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Exploring Child Education Continuation Factors in Somaliland

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Abstract: *School dropout is a universal problem. Child schooling is determined by several individual characteristics and standard living variables. This study used sequential probit model in analyzing data from 27,913 Somaliland households. The results show that parental education, household living standard, and household head are significantly associated with the school enrolment and attainment. School progression, particularly, among girls, is less likely influenced by marital status, child sex, household size and the sex of household head. About 64% of primary students failed to go to secondary school. In this study, we present a comprehensive overview of both school dropout and progression determinants. Based on the findings that, early marriages and child sex affect school continuation negatively, this study recommends the promotion of gender equity control measure to reduce school gender biases.*

Key words*: School progression, individuals' characteristics, comprehensive and sequential probit model*

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I. Introduction

Even though the world emphasizes the importance of improving the accessibility and quality of education, worldwide dropout rates continue to increase. In most developing countries, very few children finish primary school or graduate from secondary school. 33 percent of southern and western Asian students dropped out and 42 percent of Sub-Saharan Africa sees their children leaving school early. Whereas free global education for all children is an imperative goal, the way policies and institutes approach the goal should keep universal dropout rates in mind. The school enrollment and primary school completion statistics also shows a worry picture. About 42% of the African school children left school before the end of the primary education (Allie Knofczynski "Global Dropout Rates Aren't Improving''.*borgenproject.org,* Aug 2017, borgenproject.org/global-dropout-rates-arent-improving*/).* Somalia drop-out rate for primary education is 49.8% (UNICEF, 2016). Similarly, Somaliland has low primary total net enrolment rate which is 33.3% (MOE, 2014).

It is normal to send your children to school where there are schools, but the availability of schools is not guarantee either that all that students live in that area will attend or complete primary or secondary schooling. Even though, the common finding in developing countries is that the decision to go to school is closely related to the decision to work. Likewise, parent's education, household possession, and household head, marital status, child sex and household size are important demand side factors affecting the decision to go to school or drop out. Studies on schooling decisions have investigated several determinants for low levels of participation in primary schools and high rates of dropout. E. Hill *et all.* (2004) found that the employment status of parents and their schooling achievements increases their children's years of schooling. However mixed results have been obtained for whether a mother's or a father's schooling is more important in explaining school enrolment and completion by children Duraisamy (1988).

School progression is not only influenced by parent's education, but marital status is also another important variable, particularly, among girls affecting school enrolment and attainment. Studies show that early marriage and their families' need for them to work at home are the two most likely factors which will push a girl out of school permanently. (Rana Ejaz & Karamat, 2005) highlights problem for girls are augmented because of low value attached to female education coupled with severe restriction imposed on their movement after reaching the age of puberty and are compelled to stay at home tending to household chores and taking care of the younger siblings. On the other hand, higher rates of work force participation by women can also be expected to positively affect children's enrollment. The positive connection between employment, household possession and schooling of children is confirmed in a number of studies (Alderman *et all* 1996). Poor families are not sending their children or remove their children early from primary schools. It is not astonishing that Jayachandran (2002) found that poverty has a negative and significant effect on child schooling. Hanushek (1997) has similarly found that inadequate financial resources could negatively impact upon schooling choices. These studies provide support to explain why the economic contribution of children encourages parents to have

more children and discourages investment in their schooling. Similarly, this is the main reason of girls' early school drop-out in Somaliland.

A variety of studies in both developing and developed countries have again and again deep-rooted the contrary relationship between household size and the education of children Downey (2001). This study also tests for this key variable as a compartment of other socioeconomic factors. Experimental studies have traditionally employed ordered logit or probit analysis to estimate the determinants of child schooling. There are two inadequacies of these studies. Firstly, they use a static approach by employing ordinary or two stage least squares regressions to determine completed years of schooling, whereas enrollment is measured through univariate probit/logit models, and grades attained are estimated from ordered probit/logit models. Secondly, such an approach do not show the correct picture when it used explanatory factors to understand the different household decisions based on self-selection, as the child progresses through successive levels of schooling.

This study highlights the gap in the existing literature. It is important to notice that a clear understanding of the factors that enhance school attainment can improve the framework of future educational and development policies aimed at uplifting household living standards and school accessibility in Somaliland.

II. Literature Review

Education is a paramount importance and recognized as a key to improvement and an engine of growth Almendarez, 2011). Economists consider education as a consumer as well as a capital good (Gertler & Glewwe, 1990). Education as a principal good is related to human capital concept. (Wyatt & Frick, 2010) describes human capital as skills, knowledge, talents, attitudes and other obtained characteristics that add contribution to production. Similarly, Bhutoria, (2016) recognize three major components of human capital; early ability (can either be innate or acquired); qualification and knowledge learnt through formal education; skills, competencies and proficiency that someone acquires through on the job training. Consequently, individuals invest in human capital to enhance their economic and social productivity (Almendarez, 2011).

Investing in human capital involves some initial costs in which the individual or a firm expects a return in the future, either through increased earnings or higher firm productivity. Human capital is different from other assets since it receives returns equivalent to only the proportion of labour supplied by workers (Blundell et al., 1999). (Ishikawa & Ryan, 2002) says that it is the increase of human capital that mostly decides the returns of individuals. Human capital theory in economics was first practically applied by Rambaud and Richard in 2016. Becker (1964) developed a simulation of individual investment in human capital. According to him, human capital was the same as a physical means of production. Earlier Becker (1962) defined human capital investment as all activities that were likely to influence an individual's real income in the future. Human capital investment is therefore expenditure on education, information, health, training and labour mobility (Weisbrod, 1966). The theory of human capital suggests that training or education will raise worker's productivity by passing on valuable knowledge and proficiency, hence raising workers' lifetime income Becker (1964).

Human capital theory assumes that individuals are utility maximizers. Lifetime perspective is taken whenever a choice is being made regarding education (Ehrenberg & Smith, 2006). The individual is assumed to weigh against near term investment cost with the present value of anticipated upcoming gain when making the decision on schooling. An individual will tend to enroll schooling if the expectations of future gains exceed present costs incurred.

The theory predicts that people who consider future events with less importance, that is, those with low discount rate are less likely to enroll their children to school. The theory also points that enrollment to school is mainly by the younger ages in the society. This is because they will have larger advantage in present value terms relative to older ages in the society. Another prediction of the theory is that education demand increases is significantly related to individual's lifetime earnings. The most recent predictions of the model concern the cost borne to the investor. Investment in education will be completed if cost, that is direct cost (buying books and paying school fees) and the foregone earnings at present. For instance, if the tuition cost and foregone earnings fall, then enrollment is expected to increase (Ehrenberg & Smith, 2006).

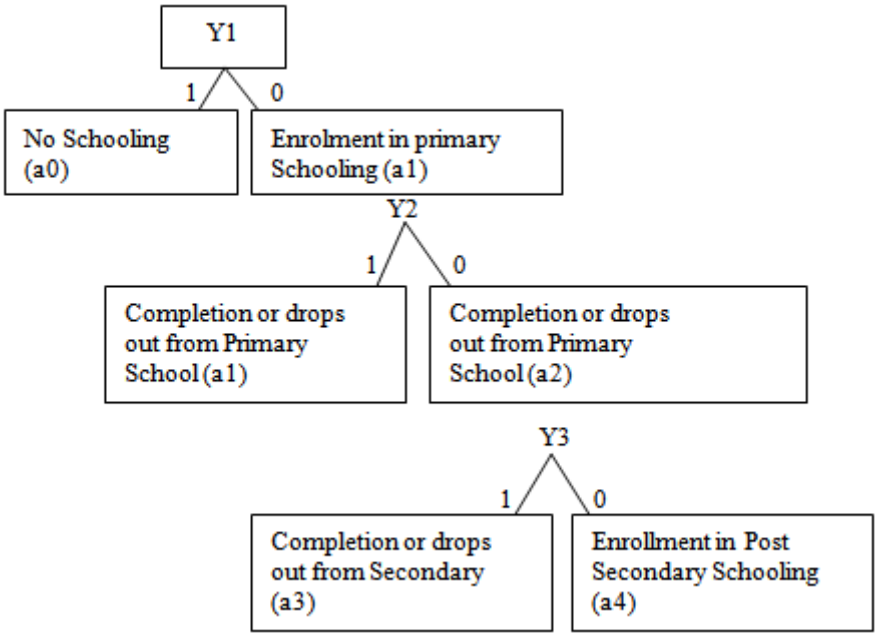
III. Methodology

3.1 Conceptual Framework

Earlier studies have either used ordered probit or a univariate logit approach (Ray, 2000b; Dreze and Kingdon, 2001; Patrinos and Psacharapoulos 1997). The standard ordered probit or logit models with their explicit structure limits the distributional effects a-priori lacking the likelihood "to let the data make sound". We need an algorithm that is effectively flexible such that the effect of socioeconomic variables on the probability distribution of child schooling is not fully influenced by functional structure. The sequential modeling approach of this study follows Waelbroeck (2003). The same technique has been used by Alpu and Fidan (2004) to approximate the determinants of infant mortality and Pal (2004) to study child schooling in Peru. This study reflects on a simple sequential model with three qualitative variables, y1, y2 and y3, which are observed

sequentially. Let *y*1, *i* 1 if the child has some primary level of schooling and 0 otherwise. Likewise, *y*2, *i* 1 if the child is some secondary level of schooling and 0 if child drops out before completing secondary schooling. Lastly let *y*3, *i* 1 if the child has college level of schooling and 0 otherwise. The sequential model is illustrated in Figure 1.

Figure1. The Sequential Model



Source: Adopted from Ozlem (2004)

For notational convenience, it is an assumption that data are sorted according to the values of y1, y2 and y3. In other words, the first n1 observations correspond to outcome a0 (y1=0) and the next n2 observations to outcome a1 or a2 depending on the value of y2, and the next n3observations to outcome a3 or a4 depending on the value of y3. We associate with stage j (1, 2 or 3) a latent variable y* $_{j,i}$ such that

$$y_{1,i} = \begin{cases} 1 \; if \; y^*_{1,i} \geq 0 \\ 0 \; otherwise \end{cases} \quad (1)$$

Continuous latent variables are represented as

$y^*_{1,i}$? x?$_{1,i}$?$_1$? ? ,$_i$ i=1,2…..,n

$y^*_{2,i}$? x?$_{2,i}$?$_2$? ? ,$_i$ i=n_1+1,…..n (2)

$y^*_{3,i}$? x?$_{3,i}$?$_3$? ? ,$_i$ i=n_1+2… …..n

Where the judgment to move from one stage to the next higher stage depends on a set of covariates Xi, which differ by the schooling decision, individual child, and also the household.

Here x_{1i} , $x_{2,i}$ and $x_{3,i}$ are vectors of independent variables of respective dimensions $h_{1*1,}$ h_{2*1} and $h_{3*1,}$? ?, ? ?, 3 are vectors of parameters to be estimated of respective dimensions h_0, h_1 and h_2?, and ?i, ? ? ,i and? ? i are the vectors of error terms[1]. We can write the model in matrix notations[2]. Let X_1 ? (x? $_{1,1}$? ,…, $x_{i,n}$), X? $_2$? (x? $_{2,1,…,}$$x_{2,n2,}$?) X_3 ? (x? $_{3,1}$?, …, $x_{3,}$ n? , ?)? ?(? ,$_{1}$?, ? …, ,?$_{n2}$? , (?), $_{1?}$? ,…, ,? n y?)$_1^*$ (y? $_1^*$ $_{, 1,…,}$$y_1$,$_n$,?) y_2^* (y? $_{2 ,1}$…,y2 ,$_{n2}$,?) y3* (y? $_{3 ,1}$,…, y3* ,$_{n.}$?)

Now, the latent model can be expressed as

Y$^?$? ? X? ? where y$^?$(y? $_1^*$, y? $_2^*$, y? $_3^*$?(? ?, ?)? $_1$?, ? $_2$? , ? $_{3,}$?)? ?(? ? $_1$? , ? $_2$?, ? $_3$ and?)?

$$X = \begin{bmatrix} x_1 & 0 & 0 \\ 0 & x_2 & 0 \\ 0 & 0 & x_3 \end{bmatrix} \quad (n_1 + n_2 + n_3)(h_1 + h_2 + h_3) \quad (3)$$

? $_1$? = (?$_{1i}$? ? $_{2i}$? ? $_{3i}$values? and covariance are? ?are assumed to be bivariate normal with mean (0,0,0) and covariance? independently and normally distributed with mean (0, 0, 0)

$$\begin{bmatrix} \sigma_{11} & \rho_{01} & \rho_{02} \\ \rho_{01} & \sigma_{22} & \rho_{12} \\ \rho_{02} & \rho_{12} & \sigma_{33} \end{bmatrix}$$

Where s_{11}, s_{22} and s_{33} denote the variances of the unobserved variable at each stage and ρ represents the covariance between the error terms.

First, it is noted that is diagonal, all latent variables are independent and the coefficient? when of the model can be estimated by three standard probit regressions. Second, multiplying each latent equation by a positive constant does not affect the qualitative variables y_1, y_2 or y_3. Hence, it is impossible to identify both location and scale parameters of these equations.

Therefore, it is needed to impose three restrictions. We have restricted (s_{11}, s_{22}, s_{33} =1) so that coefficients ρ have the natural interpretation of correlation coefficients.

The probabilities of the different choices are written as follows.

$$
\begin{aligned}
&P(y_{1,i}=0)=P(\varepsilon_{1,i}\le -x_{1,i}'\beta_1)=\varphi(-x_{1,i}'\beta_1)\\
&P(y_{1,i}=1,y_{2,i}=0)=P(\varepsilon_{1,i}>-x_{1,i}',\varepsilon_{2,i}\le -x_{2,i}'\beta_2,\rho)=\varphi_2(x_{1,i}'\beta_1,-x_{2,i}'\beta_2,\rho)\\
&P(y_{1,i}=1,y_{2,i}=1)=P(\varepsilon_{1,i}>-x_{1,i}'\beta_1,\varepsilon_{2,i}>-x_{2,i}'\beta_2,\rho)=\varphi_2(x_{1,i}'\beta_1,x_{2,i}'\beta_2,\rho) \qquad (4)\\
&P(y_{2,i}=1,y_{3,i}=0)=P(\varepsilon_{2,i}>-x_{2,i}'\beta_2,\varepsilon_{3,i}\le -x_{3,i}'\beta_3,\rho)=\varphi_3(x_{2,i}'\beta_2,-x_{3,i}'\beta_3,\rho)\\
&P(y_{2,i}=1,y_{3,i}=1)=P(\varepsilon_{2,i}>-x_{2,i}'\beta_2,\varepsilon_{3,i}>-x_{3,i}'\beta_3,\rho)=\varphi_3(x_{2,i}'\beta_2,x_{3,i}'\beta_3,\rho)
\end{aligned}
$$

where φ, φ_2 and φ_3 are cumulative distribution function (c.d.f.) of the univariate and bivariate standard normal distribution, respectively. If we assume that ε_1, ε_2 and ε_3 are independent, then Eq.(4) can be written as follows.

$$
\begin{aligned}
&(y_{1,i}=1,y_{2,i}=0)=P(\varepsilon_{1,i}>-x_{1,i}'\beta_1).P(\varepsilon_{2,i}\le -x_{2,i}'\beta_2)=\varphi(x_{1,i}'\beta_1).\varphi(-x_{2,i}'\beta_2)\\
&(y_{1,i}=1,y_{2,i}=1)=P(\varepsilon_{1,i}>-x_{1,i}'\beta_1).P(\varepsilon_{2,i}>-x_{2,i}'\beta_2)=\varphi(x_{1,i}'\beta_1).\varphi(x_{2,i}'\beta_2) \qquad (5)\\
&(y_{2,i}=1,y_{3,i}=0)=P(\varepsilon_{2,i}>-x_{2,i}'\beta_2).P(\varepsilon_{3,i}\le x_{3,i}'\beta_3)=\varphi(x_{2,i}'\beta_2).\varphi(-x_{3,i}'\beta_3)\\
&(y_{2,i}=1,y_{3,i}=1)=P(\varepsilon_{2,i}>-x_{2,i}'\beta_2).P(\varepsilon_{3,i}>x_{3,i}'\beta_3)=\varphi(x_{2,i}'\beta_2).\varphi(x_{3,i}'\beta_3)
\end{aligned}
$$

Using the probabilities given above, likelihood function of the sequential probit model is

$$L((\beta_1,\beta_2,\beta_3,\rho))=\prod_{i=1}^{n}p_{00,i}^{(1-y_{1,i})}p_{10,i}^{y_{1,i}(1-y_{2,i})}p_{11,i}^{(y_{1,i}y_{2,i})}p_{10,i}^{y_{2,i}(1-y_{3,i})}.p_{11,i}^{y_{2,i}.y_{3,i}} \qquad (6)$$

Taking the natural logarithm of likelihood function $L(\beta_1,\beta_2,\beta_3,?)$, we get.

$$
\begin{aligned}
&lnL(\beta_1,\beta_2,\beta_3,\rho)=\sum_{i=1}^{n}\{(1-y_{1,i})lnP_{00,i}+y_{1,i}(1-y_{2,i}).lnP_{10,i}+ \qquad (7)\\
&y_{1,i}.y_{2,i}.lnP_{11,i}+y_{2,i}(1-y_{3,i}).lnP_{10,i}+y_{2,i}.y_{3,i}.lnP_{11,i}\}
\end{aligned}
$$

If the error terms are independent (? 0), natural logarithm of likelihood function becomes

$$
\begin{aligned}
&lnL\beta_1,\beta_2,\beta_3=\sum_{i=1}^{n}\{(1-y_{1,i}).ln\varphi(-x_{1,i}'\beta_1)+y_{1,i}.(1-y_{2,i}).ln[\varphi(x_{1,i}'\beta_1)-\varphi(x_{1,i}'\beta_1).\varphi(x_{2,i}'\beta_2)] \qquad (8)\\
&+y_{1,i}.y_{2,i}ln[\varphi(x_{1,i}'\beta_1).\varphi(x_{2,i}'\beta_2)]+y_{2,i}(1-y_{3,i}).ln[\varphi(x_{2,i}'\beta_2)-\varphi(x_{2,i}'\beta_2).\varphi(x_{3,i}'\beta_3)]\\
&+y_{2,i}.y_{3,i}ln[\varphi(x_{2,i}'\beta_2).-\varphi(x_{3,i}'\beta_3)]\}
\end{aligned}
$$

It is easy to numerically employ the sequential probit procedure when the error terms are uncorrelated. But ignoring the selection rules causes biases. The natural logarithm of maximum likelihood function with correlated error terms is as follows:

$$
\begin{aligned}
lnL(\beta_1,\beta_2,\beta_3,\rho)=\sum_{i=1}^{n}&\{(1-y_{1,i}).ln\varphi(-x_{1,i}'\beta_1)+y_{1,i}.(1-y_{2,i}).\\
&=\ln[\varphi(x_{1,i}'\beta_1)-\varphi_2(x_{1,i}'\beta_1,x_{2,i}',\beta_2,\rho)]+y_{1,i}y_{2,i}. \qquad (9)\\
&=ln\varphi_2(x_{1,i}'\beta_1,x_{2,i}',\beta_2,\rho)+y_{2,i}.(1-y_{3,i}).\\
&==\ln[\varphi_3(x_{2,i}'\beta_2)-\varphi_3(x_{2,i}'\beta_2,x_{3,i}'\beta_3,\rho)]+y_{1,i}y_{3,i}ln\varphi_3(x_{2,i}'\beta_2,x_{3,i}'\beta_3,\rho)\}
\end{aligned}
$$

The estimators of sequential probit model is derived by maximizing likelihood functions of given equation (8) and (9) for correlated and uncorrelated error terms, respectively.

3.2 Empirical Model Specification

The empirical sequential probit formula for child schooling used in this study is stated as equation 10. The variables are selected based on critical literature review of studies that investigate child school drop and related topics. The dependent variable which is child schooling is multi-stage variable as explained in the sequential probit model while the independent variables are explained in Table 1. Table 1 represents the definition of variables. The empirical sequential probit formula for child schooling used in this study is:

$$
\begin{aligned}
&\text{Child Schooling (Edu)}\\
&=\beta_0+\beta_1(\text{b5\_9})+\beta_2(\text{pareducat})+\beta_3(\text{Married})+\beta_4(\text{Sex\_child})+\beta_5(\text{HHSIZE\_NEW})\\
&+\beta_6(\text{Electricity})+\beta_7(\text{Electricity})+\beta_8(\text{Washingmachine})+\beta_9(\text{Water})+\beta_{10}(\text{Gas})+\varepsilon
\end{aligned}
$$

Table 1: The Definition of Variables

Variable	Levels of variable	Variable code
Age	1,2,3….95	b5_9
Parental education	1= educated parent 0=Otherwise	pareducat
Household head	1= head of household 0=Otherwise	hh_head
Marital status	1= Married 0=unmarried	Married
Gender	1= Female 0=Male	Sex_child
Household size	1,2,3…..26	HHSIZE_NEW
Household level variables		
Electricity	1= Own electricity 0=No electricity	Electricity
Washing machine	1= Washing machine 0= No Washing machine	Washingmachine
Water	1= Piped water 0= No piped water	Water
Gas	1= Cooking gas 0= No cooking gas	Gas

Table 2: Results of the Sequential probit model of child schooling in Somaliland

Variable name	Primary schooling vs No schooling		Primary education to Secondary schooling		Secondary to College	
	Coeff.	P>|z|	Coeff.	P>|z|	Coeff.	P>|z|
HHSIZE_NEW	-0.001	0.00	-0.01	0.00	-0.01	0.00
Sex_child	-0.133	0.00	0.14	0.00	0.14	0.00
pareducat	0.63	0.00	0.51	0.02	0.51	0.02
hh_head	-0.18	0.00	-0.19	0.12	-0.19	0.12
Water	0.22	0.00	-0.12	0.00	-0.12	0.00
Electricity	0.62	0.00	-0.03	0.48	-0.03	0.48
Gas	-0.03	0.59	0.22	0.05	0.22	0.05
Married	-0.29	0.00	0.12	0.03	0.12	0.03
Washingmachine	0.35	0.00	-0.09	0.02	-0.09	0.02
b5_9	0.03	0.00	0.02	0.07	0.02	0.07
_cons	-0.86	0.00	-1.46	0.00	-1.46	0.00
	Number of obs = 51519 LR chi2 (10) = 6308 Prob > chi2 = 0.0000 Pseudo R2 = 0.0889		Number of obs = 28240 LR chi2(10) = 3426 Prob > chi2 = 0.0000 Pseudo R2 = 0.0909		Number of obs = 10944 LR chi2(10) = 73.76 Prob > chi2 = 0.0000 Pseudo R2 = 0.0110	

Table 3: Results of the Sequential probit model of child schooling (Urban)

Variable name	Primary schooling vs No schooling		Primary education to Secondary schooling		Secondary to College	
	Coeff.	P>|z|	Coeff.	P>|z|	Coeff.	P>|z|
HHSIZE_NEW	-0.001	0.50	-0.004	0.02	-0.016	0.00
Sex_child	-0.17	0.00	-0.005	0.76	0.16	0.00
pareducat	0.31	0.00	0.22	0.00	0.01	0.00
hh_head	-0.26	0.00	0.062	0.41	-0.18	0.17
Water	0.13	0.00	0.07	0.00	-0.12	0.01
Electricity	0.41	0.00	0.15	0.00	0.04	0.51
Gas	-0.05	0.26	-0.03	0.58	0.22	0.06
Married	-0.32	0.00	0.09	0.00	0.11	0.09
Washingmachine	0.32	0.00	0.13	0.00	-0.11	0.01
b5_9	0.04	0.00	0.20	0.00	0.022	0.01
_cons	-0.74	0.00	-4.18	0.00	-1.622	0.00

	Number of obs = 38716 LR chi2(10) = 2298.04 Prob > chi2 = 0.0000 Pseudo R2 = 0.0449	Number of obs = 24232 LRchi2(10)= 2865.05 Prob>chi2 = 0.0000 Pseudo R2 = 0.0875	Number of obs = 9857 LR chi2(10) = 77.09 Prob >chi2 = 0.0000 Pseudo R2 = 0.0129

Table 4: Results of the Sequential model of child schooling (Rural)

Variable name	Primary schooling vs No schooling		Primary education to Secondary schooling		Secondary to College	
	Coeff.	P>|z|	Coeff.	P>|z|	Coeff.	P>|z|
HHSIZE_NEW	0.01	0.01	0.01	0.02	0.02	0.12
Sex_child	-0.55	0.04	-0.03	0.46	-0.008	0.94
pareducat	0.03	0.00	0.09	0.01	0.04	0.03
hh_head	0.01	0.92	0.59	0.00	-0.33	0.41
Water	0.26	0.00	0.09	0.16	-0.002	0.99
Electricity	0.58	0.00	0.52	0.00	-0.35	0.00
Gas	-0.02	0.91	-0.06	0.84	0.34	0.56
Married	-0.18	0.00	-0.01	0.86	0.30	0.09
Washingmachine	0.85	0.00	0.25	0.00	-0.05	0.76
b5_9	-0.003	0.59	0.15	0.00	-0.04	0.08
_cons	-0.65	0.00	-3.79	0.00	-0.48	0.32
	Number of obs = 12803 LR chi2(10)= 1012.34 Prob > chi2 = 0.0000 Pseudo R2 = 0.0636		Number of obs = 4008 LR chi2(10) = 454.90 Prob > chi2= 0.0000 Pseudo R2 = 0.0971		Number of obs = 1087 LR chi2(10) = 16.85 Prob > chi2 = 0.0512 Pseudo R2 = 0.0230	

IV. Results and Discussion

In this study, determinants of school progression and drop-outs of the children in Somaliland are examined. The data used in the study was obtained from Somaliland households. There are a total of 247,587 participants in our sample in which 111,746 male and female children are in the age of 7- 22 years. This is the total possible population of children should be enrolled different levels of schools i.e. primary, secondary and college. We regard as three sequentially related transition decisions about schooling pertaining to enrolling in primary school, progressing to secondary school and finally pursuing college education. It was calculated from the PESS sample data of which 111,746 children in the age group of 7- 22 years, 53 % (59,743) has never attended school or dropped out very soon after enrolling it. 71,205 students who joined primary schools 64% (46,009) dropped out or did not progress to secondary. Those who did not progress to college levels included both those who could not finish secondary education as well as those who completed secondary schools but did not wish to pursue college education. Apart from school progression which was considered based on the 71,205 students who enrolled in primary schools, if we now consider educational attainment on the basis of the total sample population of 247,587 of which 111,746 children are potential students in the age of 7- 22 years, the survey reveals that 32% of children have some level of primary education while only 10% have some level of secondary schooling and only 1% of these children have college education.

It has been found that progression of schooling is significantly related to the parent's education across all levels of schooling. This is associated with the possibility of educated parent's positive view for child schooling. Similarly, the probability of school continuation of the child is positively and significantly related to the increase of the likelihood of older ages of the children's school progression. Household size has a negative and significant impact on child's schooling and enrolment and in showing high drop-rates of primary school. Another closely related issue and effect on enrolment is sex of the child. Sex of the child has also negative effect on child schooling, particularly, there is a gender bias against females at primary, secondary and college level of schooling. The results thus show that education of parents in Somaliland significantly improves the chances of primary education of their children. As literacy of parents is very low, our study provides strong evidence of relating persistence of illiteracy in families. This is not an ordinary finding and needs to be given emphasis to the context of the east African region. Illiterate parents do not have a positive reception for education for their children because they cannot see the link between education and earnings. For them the immediate and short-term anxiety is monetary survivability which is helped if their children are sent off for child labor. However, while it helps in the short term it certainly creates a nasty circle of illiteracy and poverty in the long run.

Basic economic problem of the household is a massive loss to educational access, specially examining the impact of household poverty on child schooling by using a number of variables: Availability of electricity, gas, safe drinking water and washing machine – four binary variables. It has been found a strong positive relationship between a household's possession and child school progression. The positive coefficients

of household possessions indicate that schooling is a normal good and the growth in living standards will increase enrollment as well as school progression. Households with better economic condition give more weight to education as they can afford the cost of schooling. Thus, the probability for children to attend school from such households is high. Likewise, results also highlight the importance of standard of living variables or poverty related variables. It was found that amenities such as electricity, gas and washing machine are positively related to schooling entails that decrease in relative poverty increases the probability of child schooling. The result suggests that there are other factors such as marital status has negative impact on the schooling decision.

V. Conclusion and Recommendation

The estimated results suggest that parent's education and standard living variables such as availability of electricity, gas, safe drinking water and washing machine significantly affect child schooling in our study. Conversely, these factors affect various levels of schooling differently with respect of the correlated nature of sequential school progression. Some important lessons and proofs arose from the results displaced in the study. There is a positive association between standard living variables and child school progression and literate parents are more likely to send their children to school. All three levels of schooling were found to be closely associated with the parent's education. Similarly, results presented in this study relates to the potential social and economic benefits of improving education, particularly parent's education, in rural areas. The availability of school going incentives and subsidies as well as the provision of public schools in rural areas will surely neutralize the negative impact of girls' enrolment on schooling in rural areas. Without economic and financial support to the poorer parts of society, educational policies will surely not succeed as parents will continue to alternate child labor for education of their children .The study highlights that an increase in the number of married child discourages enrollment and encourages drop outs. This calls for a practical and effective fertility control programme by the government which has been neglected so far and has contributed to illiteracy and poverty. Moreover, the study once again verifies that policy interventions are highly needed to focus on improving female enrollment and reducing the gender biases.

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