Title: Correlates of School Dropout in Ethiopia: Family and School Factors
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Background

Universal access to primary education was one of the Millennium Development Goals (MDGs) envisioned by the United Nations, to be reached by 2015. In most developing countries low primary school enrollments, high gender and regional disparity, low quality of education and high dropout rate remain major challenges. Ethiopia has currently one of the lowest primary and secondary school enrollment rates in the world, thus attaining universal primary education in the country requires great efforts. Nevertheless, Ethiopia has made huge jump in primary school enrollment in the 1990s. Gross and net primary enrollment rates increased from 24 and 17.8 percent in 1994 to 57 and 48.8 percent in 2000 respectively (World Bank, 2004a). This achievement has been largely attributed to the New Education Policy adopted in 1994, which include significant expansion of new government schools. However, educational quality declined in most respects over the same period, due to shortages of qualified teachers and access to textbooks, and overcrowded classrooms (Woldehana, et al., 2006). In addition to the poor quality of education, in most rural areas the nearest available schools are still faraway. As a result, primary and secondary school dropout rates increased from 13.3 and 14.3 percent in 1996 to 14.7 and 15.4 percent in 2000 respectively (Welfare Monitoring Survey, 2004). Although these figures declined to 12 and 13.5 percents respectively in 2004, they were still very high and above the targets set by the education policy of the country.

The family is the most important institution that provides care and support to children including education. Families in developing countries are, however, under increasing pressures of ever worsening poverty and deteriorating health conditions that threaten its very existence. Poverty is increasing in many developing countries despite efforts by the international community to come up with measures aimed at reducing the severity of the problem. The onset of the HIV/AIDS pandemic and its devastating consequences has depleted families' coping capacity and thrown it into total disarray. In addition to sever poverty and the impact of HIV/AIDS, most families have been exposed to natural and manmade disasters such as recurrent famine and civil conflicts and wars.

Significance of the Study

Theoretically, school completion is an individual/parental choice affected by three main factors (Connelly and Zheng, 2003): demand for education; supply of education services; and government educational policies. Demand for education is shaped by a household's decision to send children to school which is based on an assessment of opportunity costs of education. Cost may be direct expenses for school fees, clothing, and transport cost as well as indirect costs in terms of opportunities forgone (including forgoing wage income or working at home). Children may also quit school for supply-side reasons, such as the distance to the nearest available school and quality of education such as availability and quality of textbooks and instructional materials, teachers' qualifications and classroom settings. Government policy may also affect the demand for, and supply of education by influencing spatial distribution of schools, quality and cost of education.

Poverty, family shocks such as illness and/or death of family members, household size and family structure are the main family factors identified in the literature that impact on school completion rates. Household poverty is a major factor keeping many children out of school. Destitute families often cannot afford to send all their children to school or may withdraw children after some level of education.

Even in the case where primary education is free, hidden costs such as books, supplies, uniforms or food may hinder sending children to school. Other indirect costs such as lost income or household labor derail children's chance of attending school. In Sub-Saharan Africa, with high prevalence of HIV/AIDS, many children are regularly taken out of school to care for ailing parent(s) or sibling(s) or forced to work to replace lost income. Since HIV is often transmitted to sexual partners, children are more likely to lose both parents to AIDS. In the absence of capable adult caretakers, older children (usually girls) take on responsibility for the survival of younger siblings and are forced to quit schooling. Since the care that older siblings can provide for younger children is likely to be inadequate, other siblings may also dropout of school. Household size and family structure are important because household resources are shared among members for different expenses including education.

On the other hand, school characteristics such as distance and quality of education are important factors of school enrollment and completion probability. Distance of the nearest school from the homestead negatively impacts attendance and dropout rate, especially in rural areas and among girls. In areas where girls are victims of sexual harassment, families are afraid to permit daughters to travel long distance on unsafe roads or live away from the family. As a result, girls may be forced to dropout of school and marry at early age. Access to quality education is an important factor because 'returns to schooling' is dependent on child's acquisition of basic skills and knowledge. If the household perceives that school cannot provide children with such basic skills, they may decide that an investment in education is not worth the small return (World Bank, 2004). Poor school quality may thus discourage households from sending their children to school, instead they prefer to take children out of school and involve them in income generating activities or house work.

However, the combined effect of family and school factors, and their relative influence on school dropouts have not been investigated and documented for the Sub-Saharan African countries. Most research done in the region mainly focused on individual characteristics and small geographical locations such as districts or on few schools. Specifically, there is little nationally representative information on the possible correlates of school dropouts in countries such as Ethiopia, which are undergoing radical political and social changes and are carrying out education sector reforms.

Objective and Research Questions

The objectives of this paper are to identify and analyze family and school factors related to school dropouts in Ethiopia, their differential effects by gender and region. Specifically, it addresses the following questions:

1. What is the relative importance of household poverty and distance to school in determining primary and secondary school dropouts?
2. How do household characteristics such as poverty, household structure and size, sex of household head, household shocks, and survival status of parent relate to school dropouts of children? Do these factors have differential effects for boys and girls?
3. Are perceived quality of the education by parents such as lack of teachers, shortage of books, overcrowding of classrooms and poor teaching methods associated with the probability of school dropout?
4. Does distance to the nearest available school have differential effects on boys' and girls' school dropout? Does it contribute to regional disparity in school dropouts?

Data and Method

The data for this analysis come from the 2004 nationally representative Welfare Monitoring Survey (WMS) of Ethiopia conducted by the Central Statistical Authority of Ethiopia. The survey covered all regions except the two non-sedentary regions (Afar and Somali regional states), and collected data from 12,148 households with 99 percent response rate. The survey collected detail data on education such as literacy /numeracy status, highest grade completed, previous and current school enrollment, completion and repetition of grade, school type, distance to school, quality of education, and reason for dropout. The survey also provides data on basic demographic characteristics, illness/health status, housing and house amenities, indicators of living standard, orphanhood, household vulnerability to food insecurity and HIV/AIDS, and access to basic facilities/social services. These variables are strong predictors of dropping out of school in many societies (Sibanda, 2003; Chaudhury et al, 2006; Woldehanna et al, 2006).

To examine and understand the effects of family- and school-level factors on the likelihood of dropping out of primary and secondary schools both descriptive and multivariate statistics will be employed in the analysis. Descriptive bivariate analysis, using graphs and cross tabulations, will help to examine the association between the dependent variable (school dropout) and major independent variables. For multivariate analysis, a Cox proportional hazard model will be used to analyze the effects of family and school-level variables on the risk of school dropout. The model estimates a hazard for dropping out of school conditional on previous year enrollment among children from the total sample. In the survey, a person is considered to be a school dropout if s/he is registered in a formal school just before the survey year and did not show up for the exam at the end of the year or sat for the final examination but have failed to register during the survey year.

The Cox proportional hazard model provides estimates of hazard ratio which is interpreted as a risk multiplier. Separate hazard models will be fitted for primary and secondary schools, as well as for girls and boys. The main independent variables include household size, family structure, wealth-index, sex of household head, household shocks, orphan-hood status, and distance to school, school type, and perceived quality of education. Controls for individual-child characteristics such as age, birth order will be included. In addition, dummies for regions will help to control for unobservable factors, including the cultural and geographical characteristics for each region and any variation in education policies.

Based on theoretical and empirical literature review I have formulated the following hypotheses:

1. Children from poorer households are more likely to dropout of school due to both direct and indirect or opportunity costs of schooling.
2. Children whose parents, particularly mothers, are educated are more likely to continue their education and are less likely to dropout of school.
3. As a household with a large family size could have access to adults' labor in the household, the lower demand for child labor may contribute to reduce the likelihood of school dropout.
4. Distance to school from child's home increases the probability of dropout, and it may be more so for girls than boys.
5. Poor quality of education and school environment discourage households from sending their children to school and increases the risk of dropout.
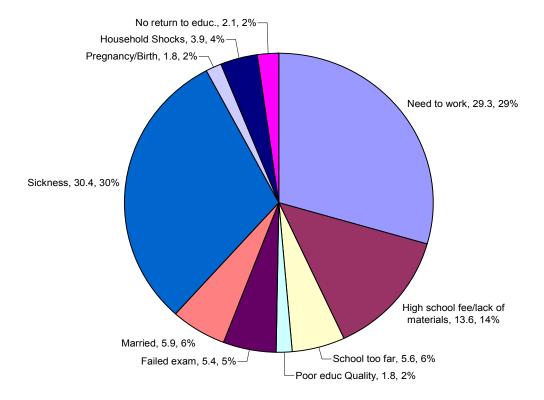
Preliminary Results

Table1 below presents primary school dropout rates by gender and household characteristics. The dropout rate from primary school at country level is 11.8 percent, wide gap is observed between rural and urban areas with 13.3 and 5.0 percent respectively. Comparison by gender shows that, in general males have higher school dropout rate than females. For instance, at national level, primary school dropout rate exceeds that of females by about 2 percent (12.5 and 10.8 percent respectively).

The result also shows regional variations with the highest dropout rate observed in SNNPR (14.3 percent) followed by Oromiya (10.2 percent), and the lowest in Addis Ababa (4.2 percent). In the rest of the regions the rate ranges from 6.7 in Dire Dawa to 9.5 percent in Harari. As family size increases school dropout rate decreases for both males and females. Less demand for child labor among large family size households as they may have better access to adult labor could be a possible explanation for the negative relationship. As opposed to the expected result, female headed households have lower child dropout than male headed ones. Parental orphanhood status does not show substantial variation in the chance of dropping out of school. Children whose parents are alive has slightly lower risk of dropout (6.8 percent) compared to those orphaned to both parents (7.5 percent) and no difference is observed by gender of child. Education of household's head has substantial effect in reducing the dropout rate for both boys and girls.

Table1: Primary School Dropout rates by Household Characteristics.

Background characteristics	Male	Female	Both Sexes
Family Size			
1-3	14.4	11.8	13.1
4-6	9.8	7.5	8.8
7+	8.8	7.1	8.0
Sex of HHD head			
Male	10.8	8.4	9.8
Female	9.2	8.3	8.7
Parental Orphanhood			
Parents alive	7.5	6.7	6.8
Paternal orphan	6.8	7.0	6.9
Maternal orphan	7.5	7.5	7.5
Orphan to both	8.0	6.8	7.5
HHD head education			
No Formal educ.	11.2	9.2	10.4
Grade 1-6	11.5	9.1	10.4
Grade 8-12	3.6	5.2	4.5
Above grade 12	2.0	4.0	3.1
Region			
Tigray	8.9	9.5	9.2
Afar	6.9	8.4	7.5
Amhara	9.6	8.0	8.8
Oromiya	10.5	9.3	10.2
Somale	8.2	8.7	8.5
Ben. Gumuze	8.0	8.2	8.4
S.N.N.R	16.3	11.3	14.3
Harari	10.2	8.4	9.5
Addis Ababa	4.2	4.2	4.2
Dire Dawa	7.5	8.4	6.7
Place or Residence			
Urban	4.8	5.2	5.0
Rural	14.4	12.2	13.5

School dropouts were further asked to state their reasons for withdrawal from school in the pervious year. As shown on figure 1, the two major reasons mentioned were sickness (30.4 percent) and need to work (29.3 percent), together comprise about two-third. High percentage response of sickness as a reason to dropout may attribute to the high incidence and prevalence of infections and parasitic diseases such as malaria and diarrhea. Where as a reason need to work may associate household poverty and a need of supplemental income from children's work. High school fee and lack of materials is also another indicator of poverty, mentioned to be a reason for school withdrawal by 14 percent of the respondents. Distance to school, grade repetition, household shocks, being pregnant/give child birth (for females), and poor quality of education are also mentioned in that order of importance.

Fig1: Percentage Distributions of Reasons for School Dropout