

## Study of the determinants of the demand for schooling in Cameroon

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### Abstracts

Despite efforts by the Cameroonian government to improve access to education and the quality of it, the enrollment of girls is still low. The objective of this study is to understand the factors that promote the demand for education in general and girls in particular. The target population for this study consists of children aged 6 to 11 years and the dependent variable is the gross enrollment rate ie the ratio of the number of children enrolled in primary school on the total number of children aged 6 to 11 years. We perform a multivariate analysis of data using multiple correspondence analysis to identify among the many factors listed in the literature who are strongly correlated with the demand for schooling. Then, we perform an econometric analysis of the demand for schooling in Cameroon using the Tobit model. Two Tobit models are estimated: one model for both sexes combined and a model for the subpopulation of girls. One of the reasons for non-attendance in rural poverty can be as heads of households in this environment as revealed by the multiple correspondence analysis, the lack and removal of public school populations that environment, we advocate for public authorities to build schools around the rural villages and remove the association fees that parents may be unbearable for some parents in this environment given their level of poverty.

Keywords: Gross enrollment rate, enrollment of girl, multiple correspondence analysis, Tobit model

### 1. Introduction

The United Nations through its specialized agencies (UNICEF, UNESCO, UNDP, FAO ...) has always emphasized the importance of education, especially of women, in the process of developing states. In the UN Charter, it is said that "access to education is a fundamental right of every human being without distinction of color, gender or religious affiliation." Thus, since their independence in the 1960s, African countries are engaged in voluntary political expansion of education.

The (EFA) Education for All program launched by UNESCO at the World Conference in Jomtien (Thailand) in 1990 gave aim to provide all children, boys and girls the opportunity to access a cycle complete primary education by 2000. To date, the enrollment rate was at its lowest. The heads of state gathered in New York for the Millennium Declaration have all renewed their commitment to achieve this goal by 2015. According to the EFA program, in 2000 the world population was about 104 million children of school age who do not attend school (UNESCO, 2003). Three quarters of them were in sub-Saharan Africa, South Asia and the West.

Thus in the context of the fight against poverty, the World Education Forum in Dakar, Senegal in April 2000 led to the international community to commit to eliminating gender disparities in primary education and secondary education by 2015. The Cameroonian government aware of the deficiencies in the field of education of children in general and girls in particular, has taken various measures to improve access to education and quality of education. Despite these efforts, the enrollment of girls is still low. In 2007, it is estimated at 67.6% for girls and 71.8% for boys. These figures, however, mask considerable regional disparities because this rate is less than

60% in the northern provinces is 49% Adamawa, 42.3% for the Far North and 48.3% for the North in 2007.

We therefore find that despite efforts by authorities to improve our school systems both qualitatively and quantitatively, despite their willingness to reduce both regional disparities, develop national educational capital, Africa still under educated compared at its population. Thus we are led to ask the following question:

What are the determinants of the demand for education in Cameroon? In other words, what are the factors that significantly influence the demand for education in Cameroon or those who are likely to help the Cameroonian authorities to improve enrollment rates in general and girls in particular?

The major objectives of this study are two in number. The first is to understand the factors that promote the demand for education in general and girls in particular. In other words, it is to determine the factors that have a significant influence on the education of Cameroonian and especially girls and see how they adjust to improve the participation of the latter in school. In the second place, this study should determine the factors identified from those on which we can establish a policy to increase the enrollment in Cameroon.

We postulate the following research hypotheses

**H1:** Female heads of households enroll their children more than their counterparts male;

**H2 :** Children in urban areas are more educated than those in rural areas;

**H3:** The heads of poor households enroll their children less than their counterparts nonpoor;

**H4:** The demand for education increases with the level of education of household head.

To carry out our study, we performed a first descriptive analysis of the demand for education in Cameroon in 2007. He has been here to do a multivariate analysis from the cross between the factors explaining the demand for education listed in the literature and the gross enrollment rate of children in the household tables to give us a first look at the factors likely to be decisive with the demand for education links on the one hand and make a multiple correspondence analysis (MCA) data to identify among the many factors listed in the literature who are strongly correlated with the demand for education on the other. In a second step, we conducted an econometric analysis of the demand for education in Cameroon in 2007 from the Tobit model. Two Tobit models were estimated: a model for the whole of both sexes and a model for the subpopulation of girls. The choice of explanatory factors of these models has been guided by the exploratory analysis first.

## 2. Results

### ❖ Interpretation of results for both sexes combined

The results of the Tobit estimation of the gross enrollment rate for both sexes combined a number of comments:

The "Non-poor" level of the variable life householder modality has a significant coefficient. The positive sign of this coefficient is in line with our expectations. The "Rural" mode is the reference category for this variable, we can deduce all being equal

the heads of poor households enroll their children less than their non-poor counterparts.

Regarding the level of education of household head, we find that only the coefficient of the "Superior" modality is significant and negative sign. We can conclude that the heads of households of higher level enroll their children less. This result is surprising because it was expected that the heads of households with high education enroll more children as reported by economic theory.

The occupational category of the household head has no influence on the demand for schooling household because we find no form of this variable is significant.

Regarding the religion of the household head, we find that only the "Protestant" mode has a significant coefficient. The positive sign of this method is in line with our expectations. We can therefore conclude that the heads of households of Protestant enroll more children. This is consistent with the results of economic theory.

Note that the modality "Male" of the variable sex of the household head has a significant coefficient. The positive sign of this variable is consistent with our expectations. Modality "Female" is the reference category for this variable, we can conclude all things being equal that householders female enroll their children more than their male counterparts. This is consistent with the results of the multivariate analysis and the results of the study Pilon (1996). Indeed, for Pilon (1996), women heads of households invest more than men in their children, either in terms of time, money or emotional support, and this is especially true in education. Their management of resources is more rigorous and responsible. He thinks that having been themselves, in general, victims of under-education, women earn more than men the issue of education for the future of their children. In addition, their expectation is a strong return on investment when their children will have a job. The variable total expenditure of the household head approximated by total expenditure without hospitalization has a significant and positive coefficient. We can therefore conclude that the demand for education is an increasing function of the head of household income. In other words, the heads of low-income households enroll their children less than their counterparts with higher incomes.

For the variable marital status of household head, we find that apart from the modality Divorced (e) / Separated (e), all other terms to knowledge monogamous married, married polygamous, Widow / Widower and common-this variable has a significant coefficient. Modality "Single" is taken as the reference, the positive signs that these coefficients indicate that the demand for education increases as a function of how married monogamous, polygamous married, widow / widower and Free Union, the growth direction is the same as the direction of listing these terms. We still get a surprising result because we expected that householders married monogamous enroll more children than their married counterparts polygamous.

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**Table 1: Estimated gross enrollment rate at the household level**

Tobit regression		Number of obs =		11291		
		LR chi2(24) =		3192.49		
		Prob > chi2 =		0.0000		
Log likelihood = -14771.548		Pseudo R2 =		0.0975		
TBS	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
URBAIN	.096547	.0331619	2.91	0.004	.0315439	.1615502
NONPAUVRE	1.100263	.0407184	27.02	0.000	1.020448	1.180078
PRIMAIRE	-.0115693	.0446854	-0.26	0.796	-.0991604	.0760219
SUPERIEURE	-.4015149	.0774769	-5.18	0.000	-.5533832	-.2496467
SECONDAIRE	-.0202517	.0505286	-0.40	0.689	-.1192965	.0787932
PATRON	-.0793818	.090877	-0.87	0.382	-.2575166	.0987531
MANOEUVRE	-.0863723	.0772834	-1.12	0.264	-.2378613	.0651166
COMPROPRE	-.0256849	.0495008	-0.52	0.604	-.1227152	.0713453
EMPQUALIF	-.0113324	.058746	-0.19	0.847	-.1264849	.10382
CADRE	-.0549419	.0805816	-0.68	0.495	-.2128959	.103012
MUSULMAN	.0643497	.0538908	1.19	0.232	-.0412857	.1699851
PROTESTANT	.1338396	.0489552	2.73	0.006	.0378788	.2298004
CATHOLIQUE	.060305	.0466628	1.29	0.196	-.0311623	.1517722
MASCULIN	-.3974421	.0416056	-9.55	0.000	-.4789964	-.3158879
deptotf	2.37e-07	1.32e-08	18.03	0.000	2.11e-07	2.63e-07
_ismcm_2	.7605307	.044214	17.20	0.000	.6738636	.8471979
_ismcm_3	1.096003	.0680604	16.10	0.000	.9625923	1.229413
_ismcm_4	.1619791	.0654161	2.48	0.013	.0337521	.2902061
_ismcm_5	-.0047	.075269	-0.06	0.950	-.1522403	.1428403
_ismcm_6	.3782976	.0694905	5.44	0.000	.2420841	.514511
_iagecm_2	.6618495	.0431299	15.35	0.000	.5773074	.7463916
_iagecm_3	.9177574	.0492828	18.62	0.000	.8211545	1.01436
_iagecm_4	.483844	.0547281	8.84	0.000	.3765674	.5911206
_iagecm_5	.1675579	.0578729	2.90	0.004	.0541169	.2809989
_cons	-2.009099	.0829933	-24.21	0.000	-2.17178	-1.846417
/sigma	1.397712	.0140636			1.370144	1.425279
obs. summary:		0 left-censored observations				
		6343 uncensored observations				
		4948 right-censored observations at TBS>=0				

Source: Based on data from the INS-Cameroon

All terms of the age of the household head are significant. Modality "under 30" is taken as the reference, the positive signs of the coefficients indicate that the demand for education is an increasing function of the age of the household head. Examination of the regression coefficients show shows that household heads aged 60 and enroll more children, then come the heads of households aged 50-59, after these, we Householder 40 - 49 years and finally the heads of households aged 30-39. We can therefore conclude that the heads of household who enroll their children more than their younger counterparts. This is consistent with the results of the multiple correspondence analysis and contrary to those of the multiple correspondence analysis.

### ❖ Interpretation of results for the subpopulation of girls

The Tobit estimation of the gross enrollment rate for girls in the population give similar results to those obtained for both sexes combined in many ways, except for some variables or procedures for specific variables. Indeed, some variables or variable terms that were significant in estimating the gross enrollment rate for both sexes combined are no longer for the subpopulation of girls. This is for example the place of residence of the household head and modality "Widow / Widower" the marital status of the household head. For cons, the modality "maneuver" the occupational category of the head of household was not significant for the first model is for the second.

## 5. Conclusions

The main objective of this study was to investigate the determinants of the demand for education in Cameroon or the factors that significantly influence the decision of parents to educate their children, and more specifically those aged 6 to 11 years. It was conducted using data from the third Cameroonian household survey (ECAM3) and covered 11,291 households. Demand for schooling (dependent variable) has been apprehended by the gross enrollment ratio. To achieve our goal, we first performed a multivariate analysis and then a multivariate analysis to determine the variables that may be critical to the demand for education links. The econometric analysis also called confirmatory analysis to confirm or refute the results of two analyzes led to the following results: (1) Heads of households in urban areas enroll more children than their rural counterparts consequence of a high concentration of infrastructure in the city than in the country, (2) The heads of non-poor households enroll their children more than their poor counterparts, (3) a surprising result of this study is that household heads have higher level low gross enrollment, (4) household heads of Protestant religion in general have high gross enrollment rate, which is consistent with economic theory that householders Christian religion enroll more children than their Muslim counterparts obedience, (5) heads of households female enroll their children more than their male gender, (6) the demand for education is an increasing function of the head of household income (7) heads Household Cohabitation enroll more children, followed by householders Widows or Widowers, after these, we householders and finally married polygamous household heads married monogamous surprise here is that leaders married polygamous households have higher than their married counterparts monogamous gross enrollment because we were expecting the contrary, (8) the demand for education is an increasing function of the age of the household head. These results show that, apart from the fourth research hypothesis is not true, all the others are.

Some parents do not send their children simply because they are poor and yet they allocate huge sums of money to the organization of funerals, weddings and baptisms. They therefore emphasize the ceremonies over the school, ignoring the issues of children's schooling. Given that previous education policies, which were based on the school offers are not managed to capture the determinants of household demand for schooling, we recommend the government to encourage parents in general and heads of household males in particular have a different vision of education and explain the importance of it in the development of their standard of living and that of the nation.

One of the reasons for non-attendance in rural poverty can be as heads of households in the middle as shown by the ACM, the lack and removal of public school population in this environment, we advocate the public authorities to build schools around the villages in rural areas and remove the costs of Association of Parents of students who can be unbearable for some parents in this environment because of their poverty.

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