Title: Orphan Status and School Enrollment in Rural Western Kenya

Background and Problem

Increase in adult mortality due to HIV/AIDS has been a matter of concern for the past two decades, particularly in sub-Saharan Africa, which is hardest hit by the epidemic. One of the main concerns is the impact of the associated increase in adult mortality on children (UNAIDS, UNICEF and USAID 2004). While the effect of these deaths on children may be wide ranging, I focus on studying the impact on children's school enrollment.

The loss of parents has potential serious current and long-term negative consequences for children as it could put them at risk of attaining less than favorable schooling outcomes as a result of being orphaned. Low education attainment is associated with a number of negative life course outcomes such as lower socio-economic status and worse health outcomes. However, previous studies that have been done on the subject have returned mixed results with some showing significant orphan disadvantage while others have shown little or no significant difference in schooling outcomes for orphans as compared to non-orphans (Case and Ardington 2006; Evans and Miguel 2007; Monasch and Boerma 2004; Ainsworth, Beegle and Koda 2005; Yamano, Yasuharu and Sserunnkuuma 2006).

Resource constraint is a major factor in determining school enrollment in Sub-Saharan Africa. Often, school fees are beyond the means of significant portions of the population. However, in the event that there is provision of free education by government, this obstacle to school enrollment is removed.

The main objective of this paper is to investigate the impact of parental death on children's school enrollment in the context of provision of Free Primary Education in a rural setting in Western Kenya afflicted by a high prevalence of HIV/AIDS.

Theoretical Underpinning

It has been posited in some quarters that the significant obstacle to school enrollment in developing countries is poverty (Ainsoworth and Filmer 2006). Taking this into account I take the model which on one hand views investing in children's education as being constrained by an actual lack of resources. On the other hand are other factors such as discrimination, opportunity costs considerations, living arrangements and psycho-social factors.

While the case of resource constraint to investment in children's education would affect all children from poor backgrounds, some researchers have found that orphans are likely to be selected into living arrangements that place them in poorer households (Nyambedha et al. 2003; Case and Ardington 2006; Evans and Miguel 2007) thus putting them at greater risk of not being enrolled in school.

Looking beyond resource constraint, there is the issue of discrimination that may negatively influence the schooling of orphans. Case et al. (2004) find evidence of intra-household discrimination of fostered children when compared to own children of the foster parents in the level of investment in the children's education. This kind of discrimination may manifest itself elsewhere such as when foster parents make opportunity costs considerations of whether a child should go to school or contribute to household labor.

In addition, orphans schooling is likely to be negatively influenced by other factors like the disruption of their living arrangements when they are forced to move because of the death of a parent. Psychological trauma due to the death of a parent is likely to affect the orphan too. In addition, where parental death is via a cause like HIV/AIDS, the child not only suffers trauma

but learning in some cases is disrupted where the child has to take care of the parent or drop out to contribute to the household economy (Ainsworth et al. 2005; Evans and Miguel 2007).

I make use of this framework where resource constraint has largely been taken off the equation to tease out existing disadvantage of orphans in school enrollment if any in the context of free primary education.

Data and methods

The data is drawn from the Kisumu Health and Demographic Surveillance System (KHDSS), an ongoing longitudinal study in rural Western Kenya that is a collaborative effort between the Kenya Medical Research Institute (KEMRI) and the Centers for Disease Control and Prevention (CDC). The area is characterized by high poverty rates, high HIV prevalence and a significant proportion of adult deaths are attributed to AIDS.

I will be using a one year snapshot of data related to individuals and households from 2004; one year after the free primary education is introduced. The data includes basic demographic characteristics of children of primary school going age (6-13 years old), their school enrollment status, and parents' survival status (whether dead or alive), their household socio-economic status and household size for the year. These data are collected at household level through face to face interviews.

Quantitative methods are employed for analysis of the data. Beyond descriptive statistics, I make use of logit models to predict school enrollment, coded 1 for currently enrolled and 0 otherwise. The main predictor variable is orphan status which is modeled as a series of dummy variables to account for non-orphans, double, paternal and maternal orphans. Other predictor variables in the final models include age, sex, and education of household head, sex and age of household head, household wealth, and household size.

Further, I transform obtained coefficients to predicted probabilities making simulations to provide substantive insights from the results.

Results and Conclusions

The results indicate that net of other variables, being an orphan is significantly associated with not being enrolled in school. Therefore despite the introduction of free primary education in Kenya, orphans who are meant to be enrolled in primary school are less likely to be so than their non-orphan counterparts. Other statistically significant results show that controlling for other variables, older children are more likely to be enrolled in school, girls are more likely to be enrolled in school than boys, and households that are wealthier, smaller in size, have an older head of household, have a female as the head of the household or have a head of household with greater than primary school level education respectively, are more likely to have children enrolled in school.

For the simulations, I held the age constant at six years, the official primary school entry age in Kenya. This helps to capture the reality of late school enrollment and discounts grade repetition that cannot be identified using these data. The simulations suggest substantial influence by some household level variables. A child in a household at the 90^{th} percentile value of the household wealth index has an 85% chance of being enrolled in school as compared to 68% for one in a household at the 10^{th} percentile value of the household wealth index. Children in households where the head has greater than primary school level education have a 78% chance of being enrolled – 10% more than if the head has attained primary school level or less. 90^{th} percentile value of household size predicts an 80% chance of enrollment as compared to 74% for

the 10th percentile value. Being in a female headed household gives the child an 84% chance of being enrolled as compared to 78% in a male headed household. On the other hand, much smaller differences are obtained for the sex and orphan status of the child. A girl has an 81% chance of being enrolled in primary school as compared to 78% chance for a boy. Notably for this study, having both parents alive confers just a 2% advantage over an orphan in predicted school enrollment rates with the former having an 81% chance of enrollment.

In conclusion, being an orphan puts a child at greater risk of not being enrolled in primary school, even where the government provides free primary education. However other variables too provide significant barriers to children's education and in some cases these may be considerably greater than the influence of being an orphan. It therefore behooves policy makers to strike a balance between targeted programs aimed at helping orphans and those that take into consideration other children who might be disadvantaged in other ways such as belonging to poverty stricken households.

Logit Regression of Primary School Enrollment in Rural Western Kenya, 2004

	Model 1	Model 2	Model 3
Variables	Coefficient	Coefficient	Coefficient
Orphan	0.110*	-0.089	-0.167**
	(-0.051)	(-0.053)	(-0.057)
Age of Child		0.628***	0.625***
		(-0.016)	(-0.016)
Child is Male		-0.174***	-0.191***
		(-0.048)	(-0.048)
Household Wealth			0.235***
			(-0.019)
Household Size			-0.057
			(-0.011)
Age of Household Head			0.004*
			(-0.002)
Household Head is Male			-0.427***
			(-0.054)
Household Head Education > Primary			0.492***
			(-0.085)
Constant	2.734***	-2.300***	-2.689***
	(-0.027)	(-0.12)	(-0.155)
N	34024	34024	34024
Pseudo R^2	0.000	0.165	0.182

Notes: Standard errors in parentheses.

***p<0.001, **p<0.01, *p<0.05

References

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