves applying to rural/urban and level of income. The odds ratio figures between groups in these two dimensions are very high, denoting considerable social inequality. Thus, the probability of access to lower secondary is twice as high for a young urban resident than for a young rural dweller; similarly, it is twice as high for a young person from a family belonging to the country's top two wealth quintiles than for a young person from a family in the bottom three quintiles of wealth. At the end of the upper secondary cycle, the corresponding odds are four times higher, even slightly more if we focus on household wealth categories.

The two curves relative to gender are much closer to the average schooling profile. In a typical country from our sample, boys do appear overall more advantaged than girls in their school careers, but the gaps are much more moderate than with the previous two variables, the odds ratio at the end of the second secondary cycle being estimated at 1.3 according to gender compared to 4.0 for environment and 4.1 according to level of wealth.

This provides us with a snapshot (on the date of the different surveys) of the school system of a "typical" country from the sample of 22 countries used, regarding both (i) the pattern of quantitative school coverage in the different study cycles, distinguishing between access, retention, completion, and transition and (ii) the social disparities that have developed.

But the patterns of the averages for the entire sample vary also quite substantially across individual countries in the sample, as shown in figures in Table 7, above, and illustrated by Graph 6, below.

Graph 6: Average schooling profiles in the different countries of the sample



The schooling profiles of the different countries are, to a certain extent, framed by those of Gabon, with the highest figures of the sample analysed, and Chad, which has considerably lower figures (the lowest among the countries of the sample studied). The overall appearance of the various curves is also relatively similar, with, visually, a slightly "special" situation for Nigeria which appears to have a much less steep profile curve than the other countries and consequently an especially high proportion (among the countries studied, 43%) of the age category completes the second secondary cycle.

To kick off the analysis, it is useful to examine the respective weights of quantitative selection in the student flows due to retention within a cycle and transition between successive cycles, knowing that the education systems that are normatively considered "good" are a priori those within which the selection takes place mainly in the transition phases between cycles and, to a lesser extent, in the retention phases within cycles. Table 9, below, shows estimates of the weights of retention and transition in the different countries of the sample.

Table 9: Structure of school flows in the different countries of the sample

Country	Overall selectivity: S2 completion / Primary access	Primary Retention	Transition Primary - Sec1	Sec1 Retention	Transition Sec1 - Sec2	Sec2 Retention	Weight of retention in overall selectivity
Benin	0.213	0.707	0.908	0.669	0.816	0.606	80.7%
Burkina Faso	0.104	0.636	0.770	0.667	0.537	0.591	61.0%
Cameroon	0.150	0.733	0.778	0.583	0.786	0.575	74.1%
Congo	0.150	0.822	0.903	0.466	0.748	0.581	79.3%
Côte d'Ivoire	0.229	0.729	0.831	0.689	0.704	0.780	63.6%
Gabon	0.175	0.859	0.884	0.609	0.693	0.546	71.9%
The Gambia	0.223	0.735	0.933	0.816	0.741	0.537	75.4%
Ghana	0.115	0.832	0.909	0.501	0.956	0.318	93.5%
Guinea	0.281	0.696	0.913	0.733	0.882	0.684	82.9%
Guinea-Bissau	0.216	0.620	0.846	0.655	0.754	0.835	70.7%
Liberia	0.232	0.629	0.848	0.707	0.841	0.732	76.8%
Mali	0.184	0.664	0.881	0.683	0.823	0.560	81.0%
Mauritania	0.311	0.578	0.868	0.769	0.864	0.932	75.4%
Niger	0.052	0.569	0.806	0.592	0.403	0.478	61.9%
Nigeria	0.587	0.915	0.872	0.904	0.915	0.889	57.6%
Central African Rep.	0.070	0.457	0.751	0.509	0.815	0.495	81.5%
Demo. Rep. of Congo	0.168	0.640	0.820	0.857	0.793	0.471	75.9%
Sao Tomé	0.133	0.654	0.825	0.824	0.670	0.446	70.6%
Senegal	0.147	0.470	0.805	0.583	1.000	0.666	88.7%
Sierra Leone	0.051	0.784	0.893	0.688	0.827	0.128	89.8%
Chad	0.091	0.438	0.761	0.547	0.820	0.608	80.3%
Togo	0.156	0.737	0.845	0.598	0.627	0.667	65.8%
Average	**0.184**	**0.689**	**0.856**	**0.667**	**0.779**	**0.599**	76.1%

If we first examine the overall pattern of selectivity in education between access to primary education and completion of upper secondary education (first column of the table), the average figure is very low (19%) but it should be remembered that this measurement under-estimates the reality due to the cross-sectional nature of its calculation. This being said, there is still no doubt that the education systems considered are characterised by strong overall

selectivity; we can also see that this statistic varies greatly depending on the country considered, from very low figures (identify highly selective systems) in Chad, Sierra Leone, the Central African Republic, Ghana and Burkina Faso, to much higher figures in Nigeria, a country in which over half of young people who have access to primary education[26] complete secondary education, and, to a lesser extent, in Mauritania and Guinea.

But this overall system selectivity results from the performance of maintaining students in school over the different instances of retention and transition that punctuate the flows of students. For retention in primary education, an average value of 69% was observed, but with low figures (under 50%) in the Central African Republic, Senegal and Chad, while the situation is more satisfactory (over 80%) in this regard in the Congo, Gabon, Ghana and Nigeria. The transition from primary to junior secondary appears strong in most countries (a positive from the point of view of eventually completing a Basic cycle), while retention during the first cycle is generally much more problematic; this is especially the case in the Congo, Ghana, the Central African Republic and Chad, with figures only around 50 percent.

The transition between junior and senior secondary education may also be deemed generally problematic, but for another reason. It is in fact its high value which draws our attention in a context where, if we are moving towards a basic cycle, this would presuppose a quite clear regulation of the flows and diversification of schooling careers towards vocational training at the end or junior secondary education. However, at the date of the surveys, continuity seemed to have won over regulation, particularly in Ghana, Guinea, Mauritania and Senegal, with rates equal to or higher than 90%. In Burkina Faso and Togo, this transition appears to produce regulation which provides some protection against the "natural" trend towards an explosion of student numbers in higher education[27].

To summarise the weight of the mechanisms that have generated the system's overall level of selectivity, it is clear (last column of Table 9), that the decisive weight in all the countries of the instances of retention within cycles in relation that attached to the instances of transition between cycles. This observation is not positive, since it amounts to highlighting a “poor” regulation of the flows working on the basis of system malfunctions rather than on structural and positive policy choices. The weight of retention is especially prominent in Ghana, Senegal and Sierra Leone (more or less 90% of the selectivity is based on poor retention and very little on transitions), and to a slightly lesser extent in Benin, Guinea and Chad; the situation is more satisfactory in Nigeria, Burkina Faso, Côte-d’Ivoire, Niger and Togo.

We now turn to the social factors associated with the schooling profiles. The reference data for each sample country was laid down in Table 7, above. A first approach is to estimate the odds ratio between the groups characterising the three social dimensions and to look at how they evolve throughout the education system, proceeding in the same way for each of the countries considered. Table 10, below, shows the data organised in this way.

[26] Numbers of pupils with access to school are not very high in this country, particularly in the North of country.
[27] It should be stressed that student numbers in higher education in sub-Saharan countries increased from 3 to 9 million between 1999 and 2009, during which period (i) public resources for the subsystem changed little on average, resulting in deterioration in schooling conditions, and (ii) unemployment among school leavers reached worrying proportions; the recent situation in North African countries reminds us of the extent to which this context can potentially generate frustrations at individual level and explosions in the society (Mingat, 2011).

Table 10: Odds ratio between population groups linked with different social dimensions by education level & overall diagnosis in each country

	Gender(B/G)						Environment (U/R)						Wealth (Q45/Q123)						Diagnosis (a)			
Country Grade	**P Acc.**	**P. Cmp.**	**S1 Acc.**	**S1 Cmp**	**S2 Acc.**	**S2 Cmp**	**P Acc.**	**P Cmp**	**S1 Acc.**	**S1 Cmp**	**S2 Acc.**	**S2 Cmp**	**P Acc.**	**P Cmp**	**S1 Acc.**	**S1 Cmp**	**S2 Acc.**	**S2 Cmp**	**Overall**	**Gender**	**Environment**	**Wealth**
Benin	1.166	1.341	1.379	1.522	1.700	1.929	1.171	1.378	1.463	2.038	2.132	3.292	1.308	1.682	1.859	2.662	2.823	5.116	-	ZZZ	A	A
Burkina Faso	1.187	1.272	1.139	1.125	0.996	0.894	1.993	2.728	3.761	6.317	8.403	12.742	1.749	2.465	3.068	6.497	6.996	17.152	-	AA	ZZZ	ZZ
Cameroon	1.026	1.037	1.027	1.100	1.118	1.205	1.104	1.622	2.058	4.512	5.604	6.004	1.123	1.638	2.201	5.009	5.942	14.025	AA	AA	-	ZZ
Cape Verde																						
Congo	1.000	1.102	1.096	1.070	1.104	1.069	1.007	1.247	1.440	3.165	4.798	11.031	1.002	1.241	1.391	2.819	2.881	6.162	AA	AA	-	A
Côte d'Ivoire	1.175	1.274	1.389	1.396	1.449	1.278	1.223	1.447	1.664	1.854	3.054	4.561	0.813	1.467	1.659	1.659	1.837	3.019	A	-	A	AAA
Gabon	1.000	0.998	1.041	1.195	1.235	1.256	1.006	1.341	1.478	2.009	2.273	2.275	1.009	1.142	1.220	1.633	1.415	1.565	AAA	A	AA	AAA
The Gambia	0.906	1.158	1.244	1.174	1.385	2.294	1.241	1.566	1.524	1.648	1.855	3.257	1.359	1.909	1.873	1.672	2.193	3.104	A	ZZ	AA	AAA
Ghana	0.986	0.974	0.991	1.186	1.210	1.177	1.118	1.319	1.413	2.457	2.557	4.483	1.148	1.418	1.558	3.048	3.165	7.467	AAA	A	A	A
Guinea	1.155	1.353	1.402	1.390	1.477	1.546	1.712	2.519	2.600	3.187	3.716	3.639	1.846	3.285	3.518	6.704	7.991	6.473	-	ZZ	A	ZZ
Equatorial Guinea																						
Guinea-Bissau	1.050	1.149	1.145	1.248	1.124	1.184	1.278	2.441	2.896	3.420	3.763	4.018	1.228	2.035	2.334	3.095	3.200	3.241	AA	-	-	A
Liberia	1.040	1.345	1.510	1.413	1.433	1.259	1.330	2.301	2.752	3.928	4.764	6.477	1.340	2.408	2.875	4.572	6.574	9.387	-	-	-	-
Mali	1.143	1.216	1.203	1.329	1.427	1.411	1.594	2.269	2.435	4.016	6.032	9.993	1.618	2.324	2.665	5.016	10.015	32.528	ZZ	-	-	ZZ
Mauritania	1.008	1.114	1.212	0.841	1.476	1.447	1.360	2.053	2.446	2.731	2.781	3.068	1.272	1.848	1.913	2.005	2.312	2.373	AA	-	A	AA
Niger	1.332	1.434	1.299	1.196	1.522	1.157	1.703	2.522	3.294	8.335	9.490	1.703	1.471	2.159	3.261	4.294	1.681	8.477	ZZ	A	ZZZ	ZZ
Nigeria	1.101	1.094	1.144	1.121	1.128	1.101	1.366	1.471	1.592	1.752	1.869	2.018	1.551	1.744	2.022	2.314	2.572	3.072	AAA	-	AA	AA
Central African Republic	1.148	1.555	1.574	1.922	1.975	2.090	1.274	4.205	5.552	11.975	25.795	29.020	1.379	4.279	6.853	16.795	48.734	45.475	ZZZ	ZZZ	ZZZ	ZZZ
Dem. Rep. Congo	1.056	1.180	1.244	1.290	1.471	1.804	1.123	2.034	2.521	3.024	3.549	4.458	1.141	2.089	2.587	3.071	3.709	5.565	-	-	A	A
Sao Tomé	0.994	0.896	0.883	0.888	0.849	0.912	0.988	0.996	1.159	1.371	1.593	2.144	1.003	1.626	1.869	2.107	2.928	1.953	AAA	AAA	AAA	AA
Senegal	1.007	1.076	0.996	1.006	1.006	1.213	1.513	2.597	3.045	5.175	5.175	6.612	1.402	2.273	2.591	3.647	3.647	4.754	AA	AA	-	A
Sierra Leone	0.991	1.041	1.062	1.067	1.225	3.149	1.290	1.866	2.187	3.585	4.195	44.124	1.358	1.990	2.524	5.396	8.928	150.524	ZZZ	ZZ	ZZZ	ZZZ
Chad	1.230	1.613	1.926	2.156	2.204	1.972	1.680	4.340	5.018	8.395	8.687	14.968	1.895	4.955	4.566	5.936	10.179		ZZZ	ZZZ	ZZZ	ZZ
Togo	1.094	1.235	1.317	1.394	1.585	1.610	1.134	1.404	1.530	2.753	3.765	9.441	1.136	1.414	1.552	2.548	3.302	7.231	-	ZZ	-	A
Average	**1.064**	**1.150**	**1.178**	**1.201**	**1.288**	**1.358**	**1.266**	**1.744**	**1.967**	**2.736**	**3.218**	**4.016**	**1.267**	**1.794**	**2.031**	**2.849**	**3.276**	**4.146**	-	-	-	-

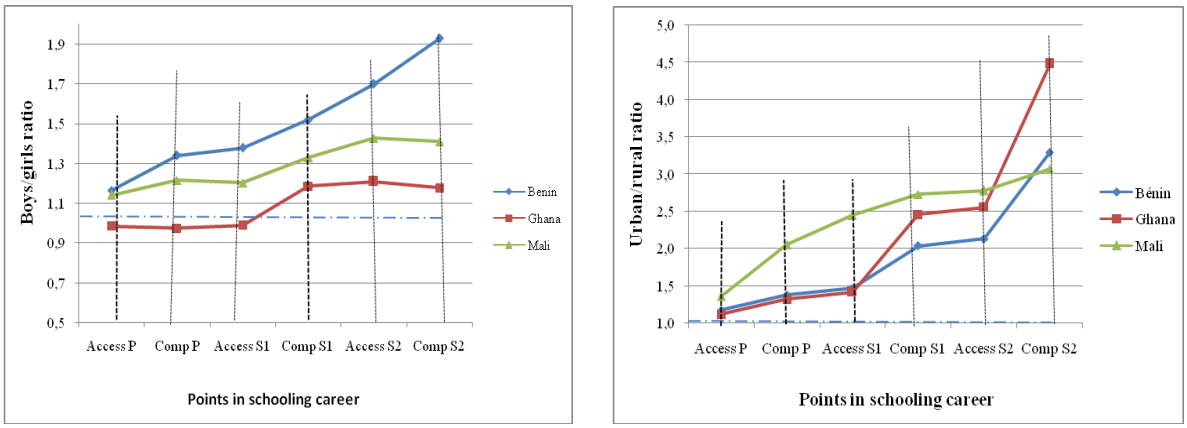
a) the letter A is for positive cases and the letter Z for negative cases. The number of letters is an indicator of intensity
The minus sign – is for countries close to the sample average

The first thing we learn, in line with what was said in our analysis of school life expectancy, is that the level of social disparities in education varies greatly from one country to another within the sample studied. The second lesson is that, irrespective of the country, the level of gender disparities is always much lower than that linked to environment or household wealth.

But we can also note the existence of: (i) quite steep variations from one country to another regarding disparities in a given social factor; in other words, issues of gender, environment and wealth vary greatly in intensity depending on the country; and (ii) a high degrees of disparity can be identified in a given country in one of the social factors considered, but not necessarily in another, thereby identifying areas that call for particular vigilance. Graph 7, below, illustrates these points.

The graph on gender shows highly differentiated situations between the three countries selected–Benin, Ghana and Mali–with a strong bias against girls in Benin, which is much less pronounced in Ghana, with Mali in the intermediate position. But a comparison of the graphs on gender and environment also clearly shows, on the one hand, that the degree of disparity is of a much greater magnitude for environment than for gender, and, on the other hand, that the three countries rank differently in terms of the magnitude of disparity linked to environment as compared to gender. While Benin has the most serious gender problem of the three countries in relative term, it also has a somewhat less severe environmental problem than the other two countries.

Graph 7: Ratios of boys-girls and urban-rural dwellers at different points in the system, in Benin, Ghana and Mali



On the basis of these observations (which can naturally be extended), it seemed interesting to attempt a diagnosis of each of the countries in the sample, based on an evaluation of the overall degree of social inequality in schooling and a profile of relative social inequality in the three dimensions considered. This attempted diagnosis is presented in the last four columns of table 10, above[28].

[28] To do this requires prior technical work to develop indicators (i) on the overall education system for each of the social factors analysed here, and (ii) combining the different factors to estimate a general indicator of social disparity in national education systems.

According to this descriptive analysis, the following country categories emerge:

1. Countries that are homogeneous to a certain extent, i.e. which have similar performances in all three areas of social disparity, although this consistency may be positive or negative:

. Three countries have consistently positive performances: Sao-Tomé and Principe, Ghana and Gabon;

. Three countries have consistently negative performances: the Central African Republic, Sierra Leone and Chad;

2. Six countries which perform generally well on two positive factors, with the third in line with the average: these are the Congo (good performer on gender and wealth, average on environment), Côte-d'Ivoire (good performances on environment and wealth, average on gender), Mauritania (same structure as Côte-d'Ivoire) and Nigeria, which also shows the same structure. Senegal also presents two points that are somewhat positive (disparities according to gender and wealth), but only average performance in terms of urban-rural disparity. The Democratic Republic of the Congo is basically in the same country category (good performances on environment and wealth, average on gender), but with an overall situation closer to the average;

3. Two geographically close countries, Benin and Togo, present a more contrasted structure, quite positive or neutral for environment and wealth, but with real handicaps in terms of gender;

4. The other countries have contrasting structures:

. The performance of Burkina Faso is not positive as regards the environment and wealth factors, but is quite positive in relation to gender. Guinea is in a more or less comparable situation but the gender factor is lower;

. Mali is globally characterised by quite a high level of social disparities, but the dimension of household wealth stands out as the most significant difficulty;

. Guinea-Bissau has a quite moderate level of social disparity overall and handles the issue of the poverty of the population in a rather satisfactory manner;

. Cameroon has a somewhat positive overall situation in terms of social inequalities in education, but has trouble with poor population groups, in particular in the North;

. The overall situation of The Gambia is relatively positive; this is confirmed regarding the distinctions between urban and rural dwellers and between population groups based on wealth; on the other hand, the gender dimension does not seem to be handled as well as it could be (particularly in comparison to its neighbour, Senegal, which has relatively similar population groups);

. The situation of Niger in terms of social disparity is generally not very positive. However, unlike The Gambia, this is due to difficulties linked to urban/rural and wealth. However, the question of gender is generally handled better than in the other countries, except at the level of primary education (which constitutes a flagrant weakness) and the transition between the two secondary cycles;

. Lastly, Liberia is completely in line with the average with no really positive or negative situations in relation to any of the social factors considered.

This typology of countries may well be useful, but two critical aspects should be stressed:

i) the first is that the evaluations were **established on a relative basis,** meaning that some countries cited as presenting a quite positive situation on one or another aspect, may (should), in absolute terms, consider making progress; this is the case, in particular, for the impact of poverty and, to a slightly lesser degree, that of environment. None of the sample countries are really exempt from thinking about how to improve their situations (even though the situation is of greater concern in certain countries than in others).

(i) The second aspect is that the analysis only focussed on three dimensions of inequality: gender, urban/rural and wealth. These dimensions are certainly important; however, aspects such as **ethnicity or region were not considered**, not because they are unimportant, but because they were not amenable to the international comparative approach. These dimensions may however have a complementary impact, possibly of significant importance in some countries. As an example, household surveys have shown significant differences (beyond those linked to the variables considered here) between the North and South of the country, in Togo, Cameroon and Nigeria; similarly, religion has a particular impact in Côte-d'Ivoire; many such examples exist and should obviously not be ignored when working at individual country level.

II.4 The weight of school coverage in accounting for the intensity of social selectivity

To bring to a close these global analyses of the structure of social inequality by education level, it may be of interest to return to the fact, emphasised in Graph 7, in particular, that rather significant variations in social disparity can be observed i) that differ from one country to another, and ii) that such disparities tend globally increase as the education level increases. What interpretative structure can be used to account for these phenomena? A separate explanation for each phenomenon could be interesting, although it would be preferable to have a common interpretative structure that explains both phenomena; this would generate a more robust argument. From this standpoint, we shall first attempt to focus on the influence of the three variables selected in terms of how they are related to the concepts of school supply and demand.

Where gender and income level are concerned, we can start from the premise that these issues involve the demand for schooling, whereas in the case of urban/rural disparities, the link to the supply of education services seems a priori to stand in the foreground. But the reality may not be so clear-cut, even though it is no doubt relevant to start from these initial

considerations. The reason is that there are interactions between the factors that drive supply and demand and between factors of a personal, socio-cultural and institutional nature:

Gender is "by nature" evenly distributed between urban and rural areas and between rich and poor families. However, it has been observed that being a girl, in those countries and at those levels of schooling where this is effectively a handicap, was in fact i) only a slight handicap in urban, wealthy and educated households, whereas ii) the handicap was much more pronounced in rural, poor and traditional households. In addition, it also has been observed that girls (subject to additional unfavourable social factors) could be more sensitive than boys to the imperfect characteristics of school supply. But we also identify also that the impact of gender, beyond school coverage and for a significant proportion, does depend on cultural and societal factors that vary across countries.

With regard to **urban/rural disparities**, it is easy to grasp the potentially significant influence of school supply, with deficits in the provision of education in rural areas for both primary and (no doubt even moreso) secondary education[29]. But the living environment is not completely independent of the two other factors. Beyond the aspects mentioned in relation to gender, an impact with a much greater incidence is related to the very specific geographic distribution of families within the different countries according to their level of wealth. While there are indeed pockets of poverty in urban settings, by far the largest proportion of poor families in our sample countries is located in rural areas. It is for this reason that, statistically, there is considerable overlap of the effects of the two variables in terms of schooling disparities.

Lastly, **the level of family poverty** lies at the crossroads between personal (social) factors and institutional ones (living in places where the education supply is lacking in the sense of the previous point). Personal aspects may involve academic success or achievement and school career choices: (i) regarding achievement, because pupils from modest socio-economic backgrounds receive less support for their studies and also have to pitch in with domestic tasks, they are less likely to succeed in school; in a purely meritocratic system they drop out of their studies earlier than their more privileged peers; (ii) regarding educational demand, it is stressed that families living in poverty have a greater need than wealthy families for children to work at a young age to supplement the household income or to become independent. Early marriage of girls, a reason often put forward, points in the same direction.

On the basis of this discussion, one should expect supply generally to have a major impact on inequalities in rural setting, a considerable impact on inequalities based on level of income (due to the statistical relationship between the rural environment and poverty) and a rather moderate impact on inequalities due per se to gender.

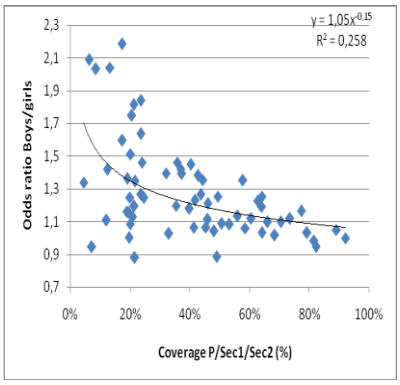
[29] The idea is that there is a common pattern in the expansion coverage of all social systems. It is characterised by the implicit use of a principle that combines ease of implementation and response to the strongest social influences. According to this principle, initial phases consist in developing services where it is easy logistically and where there is a high demand from the people who are the most influential socially. Capital and major cities are served first; and it is only afterwards that the more ordinary population groups are able to receive education services. Underprivileged backgrounds with no political support, a low demand for education and living in isolated locations will be served at the end of the process. Application of this principle suggests that social disparities, which are high when system coverage is limited, gradually decrease when it is extended to include less privileged individuals who were previously excluded.

To make this supply concept operational, one can measure the average coverage by study cycle in each country using an average of access and completion rates; furthermore, we aim to account for variations in the degree of social inequality between countries and levels of education using the quantitative development of the system as a control variable, knowing that there is substantial variation across countries on each of these two statistics.

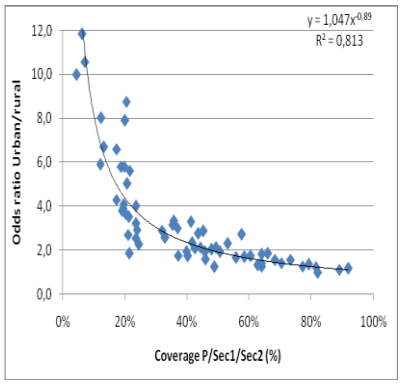
To conduct the analysis we compare the inequality indicators (odds ratio) associated with each social factor on the one hand and school coverage on the other hand in a set of data applying to all of the countries in the sample and all three levels of education. This comparison is first made visual in Graph 8, below.

Graph 8: Odds ratios and school coverage in the sample countries and consolidation of the primary and secondary levels (both cycles)

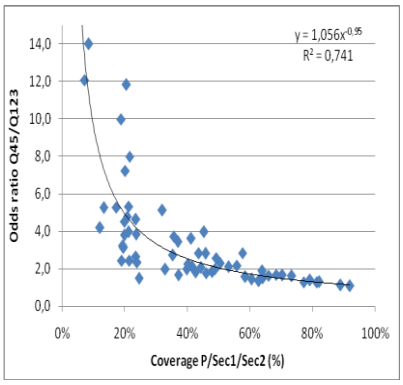
Gender



Urban/rural



Household wealth



* The findings match the expectations; in the first instance, there is indeed a significant negative relationship between the level of social disparity and that of school coverage, irrespective of the social factor considered. Also as expected, a greater dispersion can be observed when the level of coverage is low, for other factors have room to exert their influence (this is notably the case with gender); when quantitative coverage increases, the available room decreases and the dots in the graph are necessarily more concentrated. When coverage is complete, there is no longer any room for the expression of social factors.

* In addition, the findings also match expectations regarding the intensity of the relationship with a value of R^2: i) which is very high (0.81) for disparities linked to environment (urban/rural), ii) still high, but slightly lower (0.74) for disparities between rich (top 2 quintiles) and poor (bottom 3 quintiles) and iii) much lower (0.26) for boys/girls disparities.

Lastly, the visual impression is that it is hard to distinguish the dots, in each graph, that respectively represent the different cycles of study; the picture that emerges is more one of unity or homogeneity. To test this visual impression we use an estimate of the following type:

Odds ratio = f^{30} (school coverage, Primary, Secondary 1)

[30] The specification of the function used is the same as that used in Graph 5. The power function is estimated using a linear form, with the dependant variable as the natural logarithm of the odds ratio.

The “primary” and “secondary 1” variables are dummy variables used to allow for the possibility of non-homogeneity in the process studied across the three cycles of study. It emerges that none of these two variables turns out to be statistically significant for any of the three estimates carried out separately on gender, environment and wealth. This result lends considerable weight to the plausibility of the argument whereby, independently of the level of schooling considered and in an “homogeneous manner”, **school coverage is an essential factor to account for the social disparities in education** linked respectively to (i) geographic environment and (ii) household wealth; this pattern is stronger than for gender. For this last variable, school coverage does count somewhat, but other factors, which are in the broad sense of cultural nature and which vary from one country to another, probably play a significant role.

II.5 The time dimension of social disparities

Having explored the magnitude and structure of social disparities in a cross sectional perspective, at the date of the different household surveys analyzed, it is now interesting to introduce the time dimension. However, for reasons of statistical data availability, we are obliged to confine ourselves to gender disparities, as these are the only ones for which time series data are available.

The data used to conduct this study was taken from the database of the UNESCO Institute for Statistics; it covers the 1985-2010 period, identifying the years ending in 0 or 5 (or the closest year) and concerns all of cluster countries of UNICEF's Regional Office in Dakar for which the data is not too sparse. The database presents first of all the proportion of girls in the primary and secondary cycles separately; it was not possible to separate the two secondary cycles (which is of course a pity) due to the lack of available data. It also shows coverage for primary and secondary education coverage. It is however to be noted that the coverage variables have been built on the basis of the GER and on information on the proportion of repeaters (in view of “purging” the numerical value of the GER of grade repetition.

This database allows the gender disparity index to be compared with the level of school coverage in the countries considered, taking into account the fact that these variables (i) relate to the primary cycle or the secondary cycle, and (ii) are valid at a given moment of time during the period considered. This panel configuration is therefore suitable for estimating a possible “drift” over time which can be used to estimate both the permanence of the impact of school coverage on gender disparities and the possibility that these disparities may decrease over time beyond what is inherent to the increase in coverage.

The results obtained are given in Table 11, below. The variable explained is the girl/boy ratio in the in-school population.

* We begin by examining the models established on **primary** data only. Model 3 shows i) that coverage alone explains a significant proportion (62.8%) of the variance of the girl/boy ratio and ii) that greater coverage implies increased representation of girls at school. Over the period, the average coverage in the sample countries considered rose from 51.7% in 1985 to 82.9% in 2010, which was an important driver in the gains in representation of girls compared

to boys, to the extent that the girl/boy ratio changed from 0.682 to 0.889 over the same period. Model 4 shows that, in addition to this effect directly related to the progression of overall quantitative coverage, there is also a specific trend promoting girls' schooling. It states that, over time, for a given level of coverage, the representation of girls improves marginally. The effect is not very strong, however[31] (+1.16 points per five-year period on average), but it is statistically fairly significant. Furthermore, it is also estimated, by introducing the possibility of a non-linearity pattern in the time variable, that the progresses on that count are more or less regular over the period considered, with no acceleration or deceleration observed in recent years.

Table 11: Modelling gender equity in primary and secondary education, 1985-2010

Variables	Primary and Secondary		Primary		Secondary	
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Ln (Coverage %)	16.496 ***	19.272 ***	27.551***	25.455 ***	18.367 ***	16.888 ***
Secondary (ref. Primary)	-	7.721 ***	-	-	-	-
Period (1 to 6)	-	1.404 ***	-	1.165 **	-	1.296 (ns)
Intercept	11.013	- 5.547	- 34.321	- 29.976	9.491	9.198
Number of observations	230	230	120	120	110	110
R^2: Proportion of variance explained	0.545	0.581	0.628	0.638	0.410	0.414

* The structure observed for the primary cycle of schooling holds also with the data for secondary **education** (both cycles combined), with, however, the following caveats: first, there is also high predictability of the level of gender disparities by school coverage, but the strength of the relationship (no doubt a consequence of the unfortunate aggregation of the two secondary cycles) is slightly lower (41%) than for primary education. Average coverage increases from 14.7% in 1985 to 33.3% in 2010, while the ratio of girls to boys increases by 50.2 to 74.3. However, while we also see a marginal effect characterising progress over time in gender disparities in secondary education, if we control for the level of quantitative coverage, this effect is, per se, not statistically significant.

* Models 1 and 2 are built in a similar way, but by concatenating the information of the primary and secondary cycles in a unique aggregate database. The findings are very much in line with those obtained separately for each of the two levels of study; with, however, the additional information that, for a comparable level of coverage, gender disparities are significantly lower in secondary education than in primary education.

II.6 The pattern by which social disparities are generated along the system of schooling: identifying the respective responsibility of the various mechanisms at play

The foregoing analysis of social disparities is certainly useful. But its usefulness is mainly global and descriptive, although the reference to school coverage to account for the level of disparities is explanatory in nature. What can be inferred from the data is that social disparities effectively widen as we move up through the education system, since the odds ratio relative to the urban/rural dimension is on average 1.27 at entry into primary education, 1.97 in form 1 of junior secondary, then averages 3.18 at entry in senior secondary and 4.18 at the

[31] Model 4 only yields an additional gain of 1% (compared to model 3) in the numerical value of R^2 of the relationship

end of that cycle. But this general comparison does not give us a clear idea of the relative roles of the various mechanisms at work in the production of social disparities in the system.

To illustrate this concern, we can take the example of entry into junior secondary. At this point in the system, on average for the sample of countries considered, the magnitude of urban/ rural disparities is characterized by an odds ratio 1.97. However, it should be stressed that social disparities are built up through a cumulative process over the system of schooling. In our case, this means that a distinction is to be made between i) disparities that are built up prior to access to the secondary cycle of studies (in primary education and/or before, through various mechanisms), and ii) disparities that arise in access to this cycle of study, i.e. in the transition between primary and junior secondary education.

This approach is essential, necessary and heuristic but not necessarily sufficient[32] from the standpoint of action. This is because, the case may be that the disparities observed at entry in junior secondary education owe much to what has happened before and little to what conspired during the transition; in such circumstances, the transition between the two cycles of study is not identified as a key locus for the generation of disparities. The case would be different if the actual impact of the transition had a significant weight and was then identified as an important mechanism for the generation of social disparities in the system. But there is indeed also a possibility that transition plays an important role regarding the dimension of geographic location, but possibly a lesser role (or the contrary) regarding income.

This approach can be extended to the entire education system of a country by identifying the sequential articulation of the gradual build-up of social disparities as schooling progresses, knowing that it the analysis can be conducted separately (or jointly) for the various social dimensions. This generic approach also requires an implementation method. Table 10, earlier in this document, shows the odds ratio according to the three social dimensions, in each instance of school flow generation, for all of the countries in the sample.

As a general overview, it is observed: i) that the level of disparity globally increases as we consider higher levels in the system of education (but there may be localised decreases where a particular instance is favourable to a population group that is generally underprivileged), and ii) that this trend is not necessarily uniform or similar from one country to another.

A young person's school career will depend on their degree of "resilience" to remain in school through a set of successive stages of selection. These are organised sequentially: i) access to school, ii) retention during the primary cycle, iii) transition between primary and junior secondary education, iv) retention during this cycle, v) transition between the two cycles of secondary education, vi) retention during the senior secondary cycle, and, possibly, vii) transition between the end of secondary education and entry to higher education. Each of these stages represents a risk for individual pupils either not to start their career or to see it end and, at aggregate level, for the cohort of "survivors" to be reduced.

[32] Because, while it is certainly important to identify the weight of the mechanisms, it is also important to identify the social or organisational reasons behind a greater or lesser degree of intensity in the phenomenon, as well as the most cost-effective instruments for remedying the difficulties encountered.

Each of these sequential selection stages is can be described according to the proportion of students who are successful in each of them, depending on gender, rural/urban location or the level of income of parents; we name "specific contributions" the differentiations attached to the selection taking place at a given stage in the global process.

Operationally, we start with the information contained in Table 12, below, and we emphasise that the relative disparity indices are observed at a given stage in the schooling career.

The situation observed in cross-section at a specific point in schooling career is considered to be the result of the multiplication of the specific contributions from all the prior stages up to the one considered.

This approach can be extended to the whole education system of a country and the different segments that compose it sequentially; it can also be implemented for all the countries considered. Table 12, above, shows the findings obtained on the impacts specific to each of the segments of the system in the three social dimensions considered within the education system of each of the 22 countries in the sample examined in this study.

Table 12: Distribution of social selectivity (by gender, environment and wealth) in the different segments of the system

Country	Specific multiplying effects						Social selectivity		
	P1 Access	P Ret.	Trans. P-S1	S1 Ret.	Trans. S1-S2	S2 Ret.	% Retention	Primary	
								Acc. * Ret.	% of total
Benin	1.215	1.204	1.065	1.309	1.075	1.497	83.6%	1.463	34.5%
Gender (B/G)	1.166	1.150	1.028	1.103	1.117	1.135	72.5%	1.341	44.7%
Environment (U/R)	1.171	1.177	1.062	1.392	1.046	1.544	89.8%	1.378	26.9%
Wealth (Q45/Q123)	1.308	1.286	1.105	1.432	1.060	1.813	88.4%	1.682	31.9%
Burkina Faso	1.643	1.284	1.173	1.595	1.097	1.622	57.5%	2.109	51.7%
Gender (B/G)	1.187	1.072	0.895	0.988	0.885	0.897	18.0%	1.272	100.0%
Environment (U/R)	1.993	1.369	1.378	1.680	1.330	1.516	67.3%	2.728	39.4%
Wealth (Q45/Q123)	1.749	1.410	1.245	2.118	1.077	2.452	87.2%	2.465	31.7%
Cameroon	1.084	1.313	1.201	1.847	1.148	1.503	83.8%	1.424	21.8%
Gender (B/G)	1.026	1.012	0.990	1.072	1.016	1.078	96.6%	1.037	19.7%
Environment (U/R)	1.104	1.470	1.269	2.193	1.242	1.071	73.2%	1.622	27.0%
Wealth (Q45/Q123)	1.123	1.459	1.344	2.276	1.186	2.360	81.5%	1.638	18.7%
Congo	1.003	1.193	1.090	1.733	1.190	1.802	76.8%	1.196	40.4%
Gender (B/G)	1.000	1.102	0.994	0.976	1.032	0.969	61.3%	1.102	100.0%
Environment (U/R)	1.007	1.238	1.155	2.198	1.516	2.299	76.6%	1.247	9.2%
Wealth (Q45/Q123)	1.002	1.238	1.121	2.026	1.022	2.139	92.5%	1.241	11.9%
Côte-d'Ivoire	1.210	1.153	1.124	1.040	1.264	1.340	63.23%	1.395	52.5%
Gender (B/G)	1.175	1.084	1.090	1.005	1.038	0.882	-	1.274	98.6%
Environment (U/R)	1.223	1.183	1.150	1.114	1.647	1.494	51.4%	1.447	24.3%
Wealth (Q45/Q123)	1.231	1.192	1.131	1.000	1.108	1.643	74.9%	1.467	34.7%
Gabon	1.005	1.155	1.071	1.282	1.011	1.041	85.7%	1.160	21.8%
Gender (B/G)	1.000	0.998	1.044	1.147	1.034	1.017	66.5%	0.998	0.0%
Environment (U/R)	1.006	1.334	1.102	1.360	1.131	1.001	73.0%	1.341	35.7%
Wealth (Q45/Q123)	1.009	1.132	1.068	1.339	0.867	1.106	117.6%	1.142	29.6%
The Gambia	1.169	1.315	1.009	0.973	1.205	1.609	78.2%	1.537	37.6%
Gender (B/G)	0.906	1.279	1.074	0.944	1.179	1.656	74.6%	1.158	17.7%
Environment (U/R)	1.241	1.261	0.973	1.082	1.125	1.756	90.6%	1.566	38.0%
Wealth (Q45/Q123)	1.359	1.404	0.981	0.892	1.312	1.415	69.4%	1.909	57.1%
Ghana	1.084	1.134	1.062	1.631	1.033	1.695	88.2%	1.230	6.6%
Gender (B/G)	0.986	0.988	1.017	1.197	1.020	0.973	79.4%	0.974	-16.0%
Environment (U/R)	1.118	1.180	1.072	1.738	1.041	1.753	92.1%	1.319	18.4%
Wealth (Q45/Q123)	1.148	1.235	1.098	1.957	1.038	2.360	93.0%	1.418	17.4%
Guinea	1.571	1.474	1.046	1.374	1.140	0.945	74.3%	2.316	68.2%
Gender (B/G)	1.155	1.172	1.036	0.992	1.063	1.046	66.9%	1.353	69.4%
Environment (U/R)	1.712	1.472	1.032	1.225	1.166	0.979	75.4%	2.519	71.5%
Wealth (Q45/Q123)	1.846	1.780	1.071	1.905	1.192	0.810	80.5%	3.285	63.7%
Guinea-Bissau	1.185	1.554	1.110	1.199	1.012	1.045	86.4%	1.842	68.9%
Gender (B/G)	1.050	1.094	0.997	1.090	0.901	1.053	100.0%	1.149	82.3%
Environment (U/R)	1.278	1.910	1.186	1.181	1.100	1.068	76.8%	2.441	64.2%
Wealth (Q45/Q123)	1.228	1.657	1.147	1.326	1.034	1.013	82.5%	2.035	60.4%
Liberia	1.237	1.607	1.171	1.318	1.222	1.222	60.2%	1.987	41.9%
Gender (B/G)	1.040	1.293	1.123	0.936	1.014	0.879	31.9%	1.345	-
Environment (U/R)	1.330	1.730	1.196	1.427	1.213	1.360	76.5%	2.301	44.6%
Wealth (Q45/Q123)	1.340	1.797	1.194	1.590	1.438	1.428	72.2%	2.408	39.3%
Mali	1.452	1.308	1.070	1.546	1.524	1.964	72.6%	1.899	38.9%
Gender (B/G)	1.143	1.064	0.989	1.105	1.074	0.988	71.6%	1.216	56.9%
Environment (U/R)	1.594	1.424	1.073	1.649	1.502	1.657	74.0%	2.269	35.6%
Wealth (Q45/Q123)	1.618	1.436	1.147	1.883	1.996	3.248	72.4%	2.324	24.2%

Country	Specific multiplying effects						% Social selectivity		
	P1 Access	P Ret.	Trans. P-S1	S1 Ret.	Trans. S1-S2	S2 Ret.	% Retention	Primary	
								Acc. * Ret.	% of total
Mauritania	1.213	1.356	1.105	0.953	1.309	1.036	49.3%	1.645	54.9%
Gender (B/G)	1.008	1.106	1.088	0.694	1.754	0.980	0.0%	1.114	29.3%
Environment (U/R)	1.360	1.510	1.191	1.117	1.018	1.103	76.3%	2.053	64.2%
Wealth (Q45/Q123)	1.272	1.454	1.035	1.048	1.153	1.026	71.6%	1.848	71.1%
Niger	1.502	1.342	1.241	1.589	3.604	0.867	118.4%	2.015	- 18.4%
Gender (B/G)	1.332	1.077	0.906	0.921	1.272	0.760	-	1.434	-
Environment (U/R)	1.703	1.481	1.306	2.530	9.150	0.162	-	2.522	-
Wealth (Q45/Q123)	1.471	1.468	1.510	1.317	0.392	1.681	-	2.159	-
Nigeria	1.339	1.065	1.096	1.075	1.062	1.083	63.0%	1.426	52.2%
Gender (B/G)	1.101	0.994	1.046	0.979	1.007	0.976	-	1.094	-
Environment (U/R)	1.366	1.077	1.083	1.100	1.067	1.080	63.0%	1.471	54.9%
Wealth (Q45/Q123)	1.551	1.124	1.159	1.144	1.112	1.194	62.9%	1.744	49.6%
Central African Republic	1.267	2.586	1.311	1.943	2.028	1.039	72.0%	3.276	46.9%
Gender (B/G)	1.148	1.355	1.012	1.221	1.027	1.058	93.5%	1.555	59.9%
Environment (U/R)	1.274	3.300	1.320	2.157	2.154	1.125	66.6%	4.205	42.6%
Wealth (Q45/Q123)	1.379	3.102	1.602	2.451	2.902	0.933	56.1%	4.279	38.1%
Congo Democratic Republic	1.106	1.587	1.177	1.141	1.174	1.328	71.0%	1.756	39.5%
Gender (B/G)	1.056	1.118	1.054	1.037	1.140	1.227	65.7%	1.180	28.1%
Environment (U/R)	1.123	1.811	1.239	1.200	1.174	1.256	72.8%	2.034	47.5%
Wealth (Q45/Q123)	1.141	1.831	1.239	1.187	1.208	1.500	74.6%	2.089	42.9%
Sao Tomé & Principe	0.995	1.177	1.099	1.106	1.169	1.029	40.3%	1.171	24.2%
Gender (B/G)	0.994	0.901	0.986	1.006	0.955	1.074	30.1%	0.896	0.0%
Environment (U/R)	0.988	1.008	1.163	1.183	1.162	1.346	61.1%	0.996	0.0%
Wealth (Q45/Q123)	1.003	1.621	1.149	1.127	1.389	0.667	29.7%	1.626	72.6%
Senegal	1.307	1.469	1.079	1.372	1.000	1.263	92.8%	1.920	46.9%
Gender (B/G)	1.007	1.068	0.926	1.009	1.000	1.206	100.0%	1.076	37.6%
Environment (U/R)	1.513	1.717	1.172	1.700	1.000	1.278	89.2%	2.597	50.5%
Wealth (Q45/Q123)	1.402	1.621	1.140	1.408	1.000	1.303	89.3%	2.273	52.7%
Sierra Leone	1.213	1.321	1.154	1.594	1.324	9.983	87.2%	1.602	11.2%
Gender (B/G)	0.991	1.050	1.020	1.005	1.148	2.571	86.4%	1.041	3.5%
Environment (U/R)	1.290	1.446	1.172	1.639	1.170	10.518	91.1%	1.866	16.5%
Wealth (Q45/Q123)	1.358	1.465	1.269	2.138	1.655	16.859	84.3%	1.990	13.7%
Chad	1.602	2.170	1.091	1.364	1.257	2.296	78.3%	3.475	55.7%
Gender (B/G)	1.230	1.311	1.194	1.119	1.022	0.895	57.8%	1.613	70.4%
Environment (U/R)	1.680	2.584	1.156	1.673	1.035	1.723	91.8%	4.340	54.2%
Wealth (Q45/Q123)	1.895	2.615	0.922	1.300	1.715	4.271	85.4%	4.955	42.4%
Togo	1.121	1.204	1.084	1.500	1.267	1.905	70.8%	1.350	25.6%
Gender (B/G)	1.094	1.129	1.066	1.059	1.136	1.016	50.3%	1.235	44.3%
Environment (U/R)	1.134	1.239	1.089	1.799	1.368	2.508	81.2%	1.404	15.1%
Wealth (Q45/Q123)	1.136	1.245	1.098	1.641	1.296	2.190	81.0%	1.414	17.5%
All	1.202	1.287	1.095	1.271	1.129	1.193	71.7%	1.548	42.3%
Gender (B/G)	1.064	1.081	1.024	1.019	1.073	1.054	61.2%	1.150	45.7%
Environment (U/R)	1.266	1.378	1.128	1.391	1.165	1.259	76.3%	1.744	40.0%
Wealth (Q45/Q123)	1.278	1.404	1.133	1.403	1.150	1.265	77.6%	1.794	41.1%

II.6.1 Global perspective for the whole sample

Let us first of all take a look at how these results are organised for the sample as a whole. Table 13, below,

Table 13: Identification of key loci in the production of disparities according to the three social dimensions for all sample countries

Grade	Mechanism	Gender			Environment			Household wealth		
		Odds ratio	Specific multiplicative effect	% Social selection	Odds ratio	Specific multiplicative effect	% Social selection	Odds ratio	Specific multiplicative effect	% Social selection
P Access	P1 Access	1.064	1.064	20.4%	1.266	1.266	16.9%	1.278	1.278	17.2%
	P Retention		1.081	25.4%		1.378	23.1%		1.404	23.9%
P Completion		1.150			1.744			1.794		
	Transition P-S1		1.024	7.8%		1.128	8.7%		1.133	8.8%
S1 Access		1.178			1.967			2.031		
	S1 Retention		1.019	6.2%		1.391	23.7%		1.403	23.8%
S1 Completion		1.201			2.736			2.849		
	Transition S1-S2		1.073	23.1%		1.165	11.0%		1.150	9.8%
S2 Access		1.288			3.188			3.276		
	S2 Retention		1.054	17.1%		1.259	16.6%		1.265	16.6%
S2 Completion		1.358			4.016			4.146		
Total		-	-	100%	-	-	100%	-	-	100%
% Selection in primary education				45.7%			40.0%			41.1%
% Retention in the selection within system				61.8%			76.3%			77.6%

This table is interesting as it takes us a step closer to identifying the loci in the system where social inequalities develop. For each of the three social dimensions considered, it allows estimate the weight of each of the different segments of the system in the production of inequalities, from access to primary education up to completion of upper secondary schooling.

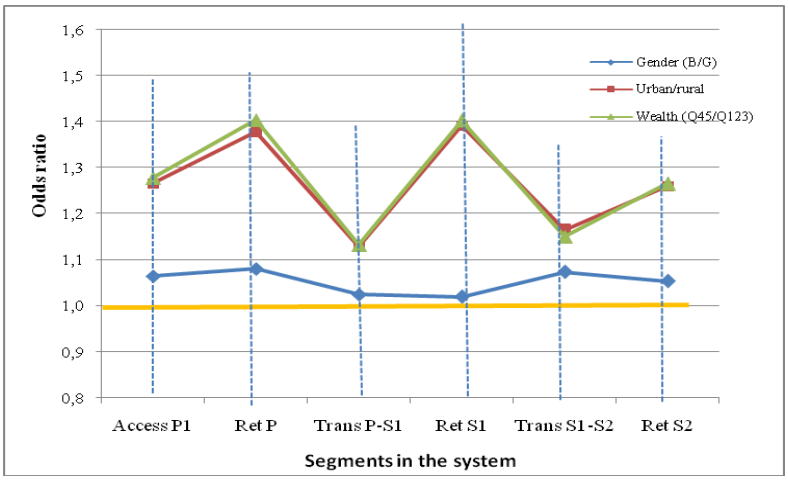
In Table 13, after calculating the effects specific to each segment (second column in each of the three blocks according to the social dimension analysed), we identify the respective weights of each of them (and of the mechanisms they are attached to) by proposing, in the third column, a transformation of the values established in their multiplicative structure into their equivalent in an additional structure[33]. This simple method can be used to identify the respective responsibility of the different segments of the system (what are the key loci, the bottlenecks in student flow) in the making of social disparities within it. This approach can be used separately for the different social dimensions, with obviously the possibility that these key loci differ from on social dimension to the other.

In Table 13, above, we can see that the pattern is quite different regarding the influence of gender, and quite similar in terms of the influence of environment and household wealth. This can be measured in particular by: i) the weight of primary education, which is slightly greater for gender (46% of the global selection) than for environment or household wealth (in the area of 40%), and ii) the respective weights of retention and transition within the selection pattern in the system. The aggregated weight of each instance of retention during the cycles of study is high for the three social dimensions, but it is especially so for the role of environment (76.3%) and slightly higher again for household wealth (77.6%); although the figure for gender is also high, it is lower (61.8%).

[33] This operation is carried out using logarithms; thus, given a multiplicative form of the type Y = (1+a) * (1+b) * (1+c)* …, we switch to a corresponding additional structure: ln (Y) = ln (1+a) + ln (1+b) + ln (1+c) + …

Discussion of the findings can be facilitated by building a graph reflecting the synthesis of Table 12 for all of the sample countries, i.e. the equivalent of a "typical" country of the sub-Saharan Africa region (Graph 9[34], below).

Graph 9: Pattern of generation of disparities between the different segments of the education system according to gender, environment and wealth, in a typical SSA country



The graph provides no new information in relation to the table, but the situation of a typical country of the sub-region appears very clearly:

* Gender creates relatively moderate differences compared to environment and household wealth, but it is especially in primary school that girls are at a disadvantage, with a similar intensity for access (20% of the total gender effect) and retention during the cycle (25% of total gender effect). Junior secondary education, while still unfavourable to girls, both in terms of access (transition from primary to secondary education) and retention during the cycle, is characterised by a moderate gender effect. Finally, the transition between the two cycles of secondary education is characterized by substantial difficulties of girls in relation to boys (23% of the total effect, an impact of intensity comparable to that attached to access to primary education).

* Environment and household Wealth create differences that are much stronger than those attached to gender; besides, the patterns of these two factors are very similar (the effect is slightly more marked for household wealth, taking into account also the grouping of the quintiles, as the variances would have been more marked if we had compared more specific groups such as Q1 to Q5). But two aspects also emerge clearly: i) the first is that access indeed constitutes a major locus of negative selection for rural children and for poor families; ii) the second is the very marked impact of the disparities that are generated during the cycles of study, i.e. in the instances of retention (these account for more than 75% of the total social effect for children who have had access to school). As previously pointed out in this paper, selection tend to concentrate in the instances of retention within cycles of study; it is now

[34] In the graph, we decided to keep the specific impacts in their gross, multiplicative form to maintain the possibility of comparing the respective degrees of impact of the three factors.

identified that they carry also substantial weight in terms of social selection, to the detriment of people from poor families in rural areas. This observation confirms a classic law that applies in both pedagogy and sociology, which is that when a system does not work well (in general), the underprivileged segments of society suffer the most. Transitions are not neutral socially and rural dwellers and the poor do not fare well in them, but their effect is only roughly a third of that generated in retentions during the cycles of study.

II.6.2 The case of individual countries

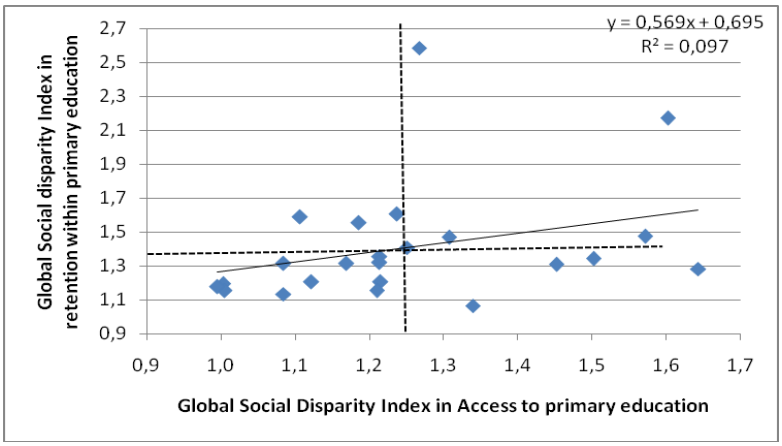
The information above focused on the somewhat "abstract" situation of a typical country in the region, but it is of course possible, and indeed likely, that this average situation results from country situations that are better or worse than the overall average case.

There are in fact considerable differences between the countries in the sample. One way of documenting this point consists, i) in comparing the weight of primary education in the production of inequalities within each of the national education systems and, ii) in distinguishing the relative weight of social disparities that emerge respectively in the access to a cycle of education and in retention during those cycles. Subsequently, we shall focus more specifically on secondary education, with, the distinction between social disparities that emerge in the transition from primary to junior secondary education and those that arise in the retention of pupils during this cycle. For these analyses, we have built an overall social disparity indicator aggregating the disparities observed according to the three dimensions considered (gender, environment and household wealth). We shall then examine the respective contributions of the three components.

II.7 Overall social disparity in access and retention at primary school level

The data on the odds ratio (Table 12 above), specific to the segments of primary access and retention during primary education and consolidated to measure consolidated social disparities will be re-used and compared. Graph 10, below, shows the findings obtained[35].

Graph 10: Overall social disparities in primary education, access and retention



[35] The reader's attention should be drawn to the fact that the scales of the two axes are different and that the magnitude of the disparities is generally slightly higher for retention than for access.

In first instance, we observe that the dots representing the cases of the different countries in the two axes are widely scattered, showing varied cases in terms of the magnitude of the social disparities in primary education in the sample countries. We also observe a slight statistical correlation between the two measured quantities examined here (a positive correlation, but with an R^2 equal to only 0.10).

Concerning access to the primary cycle, countries such as Sao-Tomé (numerical value of indicator of 0.995), the Congo (1.003), Gabon (1.005), Ghana (1.084) and Cameroon (1.084) are characterised by relatively low social disparities. On the other hand, this is not the case for Nigeria (1.339), Mali (1.452), Niger (1.502), Guinea (1.571), Chad (1.602) and Burkina Faso (1.643), countries which stand out in terms of their high level of social disparities in access to primary.

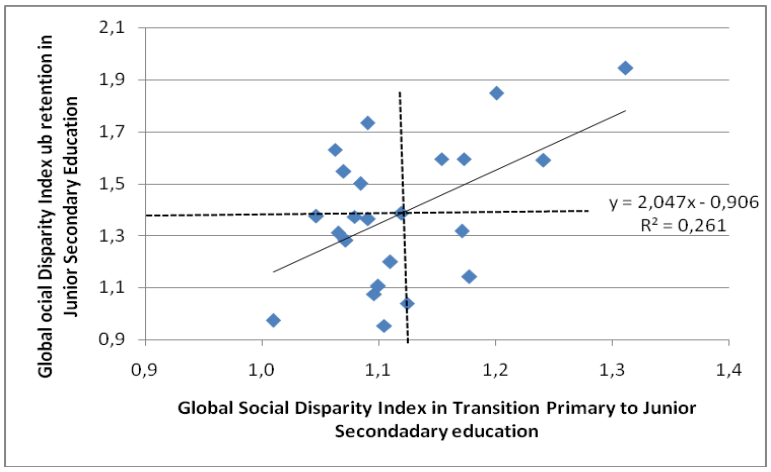
With respect to retention during the primary cycle, figures depicting a relatively positive performance are observed in Nigeria (the overall social disparity indicator has a numerical value of 1.065), Ghana (1.134), Côte-d'Ivoire (1.153), Gabon (1.155) and Sao-Tomé and Principe (1.177), and, to a slightly lesser degree, in the Congo (1.193) and Togo (1.204). In contrast, countries such as the Central African Republic (social disparity index 2.586), Chad (2.170), Liberia (1.607), the Democratic Republic of the Congo (1.587), Guinea-Bissau (1.554), Guinea (1.474) and Senegal (1.469) are characterised by very intense production of social disparities in retention during the primary cycle.

When we correlate the dimensions of primary access and retention during the cycle, we identify countries that combine low or high emergence of social disparities right from this first cycle of study; Chad and the Central African Republic are the countries with the most serious problems, since they combine very poor performances on both indicators; although better, the situations of Guinea, Liberia and Senegal are not judged favourably either within the set of countries considered. On the other hand, the case of Sao-Tomé and Principe, the Congo, Gabon, and to a lesser extent, Ghana and Togo, appear better in that these countries combine relatively good performances in terms of generating social disparities in these two instances associated with primary education. Nigeria and the Democratic Republic of the Congo are more contrasted, because: i) access to the primary cycle is characterised by a high level of social disparity in Nigeria, whereas disparities fairly well controlled during the cycle, while ii) the opposite prevails in the Democratic Republic of Congo.

II.8 Overall social disparities in access to and retention during the first secondary cycle

Graph 11, below, is established according to the same principle as Graph 10 on primary education. It presents the social disparities generated specifically in the segments of i) the transition between primary and junior secondary education, and ii) retention during the junior secondary cycle.

Graph 11: Overall social disparities in junior Secondary education, access and retention



First of all, we find that the overall picture is familiar, in that overall social disparities are considerably stronger in retention during the cycle of study than in the transition from primary education tp get access to it; the figure measuring these disparities in the different countries is generally between 1.05 and 1.20 in the case of transition (for an average of 1.120), whereas variation in the indicator applying to retention during the cycle ranges more or less from 0.90 to 1.85 (for an average of 1.386, that is an intensity about three time as high as that measured for transition). We also observe a certain tendency for the countries who have the highest degree of inequality in the transition between cycles to show similar results for retention during cycles; but the degree of association, which is positive, nonetheless remains relatively moderate ($R^2 = 0.26$), suggesting that there is after all a certain degree of autonomy of these two instances in the running of the education system.

The primary-secondary transition specifically generates relatively little social disparity in The Gambia (the indicator has a numerical value of 1.010), Guinea (1.046), Ghana (1.062), Benin (1.065), Mali (1.070), Gabon (1.071), Senegal (1.079), Togo (1.084), the Congo (1.090) and Nigeria (1.096). The case is less positive (but without massive difference with the "positive" group of countries) in the Central African Republic (where a value of the indicator of 1.311), Niger (1.241), Cameroon (1.201), Democratic Republic of the Congo (1.177), Liberia (1.171) and Sierra Leone (1.154).

Retention within junior secondary education is an instance which generally engenders considerably more substantial social disparities, even though there are also (large) differences between countries. It is then observed that few social differentiations are generated in the course of junior secondary education in Mauritania (where the indicator has a numerical value of 0.953), The Gambia (0.973), Côte-d'Ivoire (1.040), Nigeria (1.075) and, to a slightly lesser extent, in the Democratic Republic of the Congo (1.141). Much higher figures are seen in the Central African Republic (1.974), but also in Cameroon (1.847), the Congo (1.733), Burkina Faso (1.595), Sierra Leone (1.594), Niger (1.589), Mali (1.546) and Togo (1.500).

If we correlate the two dimensions we find no one country that is clearly successful in both dimensions; on the other hand, four countries stand out with a combination of negative figures in terms of production of social inequalities both i) in the transition from primary to secondary and ii) in retention within the junior secondary cycle; these are, in particular, the Central African Republic, Cameroon, Sierra Leone and Burkina Faso.

II.9 Schooling profiles that differ substantially across countries

The information provided above on the various instances generating social disparities over a system of education identifies cases that are highly diversified across the different countries considered in this report.

Graph 9, above, showed a pattern characterising the specific role of each of the instances that regulate the flow of students from access to primary access education to completion of the senior secondary cycle of studies in the generation of social inequalities; graphs of this kind can be produced for each of the 22 sample countries. As an illustration of this, Graph 12, below, presents this global pattern for six countries of our sample: Cameroon, Ghana, Guinea, Nigeria, Senegal and Togo[36].

Visibly, it can be observed that the patterns estimated for these six countries present the similarity that gender is indeed the social factor that makes the least difference of the three under consideration, with environment and household wealth being responsible for disparities that are in general much greater; but the six patterns estimated also present noticeable differences:

1. In the case of **Guinea**, social differentiations, in particular regarding geographic environment and especially household wealth (although differentiations according to gender are also far from absent), are very intense in primary education, both in terms of access and retention. Beyond that level, the system is relatively egalitarian, with the exception of retention in junior secondary schooling, where the children living in poor families are clearly at a disadvantage.

2. The case of **Ghana** is very different in the sense that there are fewer disparities in the primary cycle. The transition to junior secondary education is also quite neutral in social terms; within secondary education itself, the process of retention during the cycles is, however, marked by major social disparities across all three dimensions, especially in junior secondary education. In contrast, the transition between the two cycles of secondary education is quite neutral in social terms.

[36] For the sake of comparison, the patterns of the six countries are presented on the same scale.

Graph 12: How social disparities are built: specific effects of the instances organising student flows and identification of key loci in six countries

3. **Cameroon** is characterised by a moderate level of social disparities in primary school access (even though there exist very strong disparities at the disadvantage of regions located in the Northern part of the country). Beyond this initial level, while gender disparities remain moderate, this is not the case for geographic environment and household wealth, which are actually relatively predominant in all of the other instances organising school flows; this applies to retention in primary education but also for the transition to junior secondary education and is especially true for retention during that cycle of study. The transition between the two cycles of secondary education adds to the existing pattern but in a slightly more moderate way; on the other hand, youths from modest backgrounds face particular difficulties in completing the second secondary cycle.

4. The case of **Senegal** is in some ways quite paradoxical, as gender disparities are practically non-existent up until senior secondary education. On the other hand, disparities linked to environment (above all) and to household wealth are very substantial in the four instances that concern primary schooling (access and especially retention during the cycle) and junior secondary education (transition from primary to junior secondary and retention of pupils during the cycle). The upper cycle of secondary schooling does not greatly increase the scope of social disparities.

5. **Togo** presents a pattern in which gender inequalities, while never reaching an extreme level in any of the six instances organising the flow of pupils, are quite substantial throughout the system; this is particularly the case in the primary education (access and retention) and in the transition between the two cycles of secondary education. Intensity of disparities due to environment and household income are relatively small in the lower part of the system, i.e. in primary access and retention as well as in the transition between the primary cycle and junior secondary. On the other hand, as in many other countries, social selection is quite strong in terms of retention in both cycles of secondary education, and somewhat strong in the transition between the first and second cycles of secondary education.

6. Lastly, the case of **Nigeria** stands out somewhat among the countries studied (as was already clearly visible in Graph 12, above). A large proportion of the total social selectivity of the system takes place in the access to primary education. At this point, the disparities are quite perceptible, without being considerable (there are, however, disparities between the South and the North of the country which are not captured by the three social variables studied). However, after access to the primary cycle, social disparities are particularly modest in each of the successive instances of regulation of the flow of pupils, and this holds until completion of the second secondary cycle; this implies that coverage is on the high side at the end of senior secondary schooling and that the necessary progress in the access into primary education may further result in significant pressures to expand the provision of paces latter on in the system of education.

II.10 A summary view of the key loci where social selection takes place

Although it is unfortunately not possible to show the social selectivity patterns of all of the sample countries in graphic form, Table 14 provides a summary that the reader may find useful.

Lastly, it should be noted by way of a conclusion to our analyses of the patterns of social disparity generation throughout the education systems in the different countries, that while this approach may give quite clear indications of **where** (on which segments of the system) it would be appropriate to intervene (identification of key mechanisms (the "bottlenecks" on which it would be appropriate to take action to reduce social disparity in the education systems of the countries considered), it does not, however, indicate what instrument could be used to intervene; and obviously even still less which would be the most cost effective ones from this perspective. This requires additional work, some of which will be approached in the second part of this document.

Table 14: Summary of social selectivity in all six instances of pupil flow management, from primary school access through to completion of secondary school in all 22 countries

Segment of the system	Primary Access				Primary retention				Transition Prim-Sec1				Sec1 retention				Transition Sec1-Sec2				Sec2 Retention			
Country	Overall	Vigilance			Overall	Vigilance			Overall	Vigilance			Global	Vigilance			Global	Vigilance			Global	Vigilance		
		G	E	W		G	E	W		G	E	W		G	E	W		G	E	W		G	E	W
Benin	**	xx	-	x	**	x	-	x	-	-	-	-	**	x	xx	xx	*	x	-	-	***	X	xx	xx
Burkina Faso	***	xx	xx	xx	**	-	x	x	**	-	xx	x	***	-	xx	xx	*	-	x	-	***	-	xx	x
Cameroon	-	-	-	-	**	x	xx	xx	**	-	x	xx	***	x	xx	xx	*	x	x	x	***	-	-	xx
Congo	-	-	-	-	**	x	-	-	-	-	x	-	***	-	xx	xx	**	-	xx	-	***	-	xx	xx
Côte-d'Ivoire	**	x	x	x	*	-	-	-	*	x	x	-	-	-	-	-	**	-	xx	x	**	-	xx	xx
Gabon	-	-	-	-	*	-	x	-	-	-	-	-	**	x	xx	xx	-	-	-	-	-	-	-	-
The Gambia	*	-	x	x	**	xx	x	xx	-	-	-	-	-	-	-	-	**	x	x	x	***	Xx	xx	xx
Ghana	*	-	-	-	*	-	-	x	-	-	-	-	***	xx	xx	xx	-	-	-	-	***	-	xx	xx
Guinea	***	x	xx	xx	***	x	xx	xx	-	-	-	-	**	-	x	xx	*	-	x	x	-	-	-	-
Guinea-Bissau	*		x	x	***	-	xx	xx	*	-	x	-	**	x	x	x	-	-	-	-	-	-	-	-
Liberia	**	-	x	x	***	xx	xx	xx	*	x	x	x	**	-	xx	xx	**	-	x	xx	**	-	xx	xx
Mali	***	x	xx	xx	**	-	xx	xx	-	-	-	-	***	x	xx	xx	***	x	xx	xx	***	-	xx	xx
Mauritania	**	-	xx	x	**	x	xx	xx	*	-	x	-	-	-	-	-	**	xx	-	x	-	-	x	-
Niger	***	xx	xx	xx	**	-	xx	xx	**	-	xx	xx	**	-	xx	x	***	xx	xx	-	*	-	-	xx
Nigeria	***	x	xx	xx	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	x
Central African Rep.	**	x	x	x	***	xx	xx	xx	***	-	xx	xx	***	xx	xx	xx	***	-	xx	xx	-	-	x	-
Dem. Rep Congo	*	-	-	-	***	x	xx	xx	*	-	x	x	*	-	x	x	*	x	x	x	**	Xx	xx	xx
Sao Tomé & Principe	-	-	-	-	*	-	-	x	-	-	-	-	*	-	x	-	*	-	x	xx	-	-	xx	-
Senegal	**	-	xx	xx	***	-	xx	xx	-	-	-	-	**	-	xx	xx	-	-	-	-	**	Xx	xx	xx
Sierra Leone	**	-	-	x	**	-	xx	xx	*	-	-	x	***	-	xx	xx	**	x	x	xx	***	Xx	xx	xx
Chad	***	xx	xx	xx	***	xx	xx	xx	-	x	-	-	***	x	xx	x	**	-	-	xx	***	-	xx	xx
Togo	*	x	-	-	**	x	x	x	-	-	-	-	***	-	x	x	**	x	xx	xx	***	-	xx	xx
All	**	-	x	x	**	-	x	xx	*	-	x	x	***	-	xx	xx	*	-	x	x	**	-	xx	xx

II.11 Schooling dynamics: a dual movement in terms of equity worth understanding

Initial access to the first year of primary school is necessarily a key aspect in the analysis of schooling and a decisive bottleneck for individual school careers. Despite the fact that it is self-evident, even banal, it is interesting to examine this point, for it has implications from the standpoint of equity. In the first instance, we could no doubt argue that if the rate of primary access in an education system rises, for example, from 60 to 80% over a given period, this corresponds to a gain in terms of equity and child rights. This is an undeniable fact, all the more so, as, in so doing, the system includes children who were previously excluded. Nonetheless, it can be enlightening to further pursue the analysis of the relationships that are likely to exist between positive quantitative dynamics in education system coverage, on the one hand and equity issues on the other hand.

A structural aspect of the dynamics of development of school coverage in a country (other than the volume of resources it mobilises and the level of the unit costs of education services) is that it is generally guided by a two-fold implicit principle which is i) ease of deployment of education services (supply side), and ii) decision-makers' response to the demands of the fraction of the country that is close to them. These two principles are to a large extent

complementary. An outcome of these two conjectural principles would be a tendency to serve the populations of large cities first, and in particular the capital of the country, where it is easiest to organise school supply, and where there is a definite demand for schooling from the families that are the most privileged and the closest to power. Gradually, as the system is extended quantitatively, other areas are to benefit, particularly in the towns and in certain rural areas where it is easy to provide schooling, i.e. in areas with good transportation connections where settlement is relatively dense, the demand for schools strong and, possibly, where there are influential political representatives.

This dynamic movement of quantitative expansion is then characterised by a two-fold movement from the point of view of equity:

i) first of all, an improvement, because the increase in coverage corresponds quantitatively to a reduction in the number of children deprived of their rights to schooling and because it is accompanied by the inclusion in school of young people who were previously excluded and who bear less favourable social characteristics, thereby leading to a democratisation of education services (some education specialists use the term of "demographisation" to refer to this reduction in social inequalities as a result of the quantitative expansion of the system).

ii) However, in the second instance, in application of the two-fold principle of facility of implementation and closeness to power in society, it is apparent that those who are still left out will no doubt progressively carry more difficult social characteristics thereby rendering equity issues more acute[37]:

> The crux of the matter may be that certain population groups are objectively more difficult to school **in terms of logistics** (also more expensive), such as people living in isolated areas, with sparse settlement, nomadic populations or disabled children.
>
> The matter may also be that certain people are more difficult to school because **the demand for schooling on the part of their families is weak or lacking**; this could be the case for several types of reasons: i) the first are related to the fact that a certain number of families (often poor and illiterate) are traditional, and the concept of "modern" school is not within their sights; demand for school (for a school that finds it difficult to adapt to fit the interests of these families) is therefore low, and this may apply to all children in the family but often more particularly to girls; ii) the second set of reasons may be related to the fact that some households live in such extreme conditions of poverty that they have great need of the children's contribution to the domestic economy, so that school is simply not a priority.

[37] Organisational questions as well. This two-fold process may be illustrated in junior secondary education in a number of countries of the region. There is indeed a tendency (in keeping with the first process) to develop the supply of services in the urban environment while implicitly neglecting rural areas. One consequence of this is that approximately 85% (regional average) of the young people currently out of school at this level of study are rural dwellers, a population group that is more difficult/more expensive to school (due to the fact that small schools are required, since it has been demonstrated that a distant school has disadvantages for pupils in terms of both access and retention, in particular for girls) with the organisation methods of junior secondary schools adapted to urban locations. New education policies, combining equity and efficiency, need to be established in most of the countries in the region to deal with this problem.

On the basis of this analysis, we may reasonably posit two hypotheses: i) the magnitude of social disparities decreases as system coverage increases, and they definitely cease to exist when coverage is universal; ii) the unfavourable social characteristics of excluded populations increase when system coverage increases. This would produce a a pattern represented by a graph with intersecting lines that describes i) a reduction in social inequality within the in-school population as the relative coverage of the system improves, and ii) a corresponding increase in the socially unfavourable characteristics (in general, and with regard to schooling in particular) of the population groups not yet in school, who constitute an important issue, especially from the standpoint of the perspective of aiming at universal coverage in the primary cycle[38] of study.

The first hypothesis has more or less been empirically validated in the analyses presented above (and in the literature on the subject). The empirical validity of the second hypothesis warrants more specific testing, first of all because it presents an operational interest to the extent that one of the essential elements of the EFA program is the inclusion of out-of-school children. But such testing is also important in terms of knowledge, for it would help to validate the more general theoretical proposals presented in this section, which are more targeted towards the comprehension of the phenomena than the production descriptive figures; producing understanding and sense is just as important as producing numbers, even though the factual dimension is so important in a domain where phrases, normative proposals and slogans are continually being coined and "bad coinage drives out good".

To the extent that the analytical perspective is part of the dynamics of education systems, it would no doubt be pertinent to follow a comparative statistics approach and process data of the same type on education system coverage and social disparities in the different sample countries on several dates: over the past 15 years, for instance.

This undertaking is of course possible in concrete terms; this being said, the sheer weight of the empirical arrangements to be made is no doubt beyond the realm of the feasible as part of the present work. However, the body of data used in the analyses presented previously is however already quite useful. We can, for instance, take a cross-section of the data on a recent date for all 21 countries in West and Central Africa for which the data is available, a practice that is commonly used in numerous works in the economic and social field.

The empirical approach is relatively straightforward. It consists in choosing an age group which is sure to include all of the youths who have had access to school (allowing for late

[38] These population groups that are difficult to school (some of which may combine several difficulties: an extreme example would be disabled girls living in a poor, traditional family in an isolated, sparsely settled area) and which are effectively not in school, can represent a variable proportion depending on the spatial and social characteristics of the countries, and the education policies (general or targeted) they have implemented in this perspective. If these populations only represent a small proportion, we could be tempted to content ourselves with an inclusion rate of 85 or 90% and focus education policy efforts on other aspects. It is true that trade-offs are unavoidable, in particular when there is very strong pressure to improve the quality of primary education services and to respond to the high demand from those who complete their primary education and wish to move on to secondary school. However, with regard to children's rights and equity considerations and to the commitment to aim for universal primary completion, trade-offs can hardly leave out populations that are "difficult" to school by depriving them of education.

entries) and which ensures that the sample is adequate in size (in this case, the sample included children from 9-11 years old). After determining how many young people within this age group have had access to school and how many have not had access, the analysis can be conducted by following the procedures identified in the previous option, i.e. i) distributing the numbers in these two sub-groups according to the different social dimensions and ii) identifying the fact that proportions of access vary greatly according to country.

Tableau 15, below, presents the results of the relevant statistical estimates for the global sample of the countries considered in this report (with the exception of Congo, Gabon and Sao Tomé for which the access rate is very close to one, the few children not accessing primary education doing so for personal more than structural reasons). The analysis is conducted i) for the three social variables used in this report and ii) separately for those who have had access to primary education and those who did not.

Tableau 15 : Modélisation de l'intensité des disparités sociales au sein de la population qui a, ou non, accès au primaire selon le taux d'accès national au cycle d'études

Dependant variable	Access Rate to Primary Education		Constant	R^2
	Coefficient	t de student		
Household wealth (Q45/Q12)				
Disparity Index for those who had access to school	- 1.816	7.68 ***	2.816	0.744 (0.737)
Disparity Index for those who did not have access to school	1.180	4.45 ***	0.865	0.538 (0.511)
Gender (Male/female)				
Disparity Index for those who had access to school	- 0.440	3.09 ***	1.412	0.359 (0.321)
Disparity Index for those who did not have access to school	0.177	0.81 (ns)	0.991	0.037 (0)
Environment (Urban/Rural)				
Disparity Index for those who had access to school	- 1.575	11.68 ***	2.520	0.872 (0.866)
Disparity Index for those who did not have access to school	0.658	5.30 ***	0.811	0.623 (0.601)

The results are interesting both from analytical and practical reasons:

i) The signs of the coefficients of the variable "access rate to primary education" are consistent with expectations, that is that they are always negative for the population that had access to primary education and always negative for that did not have access to schooling.

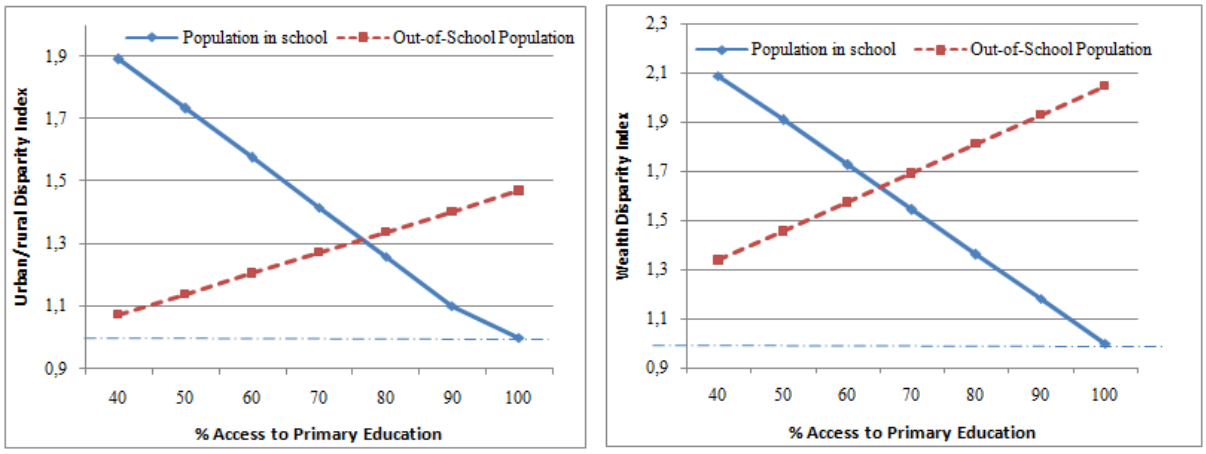
ii) The statistical relationships are much stronger with household wealth, and even more so for the distinction urban/rural, than with gender. This is in line with the argument made according to which the expansion of a system of education is supply side driven and proceeds by "progressive difficulties"; in this respect the urban/rural distinction has a strong bearing[39].

The concrete appreciation of these results is likely to be improved by providing a visual illustration of the case. For that, a numerical simulation has been made on the basis of the

[39]. The results show that the pattern applies also to the level of wealth. But, beyond the fact that children living in poverty are less likely to be schooled (for the reason that they are poor), the results are also linked to the fact that poor households reside more than proportionally in rural setting.

equations presented in Table 15 above. Then a graph is made to represent how the two indexes of social disparities, respectively for the population that had, and did not have, access to primary education, behave as the proportion of population having access to primary education "evolves" (in fact here "varies" since the analysis has been conducted in cross-section). Graph 13 provides this illustration of the "scissor shaped" pattern.

Graph 13: Hypothetical graph of social disparities and social difficulties of excluded populations by school coverage



These results lend strong empirical weight to the hypothesis put forward. But they above all manifest the fact that the social characteristics of the children that are to be included in school to reach universal coverage become more "difficult" as coverage increases. These unfavorable characteristics are first associated to the rural and second to poverty (to a much lesser extent to gender).

In terms of education policies, this suggests that i) in spite of the fact that they tend to favor the supply of services, they have de facto difficulties to implement appropriate services in difficult to reach areas and ii) it is clearly useful to enrich the traditional supply side activities by activities aiming at stimulating the demand of schooling for poor and traditional populations so as to be in a position to move effectively toward universal coverage of primary education. This message carries obviously a significant meaning both for the countries as well as for their financial and technical partners in view of achieving the EFA goals.

As a complement to the comparative international perspective, it is interesting i) to focus on individual countries and ii) to document the social specificities of the population that is not in school by reference to the social characteristics of the population in age of being in school.

Table 16, below, provides the distribution of the 9-12 population not in school according to the three social variables considered in the different countries of the sample. The social distribution of the individuals not in school at the time of survey (including those who never had access to school) is given in itself as well as contrasted with that of the global population of the same age group (what is the degree of over-representation of the socially disadvantaged groups?).

Tableau 16: Social characteristics of the individuals 9-12 not in school in the different Countries

	Countries	% girls	% Rural	% Poor (Q1)	% Poor (Q12)	Countries	% girls	% Rural	% Poor (Q1)	% Poor (Q12)
% not in school		56.0 %	74.6 %	34.4 %	62.2 %		53.4 %	82.9 %	29.2 %	53.5 %
% in age-group	Benin	46.6 %	64.7 %	20.4 %	42.2 %	Mali	49.8 %	72.9 %	24.2 %	45.7 %
Ratio		1.20	1.15	1.68	1.47		1.07	1.14	1.20	1.17
% not in school		51.7 %	92.3 %	27.9 %	50.8 %		47.5 %	76.7 %	41.4 %	67.8 %
% in age-group	Burkina Faso	48.8 %	80.7 %	23.0 %	41.9 %	Mauritania	48.2 %	59.4 %	30.2 %	56.0 %
Ratio		1.06	1.14	1.22	1.21		0.99	1.29	1.37	1.21
% not in school		57.1 %	81.4 %	58.3 %	78.1 %		52.8 %	93.7 %	27.8 %	50.3 %
% in age-group	Cameroon	48.7 %	57.7 %	22.6 %	43.9 %	Niger	45.5 %	84.6 %	21.3 %	41.6 %
Ratio		1.17	1.41	2.59	1.78		1.16	1.11	1.30	1.21
% not in school		49.3 %	66.9 %	38.3 %	66.1 %		54.4 %	87.9 %	54.1 %	83.1 %
% in age-group	Congo	50.5 %	51.0 %	20.1 %	43.4 %	Nigeria	48.8 %	69.4 %	23.9 %	46.8 %
Ratio		0.98	1.31	1.90	1.52		1.12	1.27	2.27	1.78
% not in school		55.9 %	73.0 %	35.5 %	60.4 %		56.1 %	72.1 %	20.6 %	42.3 %
% in age-group	Côte-d'Ivoire	47.8 %	63.6 %	23.9 %	47.5 %	Central African Rep.	48.4 %	55.8 %	12.2 %	27.7 %
Ratio		1.17	1.15	1.48	1.27		1.16	1.29	1.70	1.53
% not in school		39.3 %	26.1 %	44.0 %	66.4 %		51.2 %	75.6 %	31.4 %	55.2 %
% in age-group	Gabon	48.6 %	20.4 %	25.2 %	47.3 %	Demo. Rep. Congo	47.9 %	58.2 %	17.5 %	36.7 %
Ratio		0.81	1.28	1.75	1.41		1.07	1.30	1.80	1.51
% not in school		44.4 %	74.2 %	33.0 %	59.9 %		46.8 %	46.7 %	33.3 %	44.4 %
% in age-group	Gambia, The	49.6 %	61.7 %	19.8 %	39.3 %	Sao Tomé	47.4 %	47.9 %	16.9 %	34.6 %
Ratio		0.89	1.20	1.66	1.52		0.99	0.97	1.97	1.28
% not in school		50.0 %	72.5 %	53.6 %	69.3 %		49.5 %	78.1 %	34.8 %	60.4 %
% in age-group	Ghana	49.1 %	60.8 %	28.0 %	50.1 %	Senegal	49.9 %	60.9 %	25.1 %	47.1 %
Ratio		1.02	1.19	1.92	1.38		0.99	1.28	1.39	1.28
% not in school		54.5 %	87.9 %	27.5 %	52.4 %		49.2 %	86.0 %	30.0 %	57.9 %
% in age-group	Guinea	49.5 %	71.1 %	20.3 %	37.3 %	Sierra Leone	48.6 %	65.8 %	15.5 %	37.4 %
Ratio		1.10	1.24	1.35	1.41		1.01	1.31	1.93	1.55
% not in school		49.4 %	81.1 %	23.3 %	49.6 %		55.7 %	84.8 %	54.0 %	76.1 %
% in age-group	Bissau-Guinea	46.4 %	66.5 %	17.7 %	38.8 %	Togo	47.6 %	69.6 %	31.2 %	52.9 %
Ratio		1.06	1.22	1.32	1.28		1.17	1.22	1.73	1.44
% not in school		48.9 %	75.8 %	23.6 %	45.2 %		**51.1 %**	**75.7 %**	**36.0 %**	**59.6 %**
% in age-group	Liberia	48.1 %	59.0 %	16.0 %	32.0 %	**Together**	**48.4 %**	**62.0 %**	**21.7 %**	**42.4 %**
Ratio		1.02	1.29	1.47	1.41		**1.06**	**1.22**	**1.66**	**1.41**

Examine first the figures for the sample of countries as a whole (bottom right of Table). All three social categories (girls, rural and poor) are over-represented in the group of the out-of-school. We find again that the influence of gender (coefficient of representation of 1.06) is significantly smaller than that of geographic setting (coefficient de 1.22 between urban and rural)) and that of household wealth (coefficient of 1.41 for the opposition between the two highest and lowest quintiles). Concerning the impact of household wealth, it is to be noted that individuals belonging to the poorest quintile are specifically represented among the out-of-school children while, at this level of schooling, there is little difference between the two highest quintile; as a consequence the coefficient de relative representation between the two extreme quintiles is 1.66).

It is also interesting to focus on the social structure of the out-of-school population in **absolute** terms. The rural dimension is to be stressed since, on average, over 75 percent of the out-of-school children are rural (and probably living in difficult circumstances, with a pattern likely to be similar to that found for the schooling of individuals living in poverty). Besides, this population is also poor as close to 60 percent belong to two lowest quintiles of wealth (36 percent in the lowest quintile).

Coming now to individual country cases, it is observed that being rural and poor is a major characteristic of the out-of-school population. With the exception of Gabon and Sao Tomé, the out-of-school children are rural in over 70 percent of the cases. In Burkina Faso and Niger (countries indeed with a large rural population) more than 90 percent of the youngsters 9-12 are rural. This being said, the proportion of economically disadvantaged children in the out-of-school population is however quite variable across countries. Figures are particularly high in Cameroon (78 percent of poor -Q1/Q2-, 58 percent of very poor -Q1), in Nigeria (the corresponding figures are 83 and 54 percent) and in Togo (76 and 54 percent). By contrast, the tone of poverty is not as strong in Liberia (45 and 24 percent), in Central African Republic (42 and 21 percent) and in Mali (46 and 24 percent).

But it needs be reminded that all the figures presented on social disparities are to a substantial extent contingent of the global level of coverage of the system in a given country. Thus, when there exists a large proportion of children out-of-school, their social characteristics are much closer to that of the country than when coverage of education is large; this is the outcome of the application of the principle of "administrative and social easiness" to account for the dynamic of expansion of a system of education, a principle which implications have proven to be consistent with the reality.

II.12 Social equity: distributing public resources in education

In point II.1 above, it was postulated that it was important to consider the architecture (combined structure of quantitative coverage and unit costs at each level of teaching) of the education system of the different countries. This architecture builds a framework that is more or less elitist in character; but all education systems are elitist, given that they adopt a pyramidal structure; the degree of "elitism" may however vary from one country to another. This global architecture is not necessarily inequitable by itself, though; in order for it not to be so (equal opportunity) the different categories of the population should be fairly represented at all levels of the system. The results of the analyses described above suggest that this is not the case in any of the countries in the region. But, here again, it is probably more a question of degree than nature, as some countries' education systems are probably less socially equitable than others.

Under these conditions, the distribution of the public resources appropriated by individuals (described in point II.1, above) can be expected to take on a social dimension, and certain population groups may succeed in appropriating a share of public resources in education that is proportionally greater than their representation within the national population; necessarily to the detriment of other groups who are thereby penalised.

While there is not necessarily a link between the degree of inequality in the "structural" and "social" dimensions of the distribution of public resources in education, it remains plausible that social disparities may have a tendency to be greater when the system itself has a higher degree of structural inequality.

In order to concretely estimate the social distribution of the resources mobilised by a country for its education system, a convenient possibility is to start by selecting an age group that is wide enough to ensure that the entire school-aged population is included, for example, 6 to 25 years of age. This population can then be distributed by schooling status at the time of the survey (out of school/in school; and level of study for those in school) and according to the categorisation of the different groups in terms of gender, environment and wealth quintile. Data on unit costs can thereafter be incorporated into the analysis to identify the public education resources appropriated by an individual according to the social characteristics and school careers of their category.

Table 17, below, shows the type of table used to conduct the analysis for each country in the sample. The figures in Table 17 show the consolidated situation for all sample countries. The numbers of the population aged 6 to 25 years from each of the surveys have been recalibrated to 10,000 individuals; this gives all the countries a similar weight, but also avoids giving importance to a country based on the size of the household survey carried out there (and on the weighting structure used).

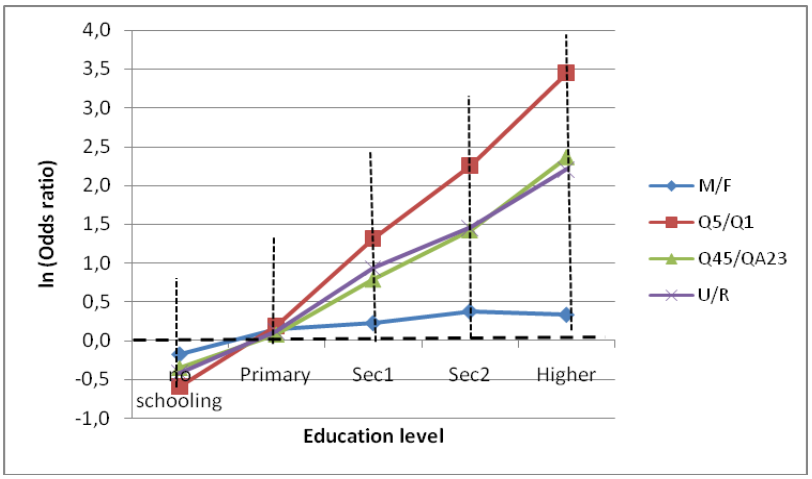
Table 17: The schooling status of individuals aged 6-25 at the time of a household survey according to social characteristics (21 countries)

Population group	Level of study at the time of the survey											
	Out-of-school		Primary		Secondary 1		Secondary 2		Higher		All 6-25 year-olds	
	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%
All	106 754		74 102		19 769		8 118		1 258		210 000	
Wealth quintile												
Q1 (lowest)	27 049	25.3%	13 203	17.8%	1 883	9.5%	419	5.2%	28	2.2%	42 581	20.3%
Q2	23 272	21.8%	14 460	19.5%	2 623	13.3%	697	8.6%	51	4.0%	41 103	19.6%
Q3	22 250	20.8%	15 277	20.6%	3 487	17.6%	1 031	12.7%	76	6.0%	42 122	20.1%
Q4	19 545	18.3%	15 533	21.0%	4 845	24.5%	2 042	25.2%	248	19.7%	42 213	20.1%
Q5 (highest)	14 701	13.8%	15 640	21.1%	6 933	35.1%	3 931	48.4%	857	68.1%	42 061	20.0%
Odds ratio [Q5/Q1]	0.55		1.20		3.73		9.51		31.48			
Odds ratio [(Q5 + Q4)/(Q1+ Q2)]	0.68		1.12		2.60		5.32		14.03			
Gender												
Female	58 438	54.7%	34 732	46.9%	8 869	44.9%	3 345	41.2%	532	42.3%	105 916	50.4%
Male	48 316	45.3%	39 370	53.1%	10 900	55.1%	4 773	58.8%	726	57.7%	104 084	49.6%
Odds ratio [male/female]	0.84		1.15		1.25		1.45		1.39			
Geographic environment												
Rural	73 122	68.5%	41 378	55.8%	7 094	35.9%	2 035	25.1%	171	13.6%	123 800	59.0%
Urban	33 706	31.6%	32 740	44.2%	12 679	64.1%	6 087	75.0%	1 088	86.5%	86 299	41.1%
Odds ratio [urban/rural]	0.66		1.14		2.56		4.29		9.12			

This table shows the structures mentioned previously in this paper with social disparities that increase with the level of study and that are significantly higher for household wealth and environment than for gender. These two aspects are visually very clear in Graph 14, below,

which represents the logarithm of the odds ratio according to the level of study for each of the three social dimensions considered.

Graph 14: Odds ratio of school attendance by gender, environment, wealth and level of study



When the level of public expenditure is included in the analysis, social disparity is generally higher, because in addition to the fact that the most privileged individuals (boys rather than girls, urban rather than rural dwellers, the rich rather than the poor) have better educational careers, the fact that their school careers are longer means they have access to greater amounts of public resources, since the unit cost of schooling also increases greatly along with the level of study (the average unit cost in the sample countries is estimated at 10.8% of per capita GDP at primary level, 22.9% of per capita GDP in junior secondary education, 40.1% of per capita GDP in the senior secondary and 180.1% of per capita GDP in higher education).

Including the unit costs of schooling at the different levels of study is made by reproducing the same exercise as in section II.1 above, but separately for each different social group. This produces the distribution of the total amount of resources among the various population categories (boys/girls, urban/rural, rich/poor) that make up society in a given country. The resources accumulated by one group are simply divided according to its representation within the reference population; the ratio of this figure between privileged and underprivileged groups can then be calculated.

For all of the countries considered together (or a typical country in West/Central Africa), we thus discern that a boy obtains on average 26% more public resources than a girl due to their respective school careers and the structure of unit costs prevailing on average in the region. Using a similar procedure, we see that an urban dweller appropriates 115% more public resources (2.15 times more) than a rural dweller. Similarly, an individual belonging to one of the two highest wealth quintiles appropriates 124% more public resources (2.24 times more) than an individual belonging to one of the two lowest wealth quintiles; this figures reaches 211% more resources (3.11 times more) if we compare the richest quintile to the poorest. These figures show that, on average, individuals belonging to privileged groups appropriate a much higher amount of public resources than their peers from underprivileged social groups; in the end, funding that is largely public does not therefore completely guarantee equity.

Beyond these average figures, we observe cases that differ widely from one country to another. Table 18 shows the value of the ratio of public resources appropriated in education between privileged and underprivileged categories within each of the three social dimensions.

Table 18: Ratio of resources appropriated between privileged and underprivileged groups

Country	Ratio of public resources appropriated by privileged and underprivileged groups					
	Male/ Female	Urban/ Rural	Top 2 quintiles/ bottom 2 quintiles	Top quintile/ Bottom quintile	Social Summary Index	
					Gross	Specific
Benin	1.39	1.61	1.90	3.03	1.63	- 0.37
Burkina Faso	1.07	3.37	2.94	4.63	2.46	- 0.03
Cameroon	1.19	2.30	3.25	5.02	2.25	0.47
Congo	1.14	1.94	2.46	3.46	1.85	- 0.05
Côte-d'Ivoire	1.41	2.02	2.03	2.80	1.82	- 0.10
Gabon	1.04	1.37	1.37	1.56	1.26	- 0.10
The Gambia	1.12	1.52	2.09	2.43	1.58	- 0.52
Ghana	1.16	1.39	1.59	2.07	1.38	- 0.16
Guinea	1.48	2.49	3.04	3.58	2.34	0.17
Guinea-Bissau	1.22	2.23	2.17	2.67	1.87	0.05
Liberia	1.31	2.19	2.72	3.91	2.07	0.13
Mali	1.47	3.34	3.17	5.20	2.66	0.18
Mauritania	1.14	2.04	1.85	2.45	1.68	- 0.35
Niger	1.69	3.63	2.54	4.52	2.62	0.25
Nigeria	1.18	1.61	2.61	4.13	1.80	0.14
Central African Republic	1.53	2.66	3.05	4.52	2.41	0.24
Democratic Rep. of Congo	1.42	2.98	3.39	5.50	2.60	0.59
Sao Tomé & Principe	1.09	1.29	2.15	2.78	1.51	- 0.56
Senegal	1.25	2.05	2.03	2.91	1.78	0.28
Sierra Leone	1.22	2.60	3.00	4.77	2.27	- 0.15
Chad	-	-	-	-	-	-
Togo	1.39	1.70	1.83	2.19	1.64	0.24
All	**1.26**	**2.15**	**2.24**	**3.11**	**1.88**	**-**

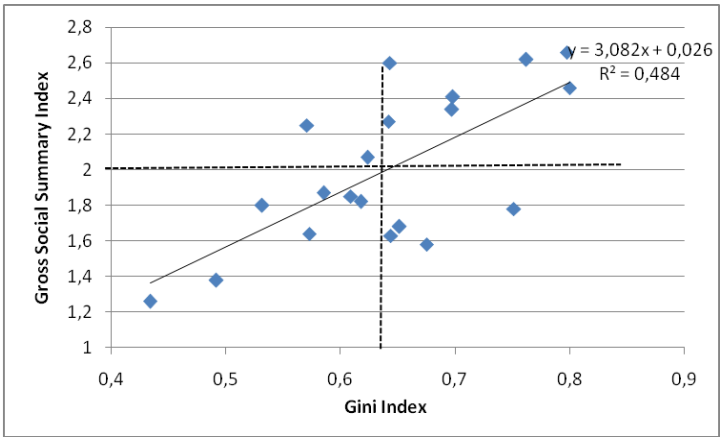
There are substantial differences between the different sample countries; the gross summary indicator of social disparity in the appropriation of education sector resources has an average value of 1.88, but it can vary two-fold, from 1.3 in Gabon and Ghana, to 2.6 in Mali, Niger and the Democratic Republic of the Congo.

A fairly similar high weight is found for environment and household income, while a much more moderate weight is found for gender, although there are notable variations between countries in these different dimensions.

Lastly, a positive relationship ($R^2 = 0.48$) can be observed between the systemic structural index in the concentration/appropriation of public resources in education developed in section II.2 (Gini index), and the summary index of social equity in the distribution of public resources identified here (Graph 15, below). As expected, we once again find that social disparities result in a complementary manner from i) the structural framework that exerts an influence and constitutes a more or less favourable context for their emergence, and ii)

somewhat specific social disparities that are generated to a greater or lesser degree in relation to the foundation laid, to a certain extent, by the structural framework. In this context, the actions that could be implemented to reduce the level of social disparity could be articulated according to structural direction and according to specific social direction.

Graph 15: Structural and social distribution of public resources in education



The far right-hand column in Table 18, above, gives the value of the specific summary index (the differential value of the gross summary indicator after controlling for the level of systemic structural disparity). A positive value for the specific indicator identifies countries that have generated more social disparities in their education system than expected on the basis of the system's structure; a negative value indicates, on the contrary, that the country has succeeded in containing social disparities at a lower level than would have been expected on the basis of their structural parameters.

In this context, a "good" social inequality control policy is of course one that combines an enabling systemic structure and the implementation of appropriate specific measures. Thus, countries such as the Democratic Republic of the Congo, Niger, Mali, Guinea and the Central African Republic combine negative situations in both structural and specific terms. On the other hand, Gabon, Ghana and Togo are in a better situation in the sense that they combine positive positions in terms of both aspects. Senegal, The Gambia and Benin are quite efficient on the specific level, but their systemic structural situation is less positive.

III. Efficiency, funding, coverage and equity: four concepts to be articulated

It is a commonplace to say, when speaking of education policy that a (quality) reference system should, among other things, have the requisite financial means and use them as efficiently and equitably as possible; it should no doubt be added that it should also have a management that can make the results expected on paper materialise effectively on the ground. In such a reference system, resources are considered separately, as an external constraint, and the focus is on efficiency and equity. The idea is often put forward that there may be a potential conflict between the two and that political trade-offs may need to be dealt with, the liberal and bureaucratic perspective tending to pull for efficiency, while the social or humanist perspective would, on the contrary, tend to pull for equity.

This presentation, while admittedly formulaic, is not necessarily relevant to education policy strategy. It may be interesting to use some of the reflections and analyses produced above and some of the findings obtained to reformulate the question in a slightly different manner.

III.1 Social disparities: the weight of coverage and special efforts to achieve equity

One empirical finding that is particularly robust involves the statistical relationship between the level of social disparity (globally or in its various dimensions) and school coverage[40]. According to this robust generic relationship, the level of Social Disparity in country i at education level j (SD_{ij}) depends on two terms, namely i) School Coverage (SC_{ij}), and ii) Environment and/or Special Efforts (ESE_{ij}) specifically implemented by a given country and/or a given academic level, with a view of targeting inclusion of economically, socially or personally disadvantaged children in the education process[41].

a) $$\mathbf{SD_{ij} = f\ (SC_{ij},\ ESE_{ij})}$$

However, ESE_{ij} efforts themselves may have a twofold nature, notably i) those that require resources for their implementation (i.e. funding school canteens, targeted grants for specific populations, etc.), and ii) those that require no resources but involve organisational measures or the promotion of pro-equity behaviours (school mapping that take better account of disadvantaged populations, inclusion of remediation measures in the organisation of school schedules, more respectful teacher behaviour towards their students, etc.). This leads to the extension of the equation (a) to a specification (b) that includes the resources mobilised (RES_{ij}) for the actions identified and residually specifies the Pro-Equity Organisational Efforts (with no significant financial implications) of the educational policy (PEOEPEij).

b**)** $$\mathbf{SD_{ij} = f\ (SC_{ij},\ RES_{ij},\ PEOEPEij)}$$

Table 19, below, shows the results of empirical estimates (international comparisons of a sample of West and Central African countries) carried out using this perspective for the education system as a whole (coverage is expressed as the School Life Expectancy, and resources as the public spending on education statistics as share of the country's GDP).

The dependent variable is the natural logarithm of the overall social disparity index referred to above in this paper. The first model (M1) shows the importance of quantitative coverage in accounting for the degree of social disparity in education. Explained variance is about 71% and this is a very substantial figure; however, that still leaves 29% of variability in social disparity between countries that is not linked to coverage. The argument is that in addition to the strong generic influence of system coverage, countries have a certain degree of "residual" social disparity (in the framework of the analytical specification selected) that varies from one country to another, and certain countries clearly do better than others in this area.

[40] It should be remembered that this relationship has been proven valid and robust both at the inter-country level and at a given educational level only when all education levels were considered in a single equation; it was observed that social disparities vary both across countries and according to the level of education, but that there is a fundamental relationship to school coverage which transcends and unifies the whole body of data.

[41] The impact of these efforts is assessed using system coverage as a control variable.

Table 19: Analysis of the level of social disparity in education according to its quantitative coverage and the level of public spending

	Model 1		Model 2	
	Coefficient	Student t-test	Coefficient	Student t-test
School life expectancy (years)	- 0.107	7.3 ***	- 0.106	8.3 ***
Public spending on education as a % of GDP	-	-	- 0.041	2.7 **
Intercept	1.131	12.8	1.268	13.6
Proportion of variance explained R^2 (Adjusted R^2)	0.719 (0.706)		0.793 (0.772)	

***: significant at 1% level; **: significant at 5% level

The instrumental hypothesis posited above suggests that some arrangements aiming at improving equity require that resources be used, so that their changes to be effectively implemented are higher when the volume of resources available for the sector is higher. M2 model in Table 19 above shows that, in addition to coverage, higher availability of public resources for the sector is translated by a lower level of social disparity[42]; indeed, the coefficient of the available resources variable is both negative (-0.041) and statistically significant (at a level of 1.5%). However, the additional impact is much lower than that of quantitative coverage, since the gain in the explanatory power of R^2 is only in the area of 7%. However, this finding shows that when resources are taken into account, the percentage that is not explained by the model effectively falls from 29% in M1 specification to 22% (29% - 7%) in the M2 specification[43].

If we pursue the argument made in the formal presentation of the model, it would be tempting to suggest that within the 29% of variability between countries in the overall level of social disparity in education that are not linked to school coverage, 7% are linked to variability in activities that require resources, whereas 22% are linked to variability in pro-equity organisational efforts developed in the different countries, independently of resources.

However, while the 7% estimate is theoretically accurate, we should be more wary regarding the numerical validity of the 22% assigned to the pro-equity behavioural and organisational measures. Indeed, the 22% figure combines i) the effective impact of pro-equity and organisational efforts as well as ii) various errors in the measurement of the variables and in the functional specification used to represent the relationships between the variables. It therefore follows that the 22% figure is an overestimate of the figure describing the influence of pro-equity behavioural/organisational measures; however, we have no plausible argument allowing us to assign figures to the two components and isolate the influence of the activities that are our focus here[44].

[42] The term "parallel" is particularly appropriate in this context, as the introduction of the resource variable does not alter the numerical value of the coefficient of the quantitative coverage variable (0.106 in Model 2 as compared to 0.107 in Model 1).

[43] It can be noted that neither the percentage of rural population in the country (nor its population density) nor the percentage of children enrolled in private school has a significant influence on the level of social disparity when we control for quantitative coverage and the volume of public resources mobilised by the sector. But this does not mean that these two variables do not influence quantitative school coverage.

[44] To the extent that we are totally unaware of the respective weights of the two components, we can assume that their weight may be similar. This leads to an estimate of 11% for the influence of organisational measures and

We can now continue with the analysis and attempt to account for quantitative school coverage.

III.2 Disparities in school coverage between countries: constraints and efficiency factors

We can state that school coverage (SC_{ij}) depends on:

i) The Resources Mobilised in each country, for the sector in general or for a given level of study (RM_{ij});

ii) The largely external specific conditions that make schooling more or less difficult in a country at a given time; in this regard, two constraints are customarily identified:

> . The first is **demographic** and measures the fact that the pressure of the youth population can differ quite significantly within the countries in the sample, in particular between countries that are well into the demographic transition phase (Ghana, Cameroon, the Congo) and those for which the change is to a great extent still to come (Niger, Mali, Chad). To operationalize the level of this constraint into a statistical estimate, we use the proportion of the country's total population who is under 14 (PU14);
>
> . The second is **geographic** in nature, with the influence of the distribution of the population between rural and urban areas or the population density in the country as a whole. The countries in the sample differ considerably on these two counts, with a population density (PD) that varies from less than 10 to more than 150 inhabitants per km², and a proportion of rural population (PRURP) that varies from less than 40% to more than 80% of the total population of the country. And of course we may think it is more difficult (more expensive) to send children to school in a country where a larger proportion of the population is rural or in a situation where settlement is sparse.

iii) Lastly, we can imagine that the arrangements in service delivery (teacher pay level, average class size, student grouping, frequency of grade repetition, use of non-teaching staff, pedagogical resources mobilised, quality of system management, etc.) lead to a greater/lesser coverage of schooling for a given amount of resources mobilised. We can then identify the varying degrees of Quantitative Efficiency (QE_{ij}) of the countries in the use of those resources, in the system in general or in the different levels of study.

This leads to a formal expression of the following type:

$$\textbf{c)} \qquad SC_{ij} = g\,(RM_{ij}, PU14_j, PD_j/PRURP_j, QE_{ij}) \qquad \textbf{c)}$$

It should be noted that we do not spontaneously have an independent measurement of the quantitative efficiency variable QE_{ij} as it aggregates a large number of potential education policy measures.

---

pro-equity behavioural measures, a figure more or less in the same range as that estimated for measures aimed at reducing social disparities that involve public resource mobilisation (7%). However, this is only conjectural.

This does not mean that numerical values cannot be estimated, or, orders of magnitude at least identified. For if we know both the amount of resources mobilised and the principal structural constraints weighing on system development, we can infer an idea of the implicit degree of efficiency in resource use.

Statistical estimates carried out using the approach defined above are presented in Table 20. The dependent variable is School Life Expectancy.

Table 20: Analysis of the level of global coverage of an education system according to the level of public expenditure it mobilises and its structural constraints

	Coefficient	Student t-test
Public education expenditure as a % of GDP	- 0.050	0.3 (ns)
Population < 14 as a % of total population	- 0.199	1.7 *
Rural population as a % of total population	- 0.061	3.0 ***
Constant	18.158	4.0
Proportion of explained variance R^2 (adjusted R^2)	0.676 (0.625)	

***: significant at the 1% level; *: significant at the 10% level

The results meet expectations, but only partially:

* In the first instance, there is a clear empirical validation of the fact that structural constraints leave a strong imprint on quantitative school coverage. We can also discern that while the demographic constraint and the geographic constraint, all other things being equal, have significant consequences on school coverage[45], it emerges that geography (better measured by the proportion of rural population than by population density within the framework of our analysis) exerts a greater and statistically more significant influence than demographics.

* However, in the second instance, the analysis does not confirm the influence of the amount of public resources mobilised to account for the school coverage of an education system. This finding is clearly counter-intuitive. In fact, what is intuitive and obviously valid, is that when a country is able to mobilise additional resources, it can extend its coverage (but it may also decide to invest in quality or equity instead). Here, we are not on the individual country level but in a comparative international analysis[46]. What we observe is that some countries manage to provide good quantitative school coverage to their population with relatively low resources, while others do less well with more abundant resources. From this comparative perspective, we therefore reach the conclusion that while "minimum" resources no doubt constitute a necessary condition for providing quantitative school coverage, more resources does not necessarily equate with wider school coverage, for what counts is more how the national education policy uses the resources, rather than the actual amount of resources. This is in fact suggested by the following point.

[45] Note, also, that countries with strong demographic constraints also tend to have strong geographic constraints ($R^2 = 0.49$); the reason being that i) rural families are generally characterised by more traditional practices in terms of fertility and ii) demographic transition always begins as an urban phenomenon (where women are more educated and birth control services are more readily available).

[46] From the national perspective, the parameters of service delivery tend to be considered implicitly as given and fixed; then if we want "more of the same", we obviously need additional resources; but from the comparative perspective, the different countries do not have similar delivery parameters and some obtain better results.

* Lastly, the third finding of the model proposed in Table 18 is that with comparable constraints (demographic and geographic) and comparable public resources, certain countries (Ghana, Nigeria and Togo) obtain perceptibly more than others (Central African Republic, Senegal and Chad) in terms of quantitative school coverage. This evidences a significant variation in the countries' effectiveness in using resources (from the point of view of quantitative school coverage) the public resources they have been able to mobilise for the education sector.

III.3 Social disparities: integrating both levels of analysis

We can now bridge the previous two analyses; and a convenient way to proceed is to combine the two expressions b) and c) by replacing the value of CSij in the first equation with the value taken from the second; in this way, we obtain a new equation c) which presents itself as follows:

c) $\mathbf{SD_{ij} = f\,[g\,(RM_{ij}, PU14_j, PRURP_j, QE_{ij}), PEOEij)]}$

Or d) $\mathbf{SD_{ij} = h\,(RM_{ij}, PU14_j, DP_j/PRURP_j, QE_{ij})}$

This equation is interesting in that the level of social disparity in an education system becomes a function of four factors: i) the external structural constraints (demographic and geographic) to which the country is subject, ii) the level of public resources it has mobilised, iii) the quantitative efficiency with which these resources are employed and iv) the specific actions conducted in the country to target underprivileged population groups [in fact those factors that depend on the level of available resources are in the equation, while organisational and behavioural factors are nested in the residual]. Another appealing aspect of this presentation is that it does not identify a conflict between quantitative efficiency and equity; they are rather complement insofar as quantitative efficiency even becomes a factor of equity. Table 21, below, shows an empirical estimation of specification (d).

Table 21: Social disparities in the school system according to structural constraints, public expenditure mobilised and efficiency in their use

	Coefficient	Student t-test
Public education expenditure as a % of GDP	- 0.037	2.3 **
Population < 14 as a % of total population	0.012	1.0 (ns)
Rural population as a % of total population	0.008	4.1 ***
Quantitative efficiency in the use of the resources mobilised	- 0.096	4.1 ***
Intercept	- 0.373	0.8
Proportion of explained variance R^2 (adjusted R^2)	0.804 (0.760)	

***: significant at the 1% level; *: significant at the 5% level; ns: not significant

The estimate is satisfactory overall, as the signs of the coefficients of the different variables do in fact correspond to expectations with a value of R^2 that is in line with what was estimated in model 2 (table 19 above).

Predictably, most of the distinctive characteristics of the two reference models are present in this new equation; two aspects should, however, be pointed out: i) the variable that measures public resources for the sector, while they do not have a proven direct effect on the quantitative coverage of the system, do have an effect on the level of social disparity; this result is in line with the previous argument; ii) the second aspects concerns the variable that measures the demographic constraint; it does indeed have an effect on the school coverage (albeit a moderate one and only moderately significant) but it does not have an effect on the overall level of social disparity in the education system.

The results also confirm that i) the spatial distribution of the population (percentage of rural population within total population of the country) has a very strong impact on the level of social disparity in education, knowing that ii) this effect is essentially conveyed through school system coverage. The role of coverage is reinforced by the fact that the quantitative efficiency of a country (its capacity to implement an education policy that can provide more or less wide school coverage beyond the influence of the public resources mobilised and the structural, demographic and geographic constraints) also exerts a strong and significant influence on the level of social disparity in education systems within the group of sample countries studied.

It may be interesting, by way of a conclusion to this section, to provide a recap of the findings obtained in the form of an estimate of the respective weights of the different components which, beyond the actual amount of financial resources, act on variability in social disparity in the current context of the education systems of West and Central African countries. Table 22, below, shows the estimates we got at.

Table 22: Respective weights of the different components acting on the variability of social disparity levels in West and Central African countries

Components	% Variance	
Rural population as a % of total population	38.7	43.5
Population < 14 as a % of total population	2.4	2.7
Covariance of rural population x population < 14	13.9	15.6
Efficiency of the country in quantitative school coverage	19.0	21.4
Activities affecting social disparity by claiming resources	6.0	6.7
Pro-equity activities of an organisational and behavioural nature	[0 – 20]	10.0 *
Total	100	100

The findings of the analyses conducted thus far in this last section lead us to draw three important conclusions on education policy formulation with reference to social disparities:

1. School coverage is the most important factor for reducing social disparities, and while it actually depends only slightly on the amount of resources mobilised, it is under the influence, firstly, of external constraints (demographic constraints, to a small degree, geographic constraints to a much greater degree, with a strong handicap from the proportion of the population living in rural areas), and, secondly, of education policies that lead to lower unit costs and succeed better in managing the system as a whole, in particular the rural issue.

2. It should be remembered that the dependent variable used to conduct these analyses concerns all social disparities (gender, environment and wealth), while in terms of population characteristics, only the rural/urban dimension is concerned in a comparative international analysis[47]. This being said, it appears that the **geographic dimension** (the variables representing it account for more than half of the variability in the level of social disparity between the countries considered) was as if it **catalyses the difficulties encountered by the countries in managing social disparities as a whole**.

3. The third point is that in addition to these "general" education policies (applying to the education system and the social disparities within it), more specific and more targeted actions also exert an influence; this influence appears to be significant, although of a more limited magnitude. The level of system funding is identified as exerting a significant impact in their implementation (funding for such things as school canteens, maintaining teachers in difficult areas, offering targeted scholarships, etc.), but with a moderate incidence as a tool for reducing social disparities. There may well also be organisational and behavioural aspects in the provision of educational services that it is also important to consider. They do not necessarily involve mobilising resources (activities to improve the organisation of school timetables, foster respectful behaviour of teachers, etc.) but may carry however significant impacts in the system.

III.4 Equity issues for the lower and upper levels of the system

In the analyses that have been carried out, on the one hand we have analysed the degree of social disparity and the cumulative process through which they are built up, and, on the other hand, we have identified the fact that, in the situations encountered, there was a significant relationship between disparities and the degree of coverage or openness at a given locus in the education system. For a given level of coverage, there are countries that do better, or less well, than others in managing social disparities and improving the odds for young people with underprivileged personal or social characteristics; but these actions are largely carried out at the margin of a context in which the quantitative school coverage and openness of the system play the major role.

This remark leads us to make a critical distinction between the lower part of the system and its upper part. This necessary distinction comes from the fact that the lower part (the primary cycle and junior secondary education) has a vocation of providing universal coverage with a view to "eventually" establishing a basic cycle of 9 to 10 years; while this is not the case for the upper part (senior secondary cycle, technical and vocational training and higher education) to the extent that these are final levels and the reference to the labour market becomes unavoidable.

In other words, while it is reasonable to aim for universal coverage in the lower part of the system, it is also *a priori* necessary and reasonable to control access to the upper part, as the modern component of the labour market is, in all these countries, limited in proportion of the active working population and only increases in relative terms very slowly over time.

[47] Gender distribution is more or less similar irrespective of the country (by nature); and the same can be said (by definition) of the poverty level since the quintiles are established within each country.

This difference has fundamental consequences on the thinking behind promoting equity in these two parts of the system. In the lower part, the aim is to include all children in the system. Concerning the upper part of the system, we know that the forces internal to the system tend to lead the numbers of higher education students to be incompatible with employment capacity of the labour market, regulation of numbers is *a priori* a necessity. (this is particularly so since coverage is increasing strongly in the primary and junior secondary in most countries of the region). As a consequence all potential candidates for these levels of education are unlikely to have access to them. In such circumstances, the equity issue relates to handling the exclusion of those who will not continue their studies[48]; the considerations at this level of study are therefore aimed at making sure the people excluded are not systematically from the underprivileged segments of the population and that all individuals have an equal opportunity to access a limited number of seats.

In the lower part of the system, the equity strategy is therefore based on system openness and inclusion of children, while in the upper part, it is no longer really reasonable to focus on increasing openness. More attention should therefore be given to equal opportunity strategies and fair competition for a limited number of seats, in a system where the degree of openness is exogenously determined. The stakes are to anticipate that the students and trainees are offered quality education services and have acceptable odds of finding a job when they try to enter the labour market. To a certain extent, considerations of effectiveness will come first, and it is within this framework that the questions of equity should then be considered.

In addition to the structural and sectoral aspects that have been dealt with in this document, the analysis of equity should therefore also include more targeted aspects, in particular regarding the lower part of the national education systems, which correspond to central issues that are especially important from the perspective of children's' rights.

The work corresponding to this complementary approach is more micro and more specific in nature, and must be conducted country by country. This work is not documented empirically in this document, but we propose a possible (and no doubt useful) analytical framework with the help of which it could be implemented. This is the subject of section IV, below.

IV. Analyses targeting basic education

IV.1 A basic perspective to organise the analyses

The idea here is to go beyond the systemic level and the descriptive mode of the work envisaged thus far to: i) target the level of basic education which is obviously critical from the point of view of equity and rights of children, and ii) try to connect the deficits or problems observed with the concrete organisational factors and the inappropriate education policies that produced them. In so doing, we are naturally led to provide indications about the actions likely to be undertaken in response to the difficulties encountered.

[48] And which vocational training formulas should be offered to facilitate job market entry in the informal sector or in jobs requiring intermediate qualifications.

Over the past ten years [since the Dakar forum and especially since the establishment of the Millennium Development Goals and the Education for All Fast-Track Initiative (EFA-FTI)], considerable progress has been made in basic education, and in primary education in particular, in many countries in the region. However, this progress has focused more on school access than on retention of pupils during the primary cycle.

* Besides, the progress has concerned mainly the quantitative dimension (coverage), while the quality of education services remains (too) low in the majority of countries; it may even have decreased in some countries given that i) more attention has been given to the number of pupils in school rather than to what they were effectively learning, and ii) we generally expect to see a decline in the average level of learning outcomes of the pupils when the coverage of a system is extended and includes more difficult population groups.

* Furthermore, this quantitative progress evidenced, for example, in the primary completion rate, is chiefly due to positive changes in the access to school (first year of primary) and much less from progress in terms of the retention of children during the cycle (between the first and the last year of primary). It is therefore important to consider this latter dimension because, on the one hand, it constitutes a point of resistance towards the goal of universal primary completion and, on the other hand, universal completion is, itself, considered a necessary condition (not necessarily a sufficient condition) if the quality of primary education services is inappropriate) for imparting literacy skills that last into adulthood.

* To conduct this analysis and the perspectives it promotes, information are required. On certain aspects, household surveys can be very useful but they will also be insufficient, in particular when it is about to identify the obstacles concretely at work to account for the difficulties encountered and even more so when we consider the actions likely to be taken to respond to then in an effective and efficient manner. Data on financial and organisational aspects will be required for this. Furthermore, to the extent that the dimension of the quality of education services and pupils' learning outcomes is considered important, it will be necessary to use the pupil learning assessment surveys that have been conducted in the majority of the countries concerned (although not necessarily at a recent date). To put in action this program, a genuine comparative database needs to be developed for all of the countries studied.

* The basic tool used to organise and structure the work considered here takes the form of a tree (several trees, in fact) articulating the targeted indicators with the education policy elements, analytical parameters and modalities of service delivery that are at their roots. In so doing, we will find ourselves in a position to identify the loci in the system which pose problems and contribute significantly to the issues in the results obtained. These trees are generic for any country and can be implemented separately for each one; they may however have to be adjusted for the possible specificities of each national system of education, while maintaining the possibility of inclusion of the work conducted in each country into an overall comparative work.

* Lastly, as for the concrete realisation of the work, it may be useful to envisage a two-fold approach:

. The first is to produce a basic documentation of the basic data for the generic report for all the countries under consideration. This documentation may take the form of a database enriched with inclusion of typologies and comparative/benchmark statistics that could be used as references. School statistics and household survey data are to be mobilized to this end but more specific data may also be collected in addition;

. While the first approach could be qualified of a "desk study", the second would take place on the ground and be more participatory in nature. The main administrative bodies in charge of the system in each country (Permanent Secretary services, planning and school statistics divisions...) would be mobilized for the exercise, on the one hand to ensure that they have a good ownership of the proposed diagnostic tool and, on the other hand, to discuss the options that could be identified as relevant (effective and efficient) for dealing with the problems encountered. The diagnostic tool could also form the backbone of a monitoring tool through regular reading of its main figures throughout the duration of the countries' ten-year sector plan.

These two approaches are in fact more complementary than interchangeable. We can also consider them as constituting two sequential phases of the same programme. For the moment, only the work of phase 1 is envisaged, leaving for later the decision concerning the relevance of a possible second phase and the concrete methods or procedures to be followed.

IV.2 A tree diagram to organise empirical analysis

For work to be conducted in a concrete manner, there should first be an analytical framework to symbolically structure the combination and articulations of the different factors that account for the phenomena encountered and help organise the explanatory principles.

The tree diagram originates with the numerical value of the primary cycle completion rate. Ideally it should be equal to 1 in all the countries of the region to meet the Millennium Goal. But as things stand today, it is still on average quite below this desired reference value, although it also varies greatly from one country to another. An initial descriptive question is to determine how many children in each country (as a proportion of the suitable age group and in absolute numbers) do not complete the primary cycle at a given date.

Jointly, and in particular from the equity perspective, it will also be important to be able to break down this population according to social characteristics; the variables for this can be valid across all of the countries and concern in particular gender, geographic environment and the wealth quintile[49]. Categorisations by province or by ethnic group can be interesting in a national context; but they are not relevant in a comparison of the different sample countries.

Based on a completion rate that is generally less than one, a threefold perspective can be examined: the first two focus on children identified as not having completed the full primary cycle with a distinction between i) those who did not complete the cycle because they never

[49] For gender and wealth quintile, the definitions seem to be uniform across the countries. The same does not hold for the distinction between urban and rural, to the extent that it is a result of conventions established in each country (and therefore more or less different from one country to another). This being said, we nonetheless consider that it remains, overall, highly relevant to take this breakdown into account.

even started school and ii) those who had access to the first grade of primary education and dropped out of their studies early, before reaching the end of the primary cycle; iii) the third perspective is focused on those who effectively completed the cycle (not necessarily after the optimal number of years of study), and the question is then of finding out what they have effectively learned: what was the quality of the education services received and what is the level of the learning outcomes (average and distribution, and perspective of comparison either with comparable countries or in relation to the country's curriculum). Also, what proportion of pupils has attained achieved at least a benchmark level deemed acceptable, which evidently cannot be less than the attainment that will allow literacy to be maintained into adulthood.

Here we are clearly in the perspective according to which the two fundamental elements of the education policy of a country for its basic education are: i) put out-of-school children in school and ii) make sure in-school children obtain an acceptable level of learning.

Before we explore in more detail the three reference aspects and identify the reasons why certain children do not have access to school, drop out too early or do not learn enough while they are there, it is no doubt useful to conduct a "social" analysis of each of the first two aspects (access and retention) at a given time (at a recent date) and to compare them, particularly within a given time frame.

The first question we can raise concerns the respective weights of no access to school and dropping out in the number of school-aged children who are out of school. Which of these two phenomena is quantitatively preponderant? The second question concerns their temporal dynamics, assessing how the two phenomena have changed over the past 10 or 15 years. In the present situation, in addition to the respective numbers, what is also the social distribution of the population affected specifically by one or the other of these two phenomena? The estimate of the respective weights of the two phenomena and the distribution of the social characteristics of the associated population groups could be based on a recent household survey, while the evaluation of their respective temporal dynamics would generally require use of administrative data (school statistics and demographic projections).

As for the identification of the factors that could account for the three phenomena identified, i.e. no access to school, dropping out during the primary cycle and low levels of learning in pupils, a large tree diagram serves as the basis for the organisation and presentation of the work. For convenience of presentation, this overall structure is divided into three specific trees, each corresponding to one of the three topics of interest. The first two, covering the dimension of quantity (access/tree 1 and retention/tree 2) are presented in the following pages, while the one on learning outcomes will be presented further on in this document.

IV.3 The tree devoted to school access

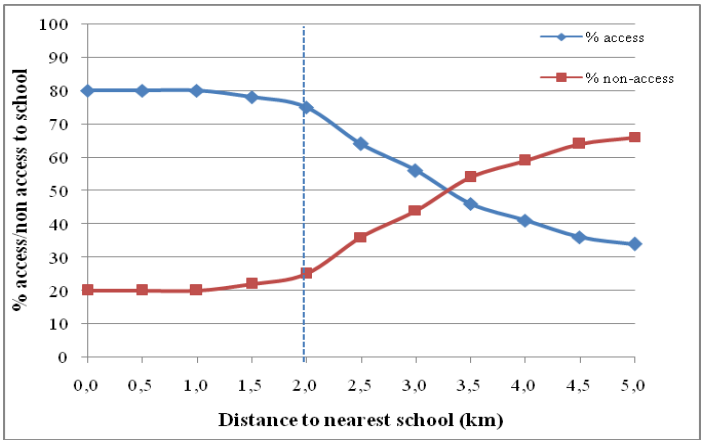
IV.3.1 Availability of a local education supply

The starting point of the tree diagram is an estimate of the number of children (and the proportion of the suitable age group) who have no access to the first grade of primary school. We then ask the question of why some do not have access. Two possible situations are then

envisaged: i) the children do not go to school because there is no school within a reasonable distance, the nearest school to the family home being too far away; or ii) the children do not go to school despite the fact that there is a school close to the family home that they could potentially attend. These two situations are different from the viewpoint of the analysis for if there are no schools this means action is required (though it may not necessarily be sufficient) on the supply of education services, whereas non-access to school when there is a school in the vicinity means there are problems with demand on the part of the family[50].

It should be noted, however, that while this generic formulation is meaningful, it is not specific enough on the concrete level, for we need an objective criterion to determine whether there is a school in the vicinity or not. We are, of course, aware that a dichotomous structure does not properly represent reality and that there is actually a configuration of probabilistic continuity of the following type (Graph 16).

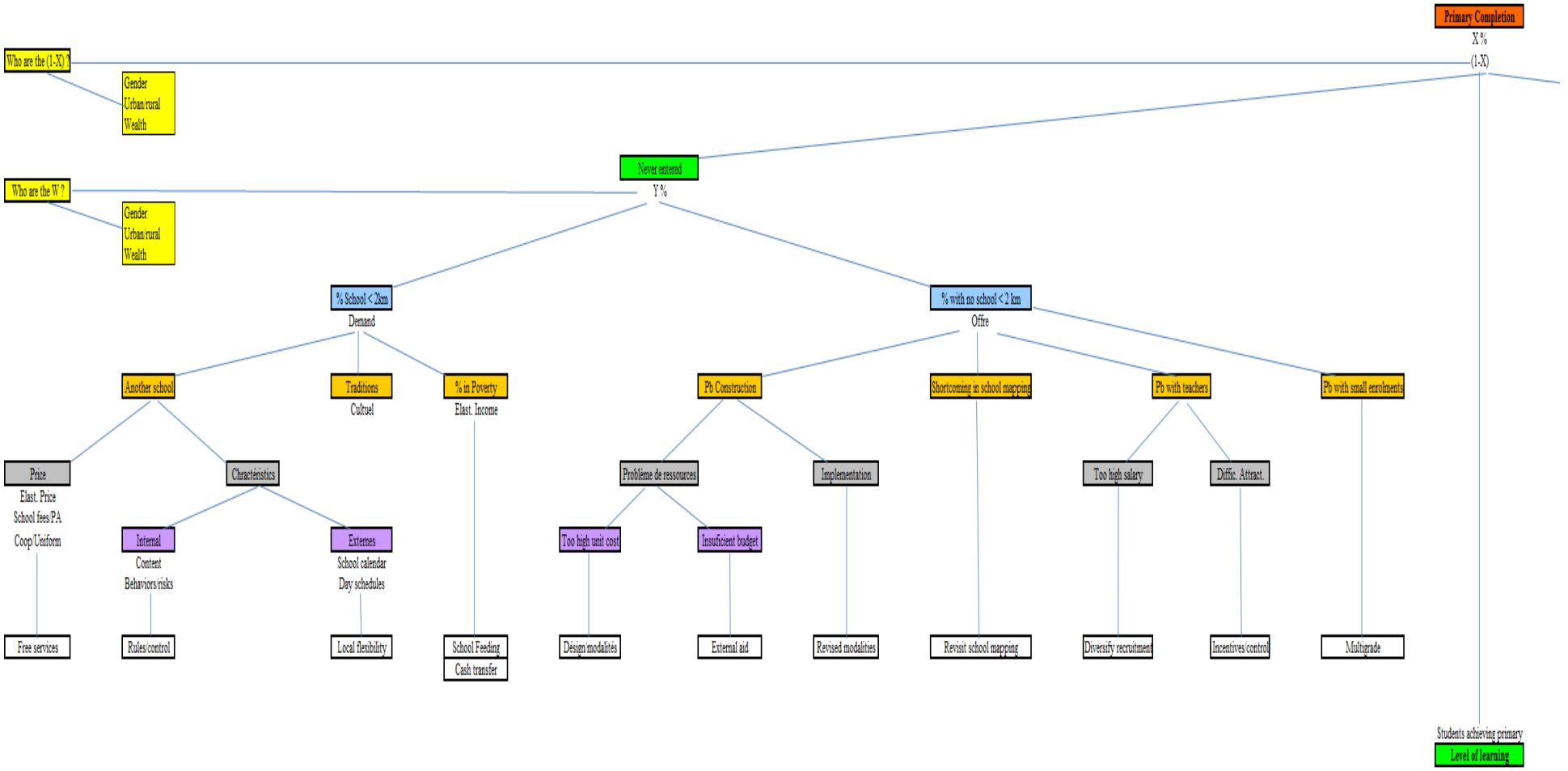
Graph 16: Hypothetical relationship between school access and distance to the nearest school



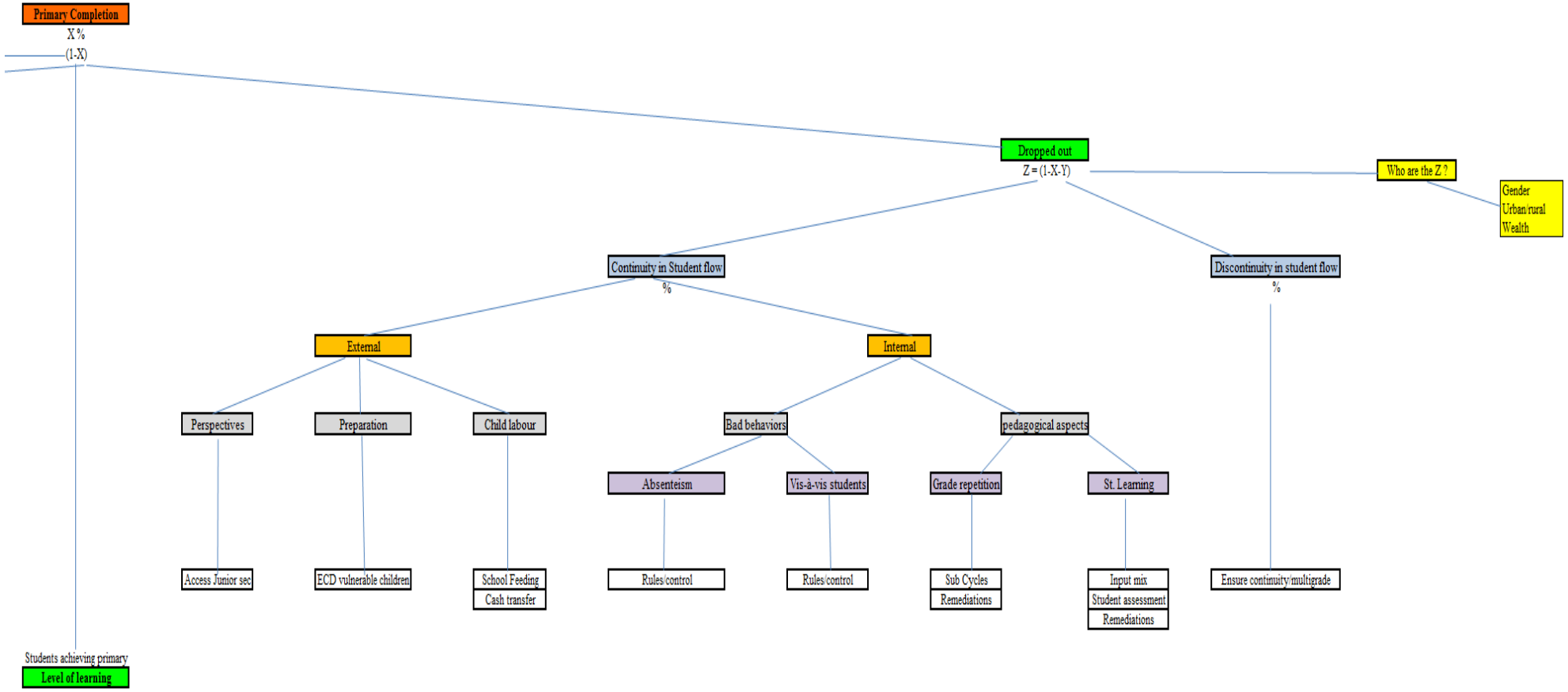
* If the relationship is of the type described in Graph 16 above, we have a visual idea that: i) up to approximately 2 km, distance does not have much effect on the odds of having access to school; but ii) beyond this distance, the odds decrease significantly as the distance increases. It should be noted that this type of information can only be obtained from household surveys in which there is a module on the distance to the nearest social infrastructure (primary school, secondary school, health centre, hospital, market, bank, etc.). If we provisionally agree on this convention (2 km), it then becomes important to know how many children (it is generally helpful to also distinguish between urban and rural environments) are in circumstances in which there is a school less than 2 km away, and how many are in (penalising) circumstances, that is when the nearest primary school is more than 2 km away from the family home. In complement, it will be important to describe the social characteristics of this sub-population that is somewhat neglected in terms of school supply.

[50] It is crucial that this distinction be made, for there is no doubt nothing worse in terms of education policy than to act on supply, according to conventional practices (in national policies and external aid) when the problem lies in fact with demand.

Tree 1: Children who have never been to school



Tree 2: Children who started school but dropped out before completing the cycle



* Graph 16 is also interesting because it shows that, in population groups that effectively have a school in their geographic vicinity (less than 2 km), not all children are in school. This shows unambiguously, as stated above, that there are difficulties regarding demand for schooling. In the hypothetical case considered in Graph 5, these children represent approximately 20% of the number of those who have a school in their vicinity (the number of which was previously determined). It is of interest, once again, to describe the particular characteristics of young people who do not have access to school despite the existence of an available supply in the geographic vicinity.

IV.3.2 A school exists, but certain children do not attend: role of the school, of the family?

We know that, in the broad sense, this issue is a matter of demand; but three different sets of circumstances may be encountered in such cases:

i) The first set of circumstances involves the family's identification or perception that the supply of education services is in some way inappropriate. It is not so much that the family has no potential demand for education for its children, but rather that their demand is for a different type of school, to wit:

. For a school with **characteristics more or less similar to the one that is offered, but with lower direct costs** (none); such direct costs may include school fees, cooperative dues, PTA dues and spending on textbooks and school supplies, but also, in some cases, the cost of paying part or all of payroll expenses (parents' teachers in public schools, community teachers) and/or;

. For a school with **different characteristics than the school offered** (and possibly also free). The "unsuitable" characteristics can vary: they can include i) **the reliability of the service offered** with teaching conditions that are too Spartan (lack of materials, etc.) or a teacher who is too often absent, ii) **its content**, which may be perceived as too formal and disconnected from local realities and the day-to-day problems of the populations and/or not sufficiently taking account of moral aspects or aspects linked to religion, iii) **its practices** with teachers' actions towards pupils deemed inappropriate or even dangerous, particularly with respect to girls, and iv) **rigid modes of organisation** that do not fit in with local social or agricultural constraints: a) in terms of the school calendar (school operating when the children are needed, and holidays during the off season) or b) in terms of the daily school hours, with school starting at the time of day when girls usually are fetching water, for instance).

These various categories of reasons involve problems linked to demand for schooling, in relation to the inadequate nature of the education supply on offer. In order to deal with the problem, we must therefore begin by identifying the obstacles (which may differ from one territory to another within the same country), and the next step is to introduce flexibility into the organisation of the supply of education services with a view to better responding to family demands in terms of the obstacles identified (price, contents, practices, school calendar, …).

ii) The second set of circumstances is not linked to the school on offer (*a priori*, it is suitable, although it is possible that it might also raise issues), but rather to family conditions and

particularly poverty. In economic terms, it is a matter of income elasticity of demand, whereas the previous circumstances related to price elasticity of demand. In this case, it is poverty and the need for child labour within the domestic economy (opportunity costs rather than direct costs) that are presented as the explanatory factors and as constraints restricting children's access to school.

One approach that can be used to identify the size of this population is to measure the extent to which the family's wealth accounts for the probability that a child with a school available nearby will be lacking access to schooling; however, this approach does not allow to distinguish between the price effect and the income effect; more specific procedures need to be devised.

iii) Finally, the third set of circumstances (which may be complementary with the previous point) involves what could be described as a traditionalist attitude on the part of the family. For certain families, doubtless most often rural and illiterate, modern schools are not among their vistas and do not fall in line with their interests. They do not see the point of learning things that are foreign to their traditional way of life and are unable to take the measure of the benefits that could accrue to them. What is perhaps worse is that they suspect that their educated children might be cut off (both geographically and emotionally) from their families and communities.

However, there is no predetermined means of measuring the degree of traditionalism of a family, particularly since the concrete elements that reflect traditionalism are relatively culture-specific and do not lend themselves to an international comparative approach. That being said, in a national framework, and in household surveys focusing on various aspects of social practices, it is probably possible to identify a certain number of elements that demonstrate a certain attachment to tradition. By using a "factor analysis" technique, it could be possible to define a meta-variable measuring a family's degree of attachment to traditional practices. This meta-variable could, like the level of wealth in the previous point, be used to assess the impact of this dimension on the probability that a child will not have access to school, despite a potentially available supply of local schooling.

The education policy tools that can be envisaged will differ according to the circumstances identified as important:

. When families are not unfavourable to schooling and the school available nearby is theoretically suitable, but the level of expenditure required of the families is considered an obstacle for some of them, then a policy of truly free schooling should be envisaged. Many countries have made headway on this point over the last decade, but it is likely that change is still desirable in certain countries of the region;

. When families resist sending their children to school despite an effective local supply, and the issue of contents is raised, then adaptations can be made in this area while maintaining the central outlook of modern schools. For example, a reasonable amount of optional content could be introduced into the schedule. This content could vary in different areas of the country to adapt to local features and better respond to meet the interests of the

parents (practical details may obviously differ according to the country). Generally speaking, it has been pointed out that teaching contents tend to be a bit too formal and insufficiently focused on the resolution of practical problems that are meaningful to the population; changes in this area could also be considered in certain countries.

. When families feel that certain practices in school are not appropriate for them or in general (particularly for girls), steps can be taken in the form of a charter of conduct (developed with the national educational community and followed by a communications campaign), to be made known both to communities and teachers, followed by the setting in place of an effective warning, monitoring and punishment system (to be measured so as to make sure it is effectively implemented).

. When issues involving school timetables and calendars raise difficulties in relation to economic and social practices in some rural areas, flexibility should be highlighted and arrangements made to get around the constraints. If the school is rigid and some children are not schooled for that reason, it is clear that the school needs to adapt to meet these needs (schools are made for children, not children for schools). Of course, there are limits to flexibility, and progress need be achieved in a framework of open concertation.

. Finally, when i) family poverty and the need for children's working hours in the household economy or ii) the traditional dimension of the family is a significant factor for lack of access to school, the tools to be considered are obviously different[51]. The idea might be to communicate with these families (possibly through community leaders or religious leaders) in order to change their views; but it will probably be necessary to complement this approach with more direct incentives to ensure access to school (and subsequently regular attendance in school and retention throughout the cycle).

Several different formulas may potentially be envisaged to produce these incentives. In some cases, day-care activities for young children have been successfully created in primary schools, making it possible to free up older girls (their sisters) for school. On a broader scale, the organisation of school canteens is a relatively common incentive used to encourage children to enrol in school and attend regularly. In a practice that has existed for some time in Latin and Central America, lump sum payments (on a monthly or quarterly basis) to families (cash transfers) go a step beyond incentives, since the payments depend on each child's enrolment and regular attendance at school; understandably, for a poor family, this type of action can have an impact. In the African environment, this type of activity is more recent and may take the form of an allowance in kind (such as a bag of millet). A certain number of voices have been raised to suggest that it would be helpful to develop such activities on the continent to make effective progress towards universal primary enrolment.

There is no doubt that actions such as school canteens and, even more, direct financial transfers (especially if the amount involved is large enough to be attractive) can have a very significant impact. But experience also shows that these measures can be very costly,

[51] Actions pertaining to school calendars over the year or school timetables over the day can help reduce difficulties linked to children's work and reduce the opportunity costs of education.

particularly since they are not easy to implement. Indeed, if in a village with a school, 30% of the children are not enrolled, it is difficult to create a canteen (or to set up a direct financial transfer programme) for those children alone (and exclude the 70% of children who already got to school). Experimentation is therefore necessary to i) identify (and calibrate) the most cost-effective actions and ii) determine the most appropriate implementation methods.

IV.3.3 There is no school within a reasonable distance of the family home

We now move to the right-hand side of the first tree, which addresses the case of children who do not have access to school because the distance to the closest primary school from their homes is too far to travel. We can easily understand that, for these young children, this is a major bottleneck and this is clearly a situation in which the supply is lacking. We have previously indicated that it was of interest to know the number of these children and their social characteristics; but another important question is why this situation exists[52].

There may be three types of reasons: i) the first can be that there are difficulties in building infrastructure (classrooms) to take in the children; ii) another reason may be related to the difficulty of assigning teachers to schools (in general or in certain locations); and finally iii) a third reason may be linked to the (too) limited number of pupils to be schooled locally (this case can include children who live with parents who are nomadic or migrate seasonally).

i) It is difficult to build classrooms. Several reasons may underlie difficulties in building the necessary number of classrooms: one reason is financial in nature; another pertains to the insufficient institutional and logistic capacities of the Ministry of Education's construction system. A test that it is generally useful to perform when addressing such issues consists of comparing annual construction needs identified in the ten-year education programme with the number of classrooms actually completed during each of the last two or three years.

. If it is determined that the problem is **financial availability**, it should be further determined to what extent the issue pertains i) to excessively high construction unit costs in the country (it is important to consider the perspective of international comparisons[53]), or else ii) an insufficient overall budget allowance for capital expenditure (both issues may also coexist, although one may predominate).

If construction unit costs are considered too high, it is important to determine whether this situation is due: i) to an excessively high-cost definition of the building in terms of its architecture (design, technical specifications, surface area, materials used, etc.) or ii) to the institutional and practical procedures used for its implementation, including governance issues that may be involved. With a view to action, in addition to the diagnostic exercise, options will be reviewed to examine the different possibilities for change and their consequences in terms of impact on the cost of school buildings.

[52] In this case, we do not focus on technical failings in school mapping, although this possibility cannot be entirely ruled out.

[53] A general observation in this regard is that there is a considerable difference in unit cost between a fully-equipped primary (or secondary) classroom i) according to the country, ii) according to the materials used and iii) according to the institutional procedures used in building school infrastructures in the country.

If, on the contrary, the concern raised is that capital investment budget is insufficient in itself, then change should be envisaged in the framework of national budgetary priorities and talks with technical and financial partners.

. However, it is also possible that the difficulties in building a sufficient number of classrooms could be related to **insufficient organisational and logistics capacities** in the department of the Ministry of Education (or a delegated body) in charge of such matters. In this case, the reasons may vary from one country to another, and may involve issues of i) budgetary execution or actual and timely mobilisation of resources, ii) capacity to manage calls for tender, iii) problems with targeting the appropriate bidders (from big international to small national firms and to individual workers at local level), iv) problems linked to monitoring and supervision, etc.. In a number of countries, there is at least one weak link in this chain, bringing about negative consequences in relation to school building construction. It is important to identify the issue, as well as the likely concrete options to remedy them.

ii) However, difficulties opening a school in a community may also be linked to the difficulty of hiring a teacher (in general) and assigning him or her to the school. Several circumstances can explain these circumstances. They include technical and pedagogical issues, issues of an economic nature and issues more in the institutional and social sphere.

. Where **technical and pedagogical issues** are concerned, the country may, at a given time, be affected by a teacher shortage. This may be due to economic issues, which we will explore in the point below, but also to a more "physical" shortfall in the number of potential candidates holding the characteristics deemed necessary to teach. This, in turn, can be caused by the insufficient supply from the education system in terms of the academic level the teachers hired “should have”, but it can also be due to insufficient production capacities in teacher training facilities. Various options can be considered to overcome the obstacles, including, for instance, shorter initial training combined with a stronger focus on classroom management, or more intensive in-service training in the early part of teachers’ careers.

. Where **economic issues** are concerned, things are more complicated, since they touch teacher remuneration and budgetary considerations. Regarding the level of remuneration of teachers, two preliminary facts should be recalled: the first is that there is very significant variation between sub-Saharan African countries in the amount of teacher pay; the second is that the issue is necessarily delicate due to its numerous social and educational implications.

By way of explanation, we can base ourselves on the highly plausible hypothesis that all national education systems i) are quite clearly faced with budgetary constraints and ii) that the payroll makes up a very high proportion of current budget expenditure (particularly in basic education). Under these circumstances, it is basic economic fact that the higher the average teacher remuneration, the more difficult it will be to hire large numbers of teachers.

Hiring fewer teachers will “mechanically” result in i) reduced quantitative coverage in the education system and/or ii) higher average class-sizes or restrictions in the non salary recurrent budgets used to ensure quality of educational service; obviously the opposite circumstances will apply assuming lower average teacher remuneration.

This is the foundation for the traditional idea that policy in general and education policy in particular is a matter of striking the best compromise between contradictory goals, i.e. i) providing good pay for teachers in order to be able to hire teachers with strong qualifications who are comfortable in their profession and ii) being able to hire a sufficient number of teachers to ensure the highest possible school coverage with enabling (or at least acceptable) teacher-pupil ratios. These two goals apply to the primary education system overall but, manifestly, the first of these goals primarily concerns teachers, whereas the second goal primarily affects the children (particularly those who are not or would not be in school) and the pupils in its schools. The interests of teachers and pupils are therefore contradictory, particularly when they are analysed in terms of equity in education policy.

It is therefore necessary to seek a balance between these two goals in light of the constraints affecting national education systems. Generally speaking, teachers need to receive decent pay at the level most conducive to both hiring the necessary numbers of teachers to school the country's children and to hiring teachers with suitable levels of qualifications.

In relation to the issue discussed above, namely that it is difficult hire teachers in general in a given country, this case may be encountered under two different sets of circumstances i) when the level of teacher remuneration is insufficient, and there are no candidates for teaching positions despite the fact that there are potential candidates, or ii) the level of remuneration is too high, so that the Government (which has no difficulty finding candidates) does not have the means to hire sufficient numbers of teachers. It is obviously important to determine which of these two sets of circumstances apply.

It is also possible that, independently of the level of teacher remuneration, the current budget for staff salaries is insufficient with respect to the needs identified; since it is important to adopt a positive approach, so as to avoid a subjective or ideological answer, it seems reasonable to adopt a comparative international perspective.

. Finally, **institutional and social** difficulties can be encountered. Teachers not only need to be hired; it is important to take their assignment into consideration as well as their effective presence in the places they are assigned to; it is important for teachers to work on a regular basis in the schools to which they are assigned, at least throughout an entire school year and, if possible, for several consecutive years.

However, local staff management knows how difficult it can often be to assign teachers to remote areas, especially women, although their presence is important for girls' enrolment, especially in traditional social environments. This issue is particularly sensitive in light of equity considerations, since these children are extremely vulnerable and easily excluded from school. What proportion of the population of children in the country is deemed to be in situations of this type? What arrangements have been made (bonuses, housing, etc.), how are they targeted and how effective and cost-effective are they in view of drawing teachers to difficult areas and keeping them there?

iii) Finally, one reason why school facilities do not exist to take in certain children at the local level may be due either to the low number of children to be schooled at the local level or to

the particular lifestyles of the parents including nomadism or seasonal migrations. Where the number of "local" children is low, to what extent is it appropriate to make use multigrade classes? And what arrangements are made for the schooling of children belonging to travelling populations (mobile schools, use of guardians/boarding schools so that the children are settled where their school is located when their parents travel).

IV.4 Tree diagram on pupil retention during the primary cycle

The first element that needs to be stressed is that the issue of retention throughout the cycle (or rather of early leaving before the end of the cycle) applies to children who have had actually entered school. The fact that they did so means that, when entering school, they demonstrated a high enough level of demand to enrol and the benefits anticipated by their families outweighed both the direct costs and opportunity costs incurred as a result of the children's schooling.

Since the time they entered school, certain changes must have taken place in the demand parameters for them to have put an end to their schooling before the end of the cycle of study. A number of factors can probably be identified, but undoubtedly the most important is when the school the child has entered is in fact incomplete, de facto leaving the pupils on the wayside.

IV.4.1 Continuity or discontinuity in student flow

In the African context, particularly further to political pressures to improve access to school, many new classes have been opened and the coverage of the territory has improved significantly in most countries; but the schools thus created may sometimes be incomplete. In the usual sense of the term, the concept of an incomplete school refers to the fact that it does not include at least six classrooms and six teachers to manage the classrooms if the educational cycle includes six levels. However, the outlook here is not institutional but functional in nature; what is important is not the formal facility provided for the children but determining whether children who enter the first year of primary school can effectively pursue their studies in the same school up to the end of their cycle. These two notions need to be distinguished, even though a school that has six classrooms and six teachers obviously ensures the latter.

However, some options do exist to ensure the continuity of children's school careers, even in circumstances where schools are incomplete in the common sense of the term. These include the organisation of multigrade classes in which a teacher deals "simultaneously" with pupils at two or three different levels in their schooling career; they may also include cases with alternate year access to school. These methods are chiefly implemented when the number of children to be schooled at the local level is relatively limited. But these options may not be (fully) implemented in some countries and the possibility is that continuity of school careers over the cycle of study is not ensured.

Under those conditions, a certain number of children will be "stuck" in their school careers after two or three years in their village school. In order to continue their studies, they will then

have to enrol in another school, often in another village, sometimes located at a long distance from their home. Although some children who are "locally stuck" in their schooling accept the additional constraint and go on with their studies, experience also shows that this is not the case with all children and especially the most vulnerable; those whose demand for schooling was low from the start, often from poor families or traditional backgrounds and more often girls than boys.

It is important to determine how many children are living under such difficult conditions of non-continuous education (in this case, it is not the children who drop out of school but rather the school that "drops" the children) and what are the social characteristics of the concerned population. The assessment is important to gauge the magnitude of the difficulties encountered in a given country; also of course with a view to identifying the measures that could be taken and implemented to help overcome those difficulties, such as multigrade organisation or alternate-year access to school.

IV.4.2 There is schooling continuity but certain pupils still drop out

In complement to the facts (number and characteristics) on pupils who are exposed to schooling discontinuity, it would also be useful to describe the population that drops out of their studies despite schooling continuity. It is commonly observed that this segment of dropouts is relatively large, and its persistence over time suggests that the issue is kind of difficult to deal with.

In the previous point, we discussed situations where the supply of schooling had changed since children were initially enrolled in the first year in the primary cycle (there was a local supply, and a few years later there no longer was one); this point formed the basis of the "justification" for giving up on education. However, in the case considered here, children leave school without any major change having taken place in the supply of schooling. This suggests that the reasons for the problem can be found on the demand side. The idea is therefore that the balance between costs and benefits (or at least the parents' perception thereof) has changed since the children were initially enrolled.

We identify then i) causes that may stem from the internal organisation of the primary education system, and/or ii) causes originating outside of primary education.

* In terms of the **organisation of the primary education system**, generally speaking, the causes for dropping out were not anticipated by the families at the time of the children's initial enrolment; they "discovered" during their studies. Firstly, we can discern to what extent dropouts are due i) to bad practices on the part of the teacher towards the pupils or ii) to problems of a more pedagogic nature.

. Regarding <u>teacher practices</u>, two aspects may be involved: the first pertains to the impression that the service provided is unreliable, particularly if it is too often and unpredictably disturbed by teacher absenteeism (whether due to illness, travelling to a distant location to collect pay, or any other reason... or no reason); the second involves inappropriate practices towards children in the classroom or outside of the classroom, particularly towards

girls. If either of these reasons is confirmed, appropriate remedies must be identified and effectively implemented. If the issue is technical, such as the need to travel to collect their salary, then simple methods exist and need to be mobilised so that the children are not penalised by these dysfunctions. However, the issues may also pertain to a need i) to remind the teacher of basic behavioural principles, ii) to establish a quality charter between the school administration and the community, iii) to effectively monitor and identify deviant behaviours and/or iv) to implement effective and exemplary sanctions in such cases.

. Regarding the pedagogic aspects, two aspects are also worth considering; although the two are linked, a distinction should still be made between them: generally speaking, both issues are related to learning outcomes, but also more specifically to the impact of repeating grades on dropping out. In the first instance, certain families may be disappointed by the gap between their life experiences and what their children are taught in school (curriculum contents, abstract nature of learning) or they may feel that the quality of the services fails to meet their expectations.

However, the factor that probably has the most decisive impact is grade repetition. In some countries, the practice is common and its reduction, while necessary according to on numerous analytical studies that have been conducted on the subject, is often subject to strong resistance on the part of teachers (on grounds that repeating acts as a sort of guarantee of the quality of the service, a notion that has not been validated empirically). In particular, relatively high repeat rates have been recorded in the francophone countries of the region.

Simply put, analyses on the subject stress that repeating a grade, especially more than once, is a gateway to dropping out of school, especially for children from disadvantaged backgrounds and for girls (among whom the initial demand for schooling was probably lower). Repeating grades has a negative effect on the balance of costs and benefits to the extent that, on the one hand, it is a signal that the child is not adapting well to school and that the anticipated benefits of schooling may not materialise, while on the other hand, schooling is to involve higher direct and opportunity costs due to the fact a grade is repeated. This argument is supported by empirical studies conducted across the countries of the region, which suggest that an additional point in the repeat rate implies, on average, a drop of 0.8 point in the retention rate over the primary cycle [the numerical value of the statistic is higher for girls (1.1) than for boys (0.7)].

* Regarding the elements that are situated **outside the primary education system**, three aspects can be cited with respect to their potential impact on retention (avoiding the risk of early drop outs) of pupils over the primary cycle; the first two are linked to the system but are located upstream or downstream of the primary cycle, the third is linked to the impact of family economic conditions and social aspects.

. Upstream of the primary cycle in most countries in the region, very few children receive suitable preparation, as they do in the North. And yet, such preparation is more needed in light of the fact that African children have comparatively fewer opportunities for developing important skills for school learning compared to their European counterparts. This assertion particularly applies to African children living in poverty. The fact that the language

of instruction differs from the language spoken at home is one aspect of this difficulty, but the few available analyses stress that the cognitive and psychomotor dimensions are also concerned. Simply put, public investments on childhood development begin at age 6, whereas 90% of brain volume has already developed by the age of three and developmental delays that can handicap them for the rest of their lives (particularly in school) can build up before they even enter primary school. This line of reasoning is also corroborated by factual observation showing that the risk of dropping out during the primary cycle is significantly lower in children who have received preschool education[54].

. The possibility of continuing on to the first cycle of secondary education also has a confirmed influence on retention during primary studies. The observation is that, while the distance to primary school effectively has an impact on the likelihood of access to primary education, it has also been shown that the distance that would have to be travelled to secondary school (and stay in it) has an incidence on the likelihood of retention in primary school; indeed, most parents take a positive view of continuing studies beyond the primary level, so that, the greater the difficulty of access to secondary school, the less incentive they have to complete primary school. These difficulties may be linked to the overall degree of selectivity in the transition from the primary to the secondary level in the country, and to the fact that, for a certain number of children, attending secondary school involves longer trips, which give rise to practical difficulties and risks[55] (naturally, these additional difficulties are more intensely felt by modest families, particularly where girls' education is concerned).

. Finally, the issue of the children's age is clearly likely to weigh in as an explanation of the risks of early drop outs during the primary education cycle. Indeed, if there is one factor that has changed between the time children enter school and the time they may drop out, it is their age. But this fact, which is inevitable in itself, can have two different consequences in terms of schooling. In the first instance, it is a well known fact that the potential capacity of all children, boys or girls, to contribute to the family economy through productive work or housework increases significantly with their age. It follows that the opportunity costs which might have appeared acceptable to certain modest families when their children entered school may no longer be acceptable a few years later when their children have grown older.

Furthermore, and this is obviously particularly valid in the case of girls, as children grow older they also enter puberty, a time when families may be concerned with better protecting their children[56]. And this concern of protection may take the form of their withdrawal from school, more commonly for girls than for boys, particularly when school conditions are

[54] The current average retention rate in African countries is 67%; this figure could exceed 80% if appropriate preschool formulas were developed.

[55] In this regard, very different circumstances can be observed depending on the country, ranging from cases where the option of large schools covering extensive catchment areas is chosen to cases where the policy was to opt for smaller schools, often located near primary schools, that have smaller catchment areas and are much more user friendly. The issue of the organisation of junior secondary schooling in rural areas will feature prominently on the tables of African policy-makers to the extent that i) there is a need to extend coverage of the first cycle of secondary school, and ii) it is estimated that 83% of children today who are out of school and are the requisite age for this cycle of education live in rural areas.

[56] The issue of early marriage is often brought up. This argument is probably relevant in some specific contexts; but the argument is also probably overused and, in the great majority of cases, it does not apply.

unfavourable for girls (inappropriate teacher practices, unavailability of separate latrines for boys and girls...).

Naturally, education policy cannot stop children from growing during their schooling; however, it is not without impact. If a child only enters school at the age of seven or eight and repeats one grade, he or she will only be in the second or third grade of primary school at the age of 10, whereas, if he or she had entered school at age six without repeating a grade, he or she would already be in primary grade five by that age. It is likely that the child would be much more inclined to drop out of school in the former case than in the latter. The recommendation is therefore to take action i) to ensure that all children enter primary school by the age of six and ii) to reduce the repeat rate (an action also advocated in the point above).

IV.5 Tree on learning outcomes and quality of education

It should be mentioned in the first place that, to address the issue of the quality transmitted by an education system, it can be useful to consider all of the children who have access to school. Among them, some may not complete their studies and, while one could focus only on those who effectively complete their studies by examining what they have learned, one could also (and would probably do better to) take all of the children into consideration, since an elitist system in which very few pupils learn a lot while the majority are forced to drop out would be deemed **good** in terms of quality based on the former criterion (where the reference is the level of learning in pupils who remained in the system), but **bad** based on the latter criterion (overall learning by all of the children who have attended school).

According to the latter vision, retention throughout the cycle of education is a dimension that is both integral to the quality of education (a good school keeps its pupils) and helps us put the level of learning of those pupils who stayed in the system up to the end of the cycle into perspective.

Furthermore, regarding the level of learning for the latter population (or both), it is a random variable, generally assessed on the basis of the average value of its distribution; whereas it could be interesting to focus also on variance or an indicator characterising either the average level of the weakest 25% or the proportion of those who are below a specific minimum threshold of learning. This type of focus is particularly interesting because it is often thought that the quality of an education system is better assessed based on the measurement of its ability to ensure academic achievement in the weaker pupils rather than its ability to ensure academic achievement in all pupils.

To measure students' academic learning, two different approaches can be used: i) the first involve an international consortium using identical tests across countries and targeting basic subjects corresponding to the fundamental skills (reading, writing, and reckoning) that transcend the specific features of national curricula. In this context, mechanisms such as PASEC or SACMEQ provide comparative international assessments for a fairly wide range of countries; ii) the second involves assessing academic achievement in a national framework and the focus is on examining to what extent the pupils have mastered specific portions of the

contents identified in the national curricula. Instead of comparing the findings with those of another country, the country compares the pupils' results against its expectations.

Furthermore, in complement to the assessment of pupils' levels of achievement while they are still in the education system, and in reference to the simple idea that primary school should at least ensure the ability to read in adulthood for the young people who have completed primary education, it is possible to examine the extent to which this is actually the case. Some household surveys include a reading card with a simple sentence in the different languages likely to be known in the country; an analysis of these surveys, for instance for the population 20-25, provides a measure of the extent to which adults that have completed primary education have retained a very basic reading capacity. Since surveys of this type, using a similar methodology, are available in most of the countries of the region, they can be used as a basis for an alternative comparative assessment of the quality of education services in the different countries under consideration.

It is therefore theoretically possible to measure the quality of a national primary education system on a reasonable comparative basis, both i) in relation to the recent past for pupils who are still in school, particularly towards the end of the primary cycle, and ii) in relation to a more remote period (10-15 years) for young adults according to the degree of retention of reading skills in the group[57].

These measurements of the level of the outcomes achieved by a national education system based on academic achievement in pupils are important, but they are of a descriptive nature. To go further this mere reporting, it is useful to review the policies, strategies and practical arrangements that have led to outcomes considered more or less satisfying. In so doing, we will seek to identify, in general, the factors and modes of service delivery that are responsible in the given national context for the results obtained. The point is to identify those that prove to have a greater importance or constitute a more crucial obstacle with respect to the achievement of more satisfactory outcomes.

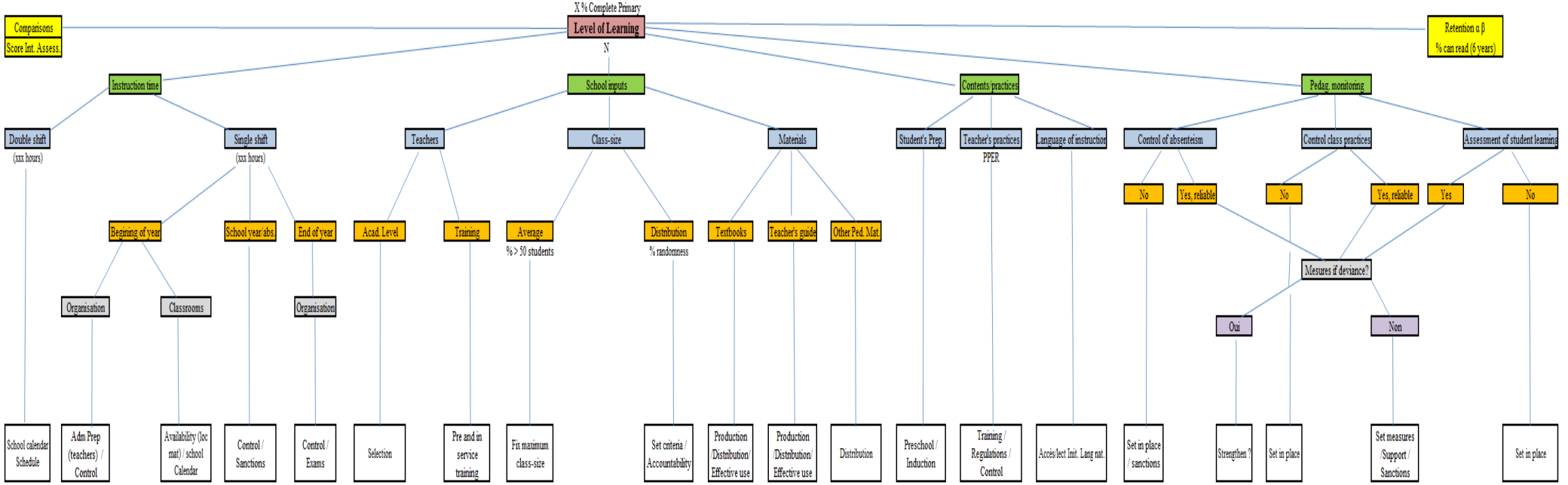
With regards to presentation, the work is organised around a specific tree diagram focusing on this aspect of the analysis (tree 3, below).

The point of departure is therefore the average level of learning outcomes of the pupils, preferably towards the end of the primary cycle. They branch out into four branches which are not substitutable to the extent that each of them needs to be addressed: i) the first of these branches is linked to school hours; ii) the second, to the school inputs mobilised; iii) the third, to contents, practices and modes of delivery of services; and iv) the fourth, to education management issues[58].

[57] It is to be noted that a fairly high degree of consistency is generally observed between these two types of measure.

[58] Administrative management, and particularly the aspect involving resource allocation (including staff) to individual schools, is not taken into consideration here. It may, however be useful to do it to the extent that, in many countries, considerable constraints have been observed in resource allocations, leading to teaching conditions (in terms of the quantity and quality of teacher supervision of pupils, operating resources) that can vary widely from one school to another.

Tree 3: Production of learning and quality of the services provided



School inputs often receive the most attention from administration. There are two main reasons: the first reason is linked to the fact that, according to common appreciation, they have a major role in the quality of the education services provided; in some cases, the quality of the service is spontaneously identified with the inputs that describe its implementation. The second reason is that inputs determine the unit cost of education and therefore have considerable impact on education budgets. In a context where it is deemed desirable to improve learning outcomes and the quality of education in a country, it is a natural reaction to think of increasing inputs (or at least certain inputs) although such a policy would run up against the financial constraints to which the sector is exposed.

Analyses clearly show that, while there is necessarily some degree of truth and relevancy in this approach, it is also far from sufficient to properly and fully delineate school quality issues. It is also essential to take account of the three other dimensions identified above; it is even likely that in the majority of countries, these other dimensions may be even more important to take into account, particularly since, although they do not involve substantial additional financial resources, they can have very significant impacts on the outcomes achieved; furthermore, they are often largely neglected in practice, especially where school of instruction and education management are concerned.

IV.5.1 Hours of instruction

This is the foremost element characterising the education process; all learning takes time and it is important to have a suitable amount of time to ensure that an effective contact is established between pupils and their teachers so that the planned curriculum contents are properly covered. It is generally considered that 900 to 950 teaching hours is a desirable number in primary school, especially for the higher grades in the cycle. We shall consider two common circumstances in which problems can be encountered in this area:

. The first circumstance in which we can consider that the desirable number of teaching hours may not be ensured is when classes are organised using a double shift system[59]. Indeed, when two cohorts work alternately in the same facility, even though sometimes the length of the school day or the number of days per week or per year can be adjusted, it is not uncommon that the actual number of hours of instruction of the pupils over the school year be significantly lower than the benchmark figure indicated above. We can imagine that flexibility in the school calendar could more or less help offset these issues (a longer school year for instance). It is also possible, to the extent that a variety of situations with single and double shifts are generally found within the same country, that this could produce significant and undesirable disparities in terms of pupils' learning conditions, and ultimately learning itself.

. However, even a more traditional "single shift" classroom organisation cannot guarantee that teaching time will be sufficient to ensure quality service. There can be two reasons for this and they are sometimes complementary: the first may be that the official volume of teaching

[59] We did not explicitly mention multiple-grade classroom organisation, because it is theoretically no different from traditional classroom organisation in terms of teaching hours; however, it has been reported that in certain rare cases, multiple-grade classrooms actually correspond to reduced teaching time for the pupils when two grades are taught sequentially rather than simultaneously, as should normally be the case.

hours over the year is low (possibly due to the number holidays which reduces the number of days of school, but it may just be low); the second (more common) reason is that the official volume of teaching hours is not effective. There may be complementary reasons for that:

i) **The school year actually starts later than its official starting date**, either overall or for a certain percentage of pupils. This may be due to various reasons. Sometimes, classrooms are built out of local materials (such as millet stalks) that are not yet available on the date of the official start of the school year, and the actual start may be deferred by a month or two. Another reason can be issues with management and administrative preparations for the start of the school year; this can be due to the fact that teachers are assigned too late, so that they cannot take up their positions in time; but it can also be due to insufficient rigour and oversight by supervisory bodies.

ii) It may also be that **education services are not provided continuously and regularly throughout the school year**. Once again, several different situations can be encountered. These situations may be collective in nature or linked to the system, or they can be more individual. Among the situations typically linked to the system, we can cite:

* situations such as strikes (which sometimes take up significant numbers of teaching days some years in some countries) for which it is difficult to come up with generic remedies, but also more specific situations in which organisation methods have a direct share of responsibility: these can include cases where teachers are on leave (sick leave, maternity leave, etc.) and the system is responsible for making appropriate arrangements (replacements, etc.) to remedy them; but they may also include situations where teachers leave their assignments, sometimes for several days a month, to go collect their salaries in a town located far from where they work; steps need to be taken to eliminate the situation, which unnecessarily reduces children's learning time.

* More individual situations can also be encountered; they are characterised by unjustified absenteeism on the part of the teacher and are likely to be encountered relatively often in certain countries of the region. What predominates is the difficulty of truly identifying these situations and the virtual absence of sanctions. When it is estimated that these issues are common in a country, after reminding everyone of the basic principles of the teacher's charter, it is important to set up an effective monitoring mechanism (the users generally know whether the teacher is absent, and middle management – principals, inspectorates – can certainly play a role even if there is a danger of a certain amount of permissiveness on their part); it is also important for effective sanctions to be implemented to reduce (eliminate) these behaviours which are detrimental to children's learning outcomes.

iii) Finally, it is often observed that there is a tendency for **the school year to actually end well before the official date**. It is indeed not unusual that there are de facto no more children in the schools quite some time before the theoretical date of the end of classes. The same type of argument identified for the start of the school year may be

valid in a context where classrooms built of temporary materials are used. We can also cite the existence of examinations at the end of the school year, which may disrupt schools' organisation but steps can be taken to get around this problem. That said, in some cases, the source of these undesirable practices may also lie in the fact that the administration shows little interest in eliminating them.

In all, there are many reasons why teaching hours are often fewer in number than officially planned, and fewer than the desirable number from the standpoint of the children's best interests. Given the importance of the teaching hours of instruction for learning outcomes, there is a strong case for identifying i) the extent of the problems in each country, ii) the principle channels through which the problems came into being and iii) the steps to be taken to remedy them[60]. All this is not very costly while carrying potentially substantial impacts.

IV.5.2 School inputs mobilised

Generally speaking, current resources mobilised per pupil enrolled in the primary cycle in a given country should be considered from the standpoint of their total volume and their distribution between the different inputs involved in the provision of education services. In this framework, the overall volume may be deemed sufficient, or not; but a sufficient overall volume does not necessarily entail a desirable case if there is an inappropriate combination of the different ingredients constituting the education production function, with needlessly excessive allocations for certain inputs while there are insufficient allocations for others.

The principal academic inputs revolve around two complementary poles, to wit: i) teachers and ii) the resources for them to teach and children to work.

* Teachers and their characteristics

Teachers are obviously the most important input in the teaching process due to their roles as central mediators in the transmission of the targeted skills and knowledge, as well as essential instruments to mobilise the pupils with a view to their acquisition. In addition to their status and level of remuneration, which have already been addressed, two further teacher characteristics are important to consider, namely their mastery of the knowledge they are in charge of teaching and their ability to transfer that knowledge to the children they care of.

. In relation to the former characteristic, it is important for teachers to have completed an appropriate number of years of education. A rule of thumb that is often considered valid is that teachers must successfully complete one cycle of education above the one they are to teach (for example, primary teachers should have at least a junior secondary diploma); but this rule mostly works when the quality of the education system is acceptable; further education may be required where the current or recent quality of the education system is not very good, if the aim is to avoid reproducing those deficiencies in the future. However, while the risk of

[60] If, for example, time of instruction is reduced due to the use of temporary materials to build classrooms, in addition to envisaging other, more durable forms of construction, we can explore the possibilities of introducing flexibility into the annual school calendar, the weekly schedule and/or the daily timetable to increase the effective volume of teaching hours over the year in the existing temporary structures.

insufficient academic knowledge in teachers should clearly be avoided, hiring teachers who are clearly overeducated for the level they are to teach is also a source of inefficiency. In fact, and perhaps contrary to spontaneous perceptions, the old adage of "he who can do more can do less" does not promote efficiency in a context where resources are scarce. The reason is that over-educated teachers are necessarily more costly than necessary, a fact that has, hic and nunc, negative consequences on the funding of other inputs and/or on system coverage[61].

. The latter characteristic, i.e. teachers' ability to transfer the skills and knowledge defined in the curriculum, undoubtedly has a personal dimension in part; but it also depends on the professional training provided for the teachers before they take up their positions (and possibly peer coaching at the start of their careers).

The need for such initial training is unanimously claimed throughout the teaching profession; however, factual analyses geared at assessing its impact on pupils' academic achievement are rather disappointing. Indeed, studies show that the impact is not terribly high and that it does not seem to increase when such training is extended beyond something like one year. It is likely that the reasons for that result are linked to the facts that: i) training often has an insufficient focus on classroom management and/or ii) it is difficult to impart teaching techniques when the future teacher has yet to face them in a concrete situation. One conclusion on this subject, which is undoubtedly provisional in nature, is that: i) initial teacher training is undoubtedly essential, but it does not have to be long if it focuses on classroom management while ii) teachers (like the members of many other professions) probably build up their skills during their first years at work; it can therefore be useful for them to be coached by an experienced peer, and this activity could be complemented by the provision of continuing education focusing on certain central aspects of the profession.

* Pupil-teacher ratios

In addition to the personal characteristics of teachers, the number of pupils for whom they are responsible is another important element of the teaching environment and its quality. It is important to consider two complementary aspects in this regard: the first applies generally to the national system and involves the average number of pupils per class; the second involves the distribution of that statistic across the different classes and schools in the country.

Regarding the relationship between class size and academic achievement, a common perception is that smaller class sizes promote better classroom running and therefore must have positive consequences for pupils' academic achievement. Empirical observation does not totally contradict that perception, but its credibility is limited to the extent that the impacts identified are relatively small.

Thus, if we adopt an international comparative viewpoint, we can observe wide variations in the size of primary classes between the countries in the region (from less than 30 to more than 60) and also in the average level of academic achievement in pupils, but we can also see that there is very little relationship between the two statistics.

[61] It has also been noted that, under such circumstances, teachers may be less motivated to carry out their work.

On the other hand, analyses conducted at class level on primary education within a given country identify generally a negative relationship between class size and the level of student learning. However, it should be noted that: i) this relationship is moderate in intensity, while ii) reducing class sizes has considerable impact on the unit cost of education. Taking account of this twofold perspective, it has been identified that a class size in the area of 40 would provide an acceptable compromise given the current conditions of the countries in the region.

* It should be recalled that the average class size at national level, varies quite substantially across the countries of the region and that it remains probably desirable for countries to target the benchmark figure of the EFA-FTI Indicative Framework: not exceeding it too much since that would affect the quality of the service provided, but not going too much below it either, since that would affect the payroll and create undesirable negative pressures in other areas (on the availability of other inputs in primary education and/or system coverage).

* In addition to the average number, the issue of the distribution of that number across schools is important to consider both in terms of equity and effectiveness. This is not a matter of educational policy but rather of how that policy is implemented; the crux of the matter is administrative and human resources management. One initial observation is that an education policy targeting overall means to ensure a national average of 40 pupils per class does not imply precise uniformity of that figure in all classes across the country. Due to varying local conditions, class sizes may be smaller in locations where there are very few pupils (particularly where there are multiple-grade classes) and a little bit larger in urban areas.

That said, the factual observations are that we often go far beyond these pertinent aspects and that there is a substantial degree of randomness involved in human resource distribution. Some schools are significantly overstaffed while others are considerably understaffed. Human resource allocation systems may either be unsuitable or may be distorted by individual behaviours and/or by inappropriate external interference with the education system. It is not unusual for urban areas (especially in the country's capital) to have excess staff while certain rural areas (certain regions also) suffer a shortage. It is important to document the scope of any such dysfunctions and come up with suitable options to remedy them.

* Resources: facilitating the work of the teachers and the learning of the pupils

Academic achievement results from the interaction organised between a teachers and their pupils. Teacher practices aimed at making this interaction more effective are naturally very important (they will be examined in the following point), but certain material ingredients are required to facilitate their implementation; where these are insufficient (and even more where they are absent) the quality of the process may be at risk.

. For teachers, especially when their academic levels and/or their professional training are considered less than perfect, teachers' guides in the different curriculum subjects (identifying the key points in each lesson, the pedagogical aspects to be taken into consideration and the practical application exercises to give to pupils, both to improve their academic achievement and to allow the teacher to verify that the desired contents are indeed acquired) have proven to be important tools to put in the hands of teachers. In complement,

teachers should also have access, at minimum, to basic supplies (boards, sufficient chalk, a ruler, a compass, flashcards, etc.) to assist them in their lessons.

. However, pupils also need to be able to work, for while teachers must teach, pupils must also learn and to do so they need to work effectively. Textbooks play a very useful role in this perspective; empirical analyses show that the role of reading is essential and that it is also important to have little books suited to their levels available for children to read outside of class to reinforce their learning (teachers have an important role, but pupils learn to read first and foremost by reading). Certain exercise books, particularly in mathematics and sciences, have also proven extremely useful. In addition, pupils should have the basic supplies they need to write and be able to do the exercises requested by the teacher.

In the interests of both equity and effectiveness, it could be useful to identify to what extent all of the children actually have access to these items and to ensure that certain (the poorest) are not deprived because either their families are asked to pay for them, or because distribution in schools is defective and certain schools do not actually receive them.

IV.5.3 Contents and practices

Teaching contents and practices are obviously important to consider, since there may be a relationship between the two, as practices have both a general pedagogic dimension and a more specific dimension in relation to the contents that need to be got across.

* **Where contents are concerned**, there are naturally aspects that are linked to what each country would like to convey in its schools, including once again a general and essential dimension, notably learning to read, write and count (with further details to be considered) and a dimension that is more specific to the country in question, to its history, its geography and its environment. However, two additional issues warrant particular attention: the language of instruction and the preparation of children for schooling.

. The language of instruction is a controversial and complicated subject (to varying degrees according to the country) and our aim here is not to target it to the point of distracting attention from the rest of the exercise. That being said, it is obvious that when children begin reading, in most of the countries in the region it is in a language that they do not know and that is not spontaneously spoken in their families. Learning how to read is a difficult activity in itself and it is easy to conceive that the difficulty is noticeably increased when reading is learned with words (and certain sounds as well) that are unknown to the child. Has the country implemented large-scale measures to deal with this issue?

. Preparation of children for primary education is an aspect whose importance is often underestimated. In the African context, the primary school environment is generally new to the children, as the great majority of them receive no preschool education, and requires social, psychomotor and cognitive skills that are to a great extent very different from what they have spontaneously developed in their living environment, particularly in rural areas. This aspect combines with the specific difficulty linked to the language of instruction (above). What options are envisaged to allay the difficulties?

. The situation involving changing curricula is sometimes a particular challenge. There is a widespread belief that the quality issues in education systems are, in large part, linked to the inappropriate nature of their curricula. This belief is exaggerated to a great extent although of course it can be helpful to improve measures in this area in certain countries at certain times. Generally speaking, a change of curriculum is always a complicated operation aimed at introducing future improvements but which always causes significant disruptions in the short term. Teachers' guides and pupils' textbooks need to be developed, published and distributed and teachers need to be convinced that the new curriculum is better than the old one and they must also be trained to effectively implement it[62].

In recent years, a certain number of countries have opted to address learning through a competency-based approach; this approach indisputably corresponds to a desirable outcome. However, the actual difficulties have often turned out to be more arduous than anticipated, notably because the transition between the traditional approach and the new approach is difficult to put into practice[63] (notably due to teacher training and resistance to change). It is important to identify the appropriate measures and effectively implement them to overcome the disruptions and monitor the changes toward success.

* **Where teacher practices in the classroom are concerned**

Teacher practices in the classroom are vitally important in order to ensure that teaching time contributes to academic achievement in pupils. We can doubtless seek to identify these practices in great detail, but experience shows that it is easy to get bogged down in very precise levels of information that may be unsuitable, in fine, because teachers need a certain amount of leeway to adapt their teaching to the ever-changing circumstances of their pupils. That said, there are five basic teacher practices that cannot be overlooked; they should form the basis for the teachers' minimum charter:

i) Teachers must be present every day, and punctual in relation to the schedules in force, from the day their school opens to the day of the official end of the school year;

ii) They must plan their lessons and prepare for their classes taking account of both the curriculum contents and the progress made and difficulties experienced by their pupils in the course of the school year;

iii) They must regularly give their pupils application exercises, both to reinforce their learning and to assess their progress and insufficiencies;

iv) They must plan flexibly so that they can include any remediation required to ensure that no pupils get lost at any time during the school year; repetition is not considered an appropriate way to deal with heterogeneity in students' aptitudes;

[62] The difficulties are especially great when there is a change in the language of instruction, as in that case it is often hard to (re)train existing teachers, or even to hire new teachers with the desired skills.
[63] France experienced a more or less comparable situation with the so-called "modern mathematics" reform some forty years ago.

v) Finally, they must demonstrate impeccable behaviour towards the children placed in their care, including both boys and girls, and both inside and outside of school.

These five tenets are a benchmark standard; however, a common observation is that they are applied to varying extents according to the country. A diagnosis, which will undoubtedly include some qualitative and subjective elements, is required to start work in this area and arrive at an acceptable assessment; this will likely be carried out in the broader context of the teaching management of the system, an essential dimension to be taken into consideration to ensure the quality of the education services provided.

IV.5.4 Performance in terms of teaching management

The reality in many countries is that if we target classes or schools rather than the system as a whole, we can observe: i) that various teaching locations are characterised by a rather wide variety in the resources available per pupil as well as in pupils' academic performance or the progress they achieve in a given school year or cycle; ii) secondly, despite the variations in current per capita resources, teaching locations with better endowments do not have pupils with very significantly higher levels of academic achievement; and, finally, iii) among teaching locations with comparable per capita resources, there is considerable variation in pupils' academic performance. These common empirical observations point to the hypothesis that the transformation of local resources into academic performance in pupils is a subject of concern and that teaching management may pose problems.

As a jumping-off point for exploring the issue of teaching management, it can be useful to consider the education system as an institution that: i) has a centre (the Ministry of Education) which determines general provisions (contents, resources, modes of organisation, targets and expected outcomes) and ii) has branches (schools) in a large number of locations throughout the territory and expects all of those branches to operate and behave homogeneously in keeping with the general policy provisions decided at national level[64]. The stakes are high, since the aim is to achieve equity, both in terms of teaching conditions and educational outcomes, through the effective transmission of society's vision of its schools in different areas of the national territory.

One can hardly expect this to be achieved without effort, and it is likely that to ensure the transmission of general provisions to local level and guarantee homogeneous operations and a homogeneous product across different schools, a certain number of management measures need to be defined and effectively implemented. This is notably the case because education is a "labour-intensive industry" in which both the activity and the outcome depend not only on the formal skills of the employees, but also highly depend on their motivation and the energy they put into their work. We should explore to what extent teaching management activities are effectively implemented and to what extent they produce the expected outcomes.

[64] A bit like the McDonald's firm, which centrally defines the products it wants to promote as well as its benchmark modes of organisation and production, and has a large number of franchise restaurants that produce and deliver those products locally.

* The first quantitative indication to initiate the analysis is undoubtedly to find an evaluation of overall management performance, not by assessing specific management practices, but by externally measuring management performance in each of the countries under study. Several methods/indicators could potentially be used; all of them focus on the transformation of resources into outcomes based on the strength of the relationship between the two figures.

. One approach that is theoretically desirable, in that it provides a good measurement of outcomes, is to use the individual PASEC survey database. With this type of data, the added value of a school can be estimated over a year of observation by controlling for the pupils' initial levels as well as for the social variables. This provides a relatively "pure" measurement of the contribution made by each school or class. Since the level of current spending (salary and non-salary components) per pupil can be estimated quite readily, the strength of the relationship between these two figures can be estimated in a straightforward manner; globally, the weaker the strength of this relationship, the poorer the management performance of the system in its capacity to monitor the transformation of resources into school outcomes.

. However, this method can only be practiced by countries that have the data available and only at the times when the survey is conducted. Furthermore, it only applies to a small sample of schools. To get around this obstacle, the analysis can be based on national exam results generally taking place at the end of each cycle, as these are generally available for all schools in each country. The measurement is less reliable than the standard PASEC achievement test, but it is also more legitimate since it corresponds to the expectations of the education system and of the parents. This measurement cannot be used comparatively on the international scale (this is not the focus here) although it can reasonably be used to compare schools within a given country. When school data (school statistics) is merged with data on the proportion of pupils passing the exam in each school (which is generally the case), an estimate of the kind referred to in the previous point can be made on the basis of that data. This provides a substitute and a more or less acceptable proxy to get an idea of a country's pedagogical management performance.

* Although this measurement is very useful, it provides only an estimate of the magnitude of the issue at stake in a given country. This is indeed very important; but, explore its causes is then crucial, particularly with a view to taking action in future.

Simply put, if it is observed that schools have similar levels of available resources while their pupils may have quite different levels of academic achievement, this means i) that there are dysfunctions at some level in the running of the schools (at least in some of them) and ii) that these dysfunctions are insufficiently regulated; in turn, this implies that there are significant issues in the pedagogical management (monitoring) of the system. If the problem effectively lies in pedagogical management, this implies first of all that all of the actors be effectively aware of the benchmark elements of "normal" (desirable) operations of classes and schools (i.e. the different actors have a charter stating what is expected of them); if they are not, or insufficiently, aware, it is probably useful to begin by making sure they are made aware.

Monitoring cannot focus on a multitude of aspects because then there is no clear visibility over the most vital aspects. It is probably useful to concentrate on the following three main

aspects, which complement each other: the first two focus on basic practices, with the first involving the quantum of time (regular and continuous teacher presence from the first to the last day of the school year), while the second focuses on the use of that time, highlighting basic benchmarks of the kind identified in the previous point (lesson preparation/planning, application exercises, assessment, remediation); the third targets the outcomes achieved in terms of flows of pupils through the cycle (repeats, drop-outs) and pupils' academic achievements.

i) The first dimension is whether these three aspects are effectively measured in a reliable fashion in the ordinary operation of the system (monitoring is only possible if there is a reference measurement). The answer may be "yes, absolutely" or "no or not enough" for each of the three areas under consideration. It may also be more mitigated, either because only some of the three aspects may be measured or because the measurements taken may not be entirely reliable. Naturally, if the answer regarding one or more of these aspects is no or insufficiently reliable, options can be reviewed to resolve the difficulty: what tools can be used? Who will be responsible for their application? And who will check to ensure that it is effectively done?

ii) Another dimension, which complements the first, involves the response in the event of a divergence from expectations regarding any of the three aspects under consideration (effective monitoring implies that a suitable response is made when a dysfunction is observed). This can be broken down into two questions: "who?" and "how?". Thus, an important question to ask when documenting the situation in a given country is to what extent a satisfactory response is effectively brought to bear, what actor is in charge of that response and whether the responsibility is effectively upheld. It is also important to examine to what extent the measures implemented are technically appropriate and who is responsible for checking to determine whether the measures implemented were effective at the end of the day.

V. By way of a provisional conclusion

This paper has sought to cover some at least of the most significant dimensions that can help document, based on a sampling of countries, the issues surrounding equity and children's right to attend school, to stay in school long enough and to receive appropriate education services to ensure access to adult life with the basic knowledge and skills that will give them a chance at a decent economic and social life. Above and beyond its quantitative observations, this analysis identifies connections with various active or passive education policies found in national education systems. Additionally, to the extent that they provide a better understanding of the situation and point out stumbling blocks in the various sample countries used, these analyses can also be used to identify avenues for action.

Finally, since the last part of the document is based on a visual tree structure, it can also be used as a tool to work with national policy-makers and their teams in a simple and organised manner; the idea is to help countries conduct their own analyses and raise awareness on the need to promote equity and children's rights in their countries.