HIV/AIDS and Adolescent's School-Work Choices in Malawi

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Introduction

Malawi is facing one of the world's most severe HIV/AIDS Pandemics. With an estimated prevalence rate of 14.2%, it ranks eight in the world following Swaziland 38.8%, Botswana 37.3%, Lesotho 28.9%, Zimbabwe 24.6%, South Africa 21.5%, Namibia 21.3%, and Zambia 16.5% (PRB 2005). About 900,000 Malawians were infected with HIV/AIDS by 2003 (NAC 2004). In 2003, there were about 110,000 new infections and 87,000 deaths due to HIV/AIDS. The disease has potentially a devastating impact on the lives of both those affected and surviving family members. For example, Garbus (2003) stated that reports by recent missions to Malawi cite 'taking children out of school' as one of the coping mechanisms to the HIV/AIDS epidemic. Evidence of this is mixed. Doctor (2004) found no statistically significant difference between enrollment of orphans and non-orphans. He mentioned existence of effective extended family structure as explanation for this. However, Garbus (2003) reported that HIV/AIDS, poverty, macroeconomic policies, and food shortages have rendered traditional coping strategies (informal safety networks of the extended family systems), irrelevant. Some evidence seems to point in this direction as Nankhuni (2005) found that incidents of past deaths and serious illnesses in a household are associated with lower probabilities of school enrollment for Malawian children aged 6-18 years but higher probabilities of work participation for children aged 10-18 years.

Background

Due to increased adult mortality, there is a growing number of orphans in Malawi. The number of orphans (below 18 years old) regardless of cause has increased from 560,000 in 1990 to 1,000,000 in 2003.

Study objective

To quantify the impact of HIV/AIDS on children's schooling:

- Probability to enroll in school
- Absenteeism
- Hours on school work versus domestic and paid work

Difficulties associated with measuring AIDS impacts

- Data limitations: Use of cross section data instead of panel data. Since there is no information on household characteristics before the occurrence of an incident (of orphan hood, death of PA adults or illness of PA adults), estimates may be biased if these ex-ante conditions are not controlled for. Bias also exists due to endogeneity of adult mortality due to HIV/AIDS. HIV mortality may be influenced by behavioral choices rather than exogenous events (say drinking alcohol or high mobility). These behavioral factors also affect the variables of interests being studied, such as schooling of children. Panel data techniques can help resolve all or some of the endogeneity issues (Chapoto and Jayne 2005).
- Identification of affected families: This is more obscured in extended family systems where deaths or illnesses in a household affect a wider circle of

individuals. Household dissolution due to illness or death also complicates identification of affected versus unaffected households (de Waal 2003, Mather *et al*. 2005).

Methodology

Theory

HIV/AIDS affects children's schooling negatively if:

- AIDS orphans are at risk of lower investments as non-biological parents may not be as altruistic towards them as biological parents.
- AIDS orphans or affected children reside in low income households due to drain on household resources caused by AIDS illnesses and deaths. This may require them to work more at the expense of schooling.
- AIDS orphans or children living in affected households are negatively affected, psychologically.

Data

- Malawi Integrated Household Survey 2 (IHS2)-2004/2005, a nationally representative survey of 11,280 households with 3,056 children aged 15-17 with comprehensive information on health status of individuals, schooling of children and adults, incidence of deaths in past two years, and household economic variables, is used.

Estimations

- Probit regression models for children's probability of school enrollment and absenteeism are estimated.
- Tobit regression models for hours on school, domestic work, and paid work are estimated.
- Explanatory variables include: orphan status, living arrangement for children (orphan living with one parent, double orphan, virtual double orphan, that is, orphan who does not live with the surviving parent, non-orphan living with one parent, and non-orphan not living with any of their parents), children's age and gender, household characteristics: poverty status, head's sex, head's education, region of residence, household deaths in past two years and household illnesses including illnesses with AIDS symptoms and chronic illnesses.

Results

HIV impacts on school attendance (Figure 2)

- Selected regression results for adolescent's schooling are presented in Figure 2. The dependent variable is a dummy variable with value equal to 1 when an adolescent aged 15-17 years reported that they currently attend school, or if school is not in session, they reported that they attended school in the session that ended and also plan to attend school in the next session. The variable is equal to zero otherwise. About 70% of the adolescents attend school.
- The figure maps selected statistically significant marginal effects (in percentage change points) evaluated at the mean of the independent variable.

- Incidence of PA-death in past two years and current illnesses in the household do not significantly affect probability of attending school. The impact of parental death is, therefore, captured through the orphan variables.
- The probability of an orphan living with one of the surviving parent is 7.3 percentage points lower than that of children living with both parents. A double orphan or 'virtual' double orphan is 16.6 percentage points less likely to attend school, while a non-orphan living with one parent is 14.1 percentage points less likely and a non-orphan living with none of the parents is 29.3 percentage points less likely to attend school.
- When the regression is estimated separately for boys and girls, the impacts are particularly large for adolescent girls who do not live with any of their parents – the orphan adolescent girls not living with a surviving parent are 20.5% less likely to attend school while those adolescents fostered out even though their parents are living are 40.5% less likely to attend school.
- Other factors associated with lower probabilities of school attendance are age, being female, coming from a poor household, and coming from the south and central region compared to north region. Factors associated with higher probabilities of school attendance are coming from a female-headed household, and coming from a household where the head completed primary or secondary school education or higher.

HIV impacts on absenteeism (Figure 3)

- For the adolescents that attend school, a probit model was estimated and selected results are mapped in Figure 3. About 26% reported missing at least one day of class in the past two weeks.
- None of the orphan variables are significant in affecting probability of an adolescent being absent.
- Adolescents from female-headed households have 5.6 percentage points higher likelihood of being absent from school, probably reflecting labor constraints in these households.
- Higher probabilities of being absent from school are also associated with being in a household that had a member that was seriously ill in the past two weeks prior to interview date (6.6%) or had a chronically ill individual that has HIV symptoms (6.6%), that is, the individual reported having chronic malaria, TB, HIV/AIDS, sores that do not heal, pneumonia, pain of limbs joints and swellings, STDs as well as responding "yes" to questions like "Have you lost a lot of weight recently? Are you usually feverish?" etc.
- Adolescents from households whose head had completed secondary or higher education are less likely to be absent from school.
- The south and central which are normally associated with less schooling are surprisingly associated with less probabilities of absenteeism.

HIV Impacts on school hours (Figure 4)

- In Figure 4, all orphan and fostering variables are associated with less hours spent in school work in the day prior to the interview day (1-2 hours less). Girls spend less hours in school but adolescents from female-headed households and households with a head that completed secondary and higher education spend more hours in school.

HIV Impacts on domestic and paid work hours (Figures 5 and 6)

- Adolescents were asked how many hours they spent on chores such as cooking, laundry, cleaning, collecting fuel wood, collecting water, and the like, in the day before the interview date. They were also asked how many hours they spent in casual paid labor 'ganyu' and any other paid work in the past two weeks.
- Double or virtual double orphans and non-orphans living with no parents spend about half an hour more per day on domestic work than children living with both parents or orphans living with one parent. However, double or virtual double orphans and non-orphans living with no parents spend significantly more hours (10-13 hours more per week) on paid work.
- Girls spend about 3 hours more per day on domestic work compared to boys while boys spent about 12 hours more on paid work.
- Adolescents from households where a member was ill and stated that they needed help (required someone to stop their normal activities in order to care for them) spent less hours on domestic work. This may be due to the way data on domestic

chores was collected. There was no direct question on hours spent on care for sick members of the family, so that domestic work potentially missed these hours.

- Adolescents from households where a member was chronically ill with AIDS symptoms spent about 4 more hours on paid work per week.

Conclusions

- Orphans and non orphans who do not live with their parents are disadvantaged in their school enrollment and hours spent on school work. Adolescent girls who do not live with any of their parents are also particularly disadvantaged in their school enrollment, having a probability to attend school that is 40.5 percentage points lower than girls living with parents.
- Double and virtual double orphans and non-orphans not living with any of their parents are also disadvantaged in their work loads as they spend more hours on domestic and paid work.
- Chronic illnesses associated with HIV/AIDS symptoms in the household are associated with higher probabilities of adolescents' participation in paid work and higher probabilities of being absent from school.
- These results show that the HIV pandemic in Malawi is contributing to low investments in children and can potentially cripple the already weak human capital of Malawi.
- The results also suggest that the extended family system normally cited as an effective means of caring for AIDS orphans is weakening due to stress from increased orphans and the general low economic status of most Malawians (since

even parents that are living foster-out their children and these children are less likely to attend school, spend less hours in school, and work more hours).

- The results also show that girls work about 3 hours more per day on domestic work than boys while boys work about 12 hours more per week on paid work. Only about 13% of the children are involved in paid work while domestic work is prevalent (about 66%).
- Children from female-headed households do better in school enrollment and school work hours but they are more likely to be absent from school or to be involved in paid work. This result suggests better investments in children by female members of the household, despite labor and income constraints that these households may be facing.
- Children from the central and south have lower enrollment probabilities than those from the north. The north has lower poverty rates, higher literacy rates and lower HIV prevalence compared to the south and central. However, even after controlling for these variables through the household poverty variable, head's education and orphan and HIV illness variables, the north still has higher probabilities of enrollment. Availability of environmental resources in the north (such as fuel wood) partly explains this advantage as shown by Nankhuni and Findeis (2004).

Study Limitation

- The study uses cross-section data to explore differences in school and work probabilities and hours between orphans, non-orphans and children in different

parental living arrangements, as well as between children who live in a household that is likely to be affected by HIV (that is, a household where an adult died in the past two years, or where an adult is chronically ill and has AIDS-related symptoms, or a household where someone is currently seriously ill and/or needs help from someone who has to stop their normal activities) and one who lives in non-affected households. The associations do not necessarily imply causation but they are important in showing ex-post differences between affected and non-affected children and households.

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Poster layout

HIV/AIDS and Adolescents' School-Work Choices in Malawi
Name and Affiliation

Introduction

Background

Figure 1: Chart showing increase in # of orphans (1990-2003)

Study Objectives

Difficulties associated with measuring HIV/AIDS impacts

Methodology

Theory

Data

Estimations

Results

Figure 2: Chart showing results of Probit model for school enrollment

Picture of Malawian children in a rural classroom

Figure 3: Chart showing results of a Probit model for school absenteeism

Figure 4: Chart showing results of a Tobit Model for hours spent on school work

Picture of a boy carrying bananas (to a market)

Figure 5: Chart showing results of a Tobit model for hours on domestic work

Figure 5: Chart showing results of a Tobit model for hours of paid work

Results continued

Results continued

Conclusions

Acknowledgements