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Breaking the Net: Family Structure and Street Children in Zambia

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Abstract

The safety net provided by the African extended family has traditionally been the basis for the assertion that “there is no such thing as an orphan in Africa” (Foster 2000). The assumption is that even families lacking sufficient resources to properly care for existing members are predisposed to take in orphans. Chronic poverty, coupled with an increasing malaria burden and the HIV/AIDS pandemic, has put this safety-net under severe strain, giving rise to an increasing number of orphans and vulnerable children and, in the extreme, to “street children.”

Drawing on original fieldwork in the slums of Ndola in Northern Zambia we study the role of family structure in caring for vulnerable children. We try to isolate those features of a child’s nuclear and extended family that put him most at risk of ending up on the streets. We find that older, male children and particularly orphaned children are more likely to wind up on the street. Families with a male household head who is in poor health are more likely to originate street children. The educational level, age and employment status of the male head of household has little impact on the likelihood the family is associated with a child who has taken to the street. In contrast, households with surviving maternal grandparents or with a male head who has many sisters are significantly less likely to originate street children.

These findings support the critical role that women play in poor countries, highlighting the importance of policies aimed at empowering women. At the same time, our findings show that policies aimed at improving the health of the male head of household can also yield important benefits. A back-of-the-envelope calculation suggests that moving male heads from poor to good self-rated health status can increase the rate of GDP growth by as much as 0.20 to 0.33 of a percentage point per year.

Keywords

Africa, poverty, extended family, orphans, street children, human capital.

JEL Classifications: I3, J12, J13, O12.

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1. Introduction

As AIDS has devastated the population of prime age adults in many African nations, one important spillover effect has been an increase in orphans or otherwise vulnerable children. The increase in the ranks of vulnerable children has compounded the negative consequences of this health crisis. Vulnerable children have much lower human capital (in terms of both schooling and health) than non-orphans and even orphans cared for by members of their extended family. They thereby contribute to the intergenerational transmission of poverty far and above their parents' direct contribution.

Street children represent a particular subcategory of orphans and vulnerable children (OVC) as they typically lack regular family support. The number of street children in Zambia almost doubled over the 1990s. National studies conducted in 1991 and 2004 estimated the number of street children in Zambia to be approximately 35000 and 75000, respectively (Tacon and Lungwangwa 1991; Zambian Ministry of Sport, Youth and Child Development 2004). This represents an increase from about 0.9% to 1.6% of Zambian children living on the street.[1]

A growing body of domestic and international studies and reports describes the situation of children living on the street but evidence on the causes of this phenomenon remains scant. In this paper we hypothesise that the causes lie in the families of origin. We use data from a unique sample collected through dedicated fieldwork in the slums of Northern Zambia in order to identify the factors that contribute to the breakdown of the safety net provided by the African extended family and give rise to the phenomenon of street children.

In Africa, the extended family was the traditional social security system. Extended family members were responsible for protecting the vulnerable, caring for the poor and sick and passing on traditional social values and education. Families, particularly in traditional societies, involve a large network of connections among people extending through varying degrees of relationship including multiple generations, over a wide geographic area and involving reciprocal obligations (Foster 2000). However, as the number of orphans and vulnerable children increases and an ever larger number of adults is affected by HIV/AIDS, these family networks have come under severe strain.

Against this background this paper tries to identify the link between family structure and the street children phenomenon. We present a quantitative analysis of data collected from 220 households, capturing the experience of 1455 nuclear family members, 1685 extended family members, and 102 current and former street children. We provide the questionnaire templates

[1] The percentages have been calculated on the basis of demographic information provided by the CIA World Factbook in 1991 and 2004: in 1991 the Zambian population was 8,112,782 with a share of population in the 0-14 yrs age group equal to 0.48. This implies 3.9 million children ages 0-14 in 1991. So, as the street children population was estimated to be equal to 35,000, this means that 0.9% of the 0-14 yrs age group population was on the street; similarly for 2004. The total Zambian population was 10,462,436 with a share of population in the 0-14 yrs age group equal to 0.461. This implies that there were 4.8 million children ages 0-14 in 2004. Together this implies 75,000/4.8million = 1.6% of children on the street in 2004.

used during the fieldwork and data collection process in Zambia in the Appendix. To our knowledge this is the first paper to study the role of the nuclear and extended family in the street children phenomenon. Previous literature in this area has studied the impact of HIV/AIDS on household income and consumption, on the education and health outcomes of orphans and on the spillover effects on members of the care-giving households. The common assumption in all these studies is that family networks can care for orphans. In contrast, we assess the family network's capacity to care for orphans and vulnerable children. Based on our sample, over 40 percent of the families in the slums either have children living on the street or are at high risk of originating street children. This evidence highlights the straining of extended family networks in modern sub-Saharan Africa and raises the possibility that these networks will not be able to care for the increasing numbers of vulnerable children, as is commonly assumed.

The lack of quantitative studies in this area stems in large part from the difficulty of collecting micro-level data with appropriate information on street children and their families of origin. The data collected in this paper helps fill this gap in the literature as the fieldwork was conducted in the usually off-limit areas where street children and their families live. The analysis of this unique data set provides useful insights on the street child phenomenon and may help formulate effective policies to deal with the growing population of children living on the street.

Our analysis shows that the health status of the male head of the household plays a fundamental role in determining the probability of the street outcome. The composition of the extended family net also matters: a higher number of paternal sisters and the presence of maternal grandparents reduce the probability a family originates street children. A younger composition of children in the household, a lower presence of orphans as well as a higher share of girls in the household are all associated with a lower probability any child ends up on the street. The role of a child within the family also affects the likelihood he ends up on the street: nephews, stepchildren and household heads' siblings are less likely to end up on the street compared to natural son and daughters, suggesting that when an extended family accepts nephews and stepchildren, it is their intention to keep and protect them.

To put the economic gain from policies aimed at preventing the street children in perspective we combine our results with estimates from the economic growth literature. We present a back-of-the-envelope calculation that suggests that moving the male head of household from poor to good self-rated health status would translate into an increase in GDP growth of 0.20 to 0.33 percentage points per year. Hence our findings suggest that policies aimed at improving the health conditions of the male head of household may have large beneficial effects on the long run economic growth in Africa.

At the same time, we urge some caution in interpreting our results too strongly. In our analysis, we focus on those characteristics that distinguish street children or street families from families that, based on observable characteristics, look quite similar. But, unobservable factors that are correlated with these characteristics could drive the likelihood that children end up on the street. At a minimum, however, these unique data and the characteristics they point to as predictors of the street children phenomenon identify important areas for future research and policy intervention.

The paper is organised as follows: Section 2 reviews the existing literature and explores further the contribution of this paper to the academic debate; Section 3 describes the institutional environment of Zambia and discusses the data sources and the fieldwork methodology; Section 4 describes the empirical methodology and discusses the results; Section 5 concludes.

2. Literature Review

Research on orphans and vulnerable children in Sub-Saharan Africa and on the socioeconomic impact of chronic poverty and AIDS on family structure spans literatures in economics, psychology and socio-medicine as well as in organisational and institutional development. The latter comes largely in the form of detailed reports and analysis produced, either on a regular or on an *ad hoc* basis, by international institutions and agencies (e.g. UNICEF, UNAIDS, World Bank) or by NGOs operating in the field.

The majority of economic studies in this area focus on either the impact of HIV related adult mortality on household income and consumption, or on orphanhood. At the macroeconomic level, these studies consider the effects of HIV/AIDS on outcomes such as economic growth (Arndt and Lewis 2000; Bloom and Mahal 1997; Cuddington 1993a and 1993b; Young 2005; Santeulàlia-Llopis 2008) and human capital accumulation (McDonald and Roberts 2006; Corrigan, Gloom and Mendez 2005; Bell, Devarajan and Gersbach 2006). This work largely assumes the behavioral responses to the HIV/AIDS pandemic rather than deriving them from micro-level analysis. In general, these studies provide mixed conclusions. For example, Sachs et al. (2001), calculate that 2.2 million AIDS-related deaths in 1999 reduced Africa's GDP growth rate by 35% while Cuddington (1993a) estimates that an HIV prevalence of 10% implies a reduction in economic growth of less than 1%.

At the microeconomic level, at least two main streams of literature can be distinguished, each focusing on slightly different aspects of family structure and childhood vulnerability. A first growing stream of literature focuses on the impact of HIV-related orphanhood on the education and health outcomes of orphans compared to non-orphans residing in the same household. These studies provide evidence of the negative effects of orphanhood on health and education (e.g., Case and Ardington (2006) in South Africa, Evans and Miguel (2007) in Kenya, Yamano and Jayne (2005) also in Kenya). They also show that these effects may vary depending on which parent dies, with maternal death having more severe effects than paternal death, and whether the surviving parent is still taking care of the orphan. Other studies consider how orphans fare compared to the general child population and whether targeting orphans is an efficient strategy to reduce general poverty (Ainsworth and Filmer 2006; Case, Paxson, and Ableidinger 2004). Typically they find that orphans receive lower educational investments than the biological children of the household head, providing some justification for conditional transfers to households caring for orphans. A recent study assesses how the health and education effects of orphanhood vary with the characteristics of caretakers (Ksoll 2007); selection into higher-wealth caretaking families appears to mitigate any negative effects of orphanhood on education. Another study estimates the spillover effects of taking in orphans on the health and education of non-orphan children and on the health of women in the household and finds these effects to be negligible once selection is taken into account (Evans 2005).

A second stream of literature at the microeconomic level focuses on the impact of HIV-related adult morbidity and mortality on the income and consumption of surviving adult members (Naidu and Harris, 2005). It provides evidence of a significant consumption drop in affected households within the first five years of death and shows that the impacts are larger when the decedent is a

female adult (Beegle et al. 2006). Other work in this area focuses on the relationship between socioeconomic status (measured in terms of education and wealth) and HIV/AIDS (Fortson 2008; De Walque 2006). These studies have come to different conclusions and thus generated some debate about the direction of the health gradient in Sub-Saharan Africa.

To our knowledge the present paper is among the first in economics to study microeconomic data on vulnerable children in urban slums in Africa – an institutional context very difficult to study. The only notable exceptions are Abraham, Baland and Platteau (1998) and La Ferrara (2002), which are both based on fieldwork in the informal settlements of Nairobi. However, these papers have a different focus, with La Ferrara (2002) conducting a multivariate analysis of 'self-help' groups and Abraham, Baland and Platteau (1998) providing a descriptive analysis of participation in different types of groups (e.g. rotating savings and credit associations, burial societies, health groups, etc.) and on the socio-economic background of respondents.

In contrast to the economics literature, the psychological, socio-medical and international development literature have paid more attention to the impact of growing disease burdens on the extended family safety net. Foster (2000) highlights how the traditional practice of orphan inheritance by uncles and aunts has declined and been replaced with care provided by grandparents or other relatives. He points out the importance of focusing on the children who slip through the safety net, ending up in a variety of vulnerable situations such as on the street, working or heading up households. Others have shed light on the dynamics and main features of street life for children in Latin America (Rodgers 1999) and in South Asia (Conticini and Hulme 2007). The latter makes extensive use of qualitative methods to study children living on the streets in Dhakka (Bangladesh) and argues that children migrate to the streets not because of economic factors (e.g. lack of basic needs) but because of non-economic factors like the breakdown of social relationships. Finally international agencies and NGOs have also contributed to a large and important institutional literature on orphans and vulnerable children. Five main studies have attempted to illuminate the dire circumstances for street children in Zambia. Of the five studies, only three bear directly on the situation of street children, namely those conducted by Tacon and Lungwangwa (1991), Lungwangwa and Macwan'gi (1996) and the recent survey conducted in 12 Zambian towns by the Ministry of Community Development and Social Services and the Ministry of Sport, Youth and Child Development in 2006. The other two situational analyses, conducted in 1999 and 2004 by UNICEF, USAID and GRZ, tackle the issue of street children only as part of the wider problem of orphans and vulnerable children in Zambia. Smaller scale local assessments and annual reports on the activities of NGOs directly working with street children on a daily basis in Zambia, provide a useful source of descriptive statistics over time on the phenomenon of street children and represent a good starting point for the type of analysis presented here. The goal of our work is to more systematically analyse those factors that give rise to the street child phenomenon.

3. The Setting

a. Institutional environment

According to UNICEF, vulnerability in Zambia is tied to poverty and orphan status. Vulnerable situations for children may vary from child labor, to substance abuse, imprisonment and living on the street. While there is significant overlap between these areas of vulnerability, the causal

connection is not always clear. Street children represent an important sub-category of vulnerable children as their vulnerability is exacerbated by the partial or complete absence of support structures based on kinship, education, parents, siblings and general social cohesion. Orphan status is not the only reason children end up on the street but when this converges with poverty, exclusion from education, and lack of support or alternatives, it pushes many children onto the streets. Once on the streets, they are vulnerable to many other risks that further marginalize them and limit their ability to lead healthy productive lives (UNICEF, 2006).

The prevalence of street children in Zambia has increased substantially over the last decade. This increase is seen as a result of poverty (rural and urban), large scale unemployment and the HIV/AIDS epidemic. Zambia currently does not have a specific policy on street children; however, there is a National Child Policy that aims to "*improve the standards of living in general and the quality of life for the Zambian child in particular"*.

Unfortunately official statistics on street children are rare because of the difficulties of surveying an extremely mobile population. National household surveys only recently started to collect data on orphans and vulnerable children but no data, to our knowledge, asks directly about street children. Therefore, policymakers rely on *ad hoc* surveys and specific micro-data collected from field projects. Since the first study in 1991 (Tacon and Lungwangwa 1991), publicity for and public awareness of the situation of street children have increased. A number of interventions have been developed in response. At the time of the first study, poverty, family breakdown, lack of access to education and unemployment were singled out as the most important push-factors driving children onto the streets. This study estimated the population of street-children to be in the order of 35,000. Evidence from the 1996 Situational Analysis and the more recent 2004 OVC Situational Analysis indicate that the problem of street children in Zambia has worsened since 1991. The estimated population of street-children has increased markedly to 75 000 or from 0.9 to 1.6%.[2]

b. **Background**

To provide a clearer picture of the Zambian street children phenomenon, we conducted two different surveys during the month of November 2008 in three highly populated slums of the city of Ndola, in the Copperbelt region of Zambia (see Figure 1).

These slums, often called *peri-urban areas* or *compounds*, vary in terms of dimension, accessibility to basic services and geographical proximity to the city centre.

[2] See note 1 above.

Figure 1 – Map of Zambia (Copperbelt region in red)

Contrary to the similar and more commonly known informal settlements of Nairobi (Kenya), which are squatter communities where inhabitants have generally no legal rights or at most a quasi-legal right granted from a local authority (La Ferrara, 2002), the Zambian slums are, for the majority of cases, recognized as legal settlements by the Housing (Statutory and Improvement Areas) Act of 1975.[3] Living conditions are extremely poor in these slums. Most of Ndola's slums have either no access to clean water or are crowding on single sources of water: communal taps, instead of individual connections, are used in most compounds. Just like water, sewerage is typically not individually connected. Pit latrines and septic tanks are the only facilities available and garbage is not collected in most compounds because the poor cannot afford the service (Ncube 2008).

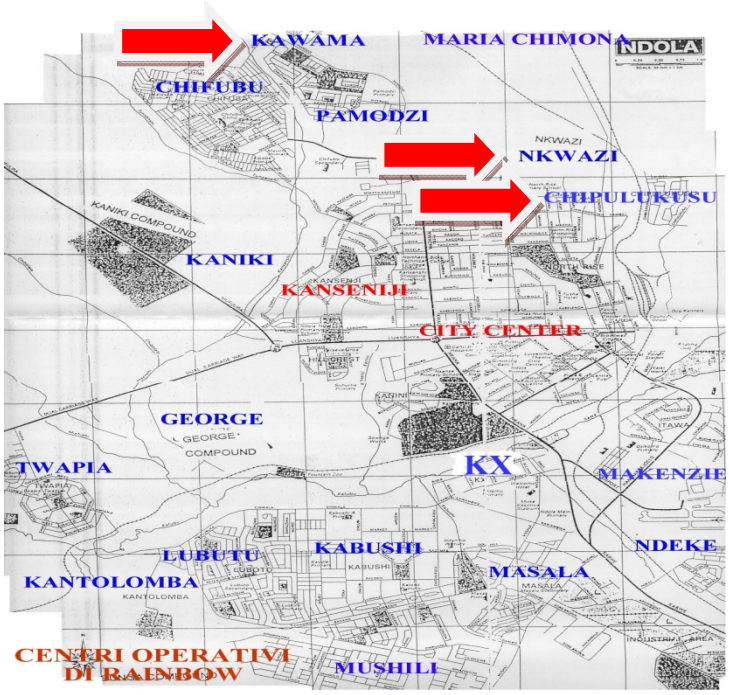
Most houses are built out of any available construction material, like sun-hardened earth brick and scavenged metal roof-sheets held down with rocks. During the rainy season these structures break down with rain washing away walls, running under roof sheets and flooding homes. Due to the lack of drainage systems, the rain forms rivers that rush through the township eroding everything in their path.

Some people have regular jobs in Ndola; some grow vegetables wherever they find a plot and sell on the city streets. Others rely on short-term, irregular "piecework" as blacksmith or as carpentry jobs. Many others are unemployed or unable to work. The great majority lives below the official poverty threshold of 1$ per day. Crime and drug addiction is rampant, making these slums very dangerous.

The three slums in our sample are Nkwazi, Chipulukusu and Kawama, highlighted in Figure 2. The first two are among the poorest and largest slums on the outskirts of Ndola, with more than 40,000 residents each, living without any city planning, amenities or utilities. Kawama is slightly smaller and more distant from Ndola than the other two. Basic services such as sanitation and drinking water are very poor in all of them.

[3] Under this act, local authorities identify those settlements that should be legalized by the Ministry of Local government: the land is only legalized at the communal level and individuals do not have title deeds to those pieces of land.

Figure 2 – Map of Ndola. Arrows indicate the selected slums.



c. Data collection

Our first survey was directed at 102 current and former street children. The survey of street children collected information on their family background, the reasons they took to the streets, the conditions on the street, their main activities and earnings as well as their education, health, sexual behavior and exposure to STDs. This survey was conducted both directly on the streets of Ndola where children gather as well as at the shelters where (former) street children attend programs and participate in activities sponsored by our hosting NGO. Given the potential non-representativeness of this sample of street children, this survey is meant to complement the analysis based on the extended family questionnaire and provide an additional source of insight on the street children phenomenon. The primary focus of our work is the second survey, which aims to assess the status of the extended family safety network and was therefore collected at the household level.[4] By focusing on the family of origin of street children, this work can more effectively overcome the difficulty of dealing with the high mobility of the street children population and at the same time it can offer a sort of complementary view to the one emerging from surveys of street children.

The sampling design for the family survey was based on a two-stage sampling procedure. At the first stage, the selection was done from a list of "clusters" of households, with households themselves selected at the second stage. The "clusters" were represented by the various slums

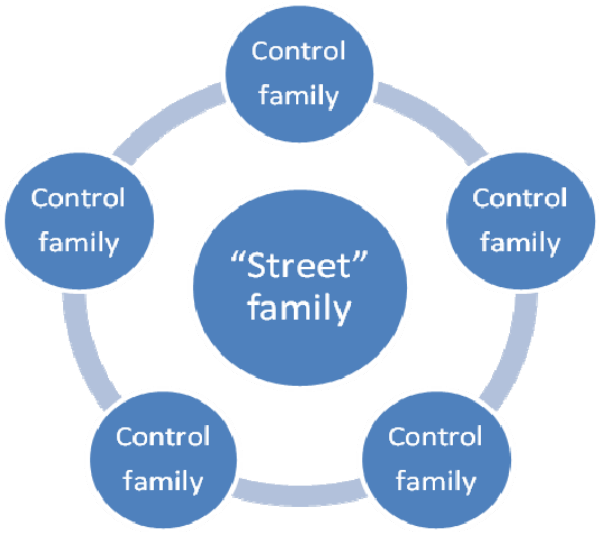
[4] Approaching children on the street and their families of origin required investing a fair amount of time to establish a relationship of mutual trust with the respondents by adapting to the unwritten rules of the slums as well as partially and temporarily sharing life conditions and cultural habits. In this sense, the relationships already established by our hosting NGO allowed us to conduct the fieldwork in areas that are normally considered off-limits to non-locals.

surrounding the city of Ndola. In particular, three slums – Nkwazi, Chipulukusu and Kawama, were selected for the data collection because they had the highest concentration of families of origin of street children traced back by the hosting NGO.

The second stage of the sampling selection procedure was based on a list of 43 families of origin of street children residing in one of the three above mentioned slums. These families were identified through a specific child reintegration program run by the hosting NGO. The number of households to be interviewed per cluster was based on estimates of the proportion of families with street children in each slum provided by local committees of community-based organisations. Estimates, which have been validated by other local sources (e.g. local NGOs and social services' officers), put the proportion of families with street children at 20-25% in each slum. The number of street children families and of control families to be interviewed in each slum (i.e. cluster) was then selected in order to reflect the suggested proportion.

Data collection began by first interviewing one of the 43 street children families and then, for each one of them, interviewing the first layer of neighbors using the same questionnaire. Given the scattered disposition of houses in the slums, we interviewed neighbors living in a circle around the house of each of the street children families, as shown in Figure 3. The aim of this methodology was to gather the same set of information from families that, despite facing similar living conditions, did not originate street children. Our hope is that by comparing families with street children to their immediate neighbors we can isolate those characteristics of the family that put children most at risk of winding up on the street.

Figure 3 – Household selection criterion



In order to serve as a proper comparison group, a key requirement was that each neighboring family had at least one child. Interviews were carried out through home visits to each family and addressed to the head of the household or his spouse.[5] The questionnaires were in English and

[5] Note that household heads could be male or female. In all cases, however, spouses were female. In other words, females were coded as head of household only in cases where a male was not present in the home.

a local operator from the hosting NGO assisted during each interview by providing translations in Bemba (a local dialect widely used in the slums) while a second operator, who knew the geographical location of street children families, served as a guide through the slums. Every family we approached agreed to participate in the survey, confirming the high level of cooperation common to household surveys in developing countries.

Based on this methodology, we interviewed a total of 220 families (43 families with street children and 177 control families) and collected information on 1455 individual family members. The survey included modules on demographics, health, education, income, HIV impact and shocks (see Appendix for the questionnaires). Given our interest in understanding not only the characteristics of each nuclear family but also the relevance and the quality of extended family networks, we collected additional information on the geographic locations of and strengths of the relationships with 1685 extended family members. Doing so allows us to reconstruct the extended family network of each interviewed family, focusing both on *inter-generational* links with parents and adult children living in other households and on *intra-generational* links with siblings living in other households. This information was provided by each household head interviewed and was part of the same questionnaire. Overall, the questionnaire provides relevant information for a detailed assessment of the situation of nuclear families and their networks in the slums of Ndola.

Our data collection efforts identified three main categories of families – "stable" families, "street children" families and "at risk" families. The three categories of families can be described as follows:

- *Stable families* are families that, despite high levels of poverty, are still able to ensure that children in the household attend school regularly.
- *Street children families* are the families of origin of street children: these are the official families that through a lengthy and delicate process have been traced back by the hosting NGO with the final objective of reintegrating the children back into their family of origin.
- *Risk families* are families with children who do not attend school. Although they are not yet on the street, these children spend most of their time hanging around the slums. On the basis of some common features with the families in the previous category, they appear to be at risk of generating street children.

4. Results

a. Descriptive analysis

Table 1 provides basic descriptive statistics from our survey of street children. The age profile of street children in the sample shows that most are between 15 and 18 years old. Almost two-thirds of these children are orphans and a similar share has 3 or more siblings. These figures indicate that street children tend to come from families with multiple children and at least one missing parent.

Table 1 also sheds light on some of the reasons these children give for taking to the street. For instance, the majority of street children indicate that “lack of food and money” is the main reason for leaving their homes. “Food” is also the main item street children purchase with their daily earnings from street activities, like begging or carrying luggage.

The data on education and health as well as those on the sexual behavior collected through the street children’s questionnaire, reinforce the idea of higher vulnerability and higher risk exposure of street children compared to children living inside the safety net of the nuclear and extended family.

Our results are broadly in line with the findings of the only national level survey of street children in Zambia, which was conducted by UNICEF for a 2006 *ad hoc* report. In particular, both surveys find that street children are predominantly between 15 and 18 years old and that a lack of food and money are the main reasons for taking to the street. However, while our survey suggests that the second most common reason for going on the street is “abuse at home”, this had only marginal relevance at the national level. This difference could reflect regional differences in reasons for taking to the street. But, we suspect the trust established during the course of our survey may have also made these children more comfortable expressing this reason for taking to the streets. In both surveys, money earned on the street is used predominantly for food purchase. However, whereas 45% of the national sample also reported giving part of the money to parents or guardians, this pattern does not emerge in our sample. Another important difference relates to school attendance and HIV awareness: 70% of the national sample but over 80% of our sample did not attend school while on the street. On the other hand, in terms of HIV general awareness, 50% of the national sample indicated that they did not know what HIV and AIDS are while almost all the respondents in our sample reported a general awareness of HIV. Thus, while our sample is representative of street children nationally on many dimensions, they do appear to have less attachment to their families and to local institutions, such as schools, and to have a greater awareness of at least one important health risk.

Table 1 - Descriptive Statistics: Street Children Survey

Street Children Survey			%
Demographics	**Age profile**	**<=14**	**7.8**
		15-18	**62.8**
		>=19	**29.4**
	Orphan status	**non orphan**	**34.3**
		orphan	**65.7**
Street life	**Main reasons for going on the streets**	**death of a parent**	**19.5**
		lack of food and money	**41.5**
		abuse at home-escaped	**24.4**
	Average daily earnings	**less than 5000K**	**53.7**
		from 5000K to 15000K	**24.4**
		more than 15000K	**22.0**
	Spending patterns	**food**	**68.3**
		clothes	**4.9**
		food, clothes and bostik	**24.4**
Education & health	**School attendance while on the street**	**Yes**	**14.7**
		No	**80.4**
	Chronic illnesses	**Yes**	**67.7**
		No	**32.4**
Sexual behavior	**Sexually active**	**Yes**	**52.9**
		No	**47.1**
	Average age at first intercourse	**Mean**	**14.2**
	Use of condoms	**Yes**	**33.3**
		No	**66.7**
	HIV general awareness	**Yes**	**98.0**
		No	**2.0**
	Self-awareness of risk exposure to HIV	**Yes**	**51.0**
		No	**49.0**

The information collected through the street children survey provides a rich background and is a useful starting point for our analysis. Assuming the street children at our interview location are representative of street children more generally, this survey will also allow us to gauge the representativeness of the children who are the source of the household survey. How do the characteristics of children in this survey compare to the characteristics of the subset of children currently on the streets from the household survey? We might think that the latter differ from children in the street children survey as they have somehow maintained a link with their families of origin, while the others might have not.

Unfortunately we can only compare the two groups of children in terms of family background, education and health, as we do not have information on street life and sexual behavior for children in the household survey. On the basis of these dimensions however, we note that both groups of children are very similar: the average age is 15 for the street children in the household survey, in line with the age profile of children from the street children survey. Moreover almost the same percentage (66% and 67%) are orphans with the higher number of children being paternal orphans, followed by double orphans and only a small group are maternal orphans. In

terms of health status, exactly the same percentage (12%) report poor health status in the past year, with malaria being the main type of illness. Finally, school attendance while on the streets is extremely low for both groups (between 0 and 2%).

We next turn our attention to the household survey. We restrict the sample from this survey to those households with at least one child between the ages of 7 and 18, which are the typical school ages in Zambia. This restriction allows us to better focus on the determinants of the street children phenomenon, as street life is often seen as an alternative to schooling.[6]

The restricted sample is composed of 194 households, of which 91 are stable families, 79 are risk families and 24 are street families (i.e. families having at least one child, age 7-18 yrs old, currently on the street). These three household types represent 232, 250 and 94 children, respectively.

Descriptive statistics for the sample of nuclear families are presented in Table 2 while Table 3 presents descriptive statistics at the individual child level for the group of children age 7-18 years.

[6] This is confirmed by the fact that we observe no children below the age of 7 years living on the street.

Table 2 - Descriptive Statistics: Household Level

		[1]	[2]	[3]	[4]	[5]
		STABLE FAM.		RISK FAM.		STREET FAM.
Households		**91**		**79**		**24**
Total Household size		**6.4**	***	**7.4**		**7.8**
Female headed households		**0.20**	*** (*)	**0.54**	**	**0.33**
Share with orphans		**0.43**	***	**0.80**	**	**0.96**
Age structure						
	male head	**39.6**	***	**50.0**		**47.2**
	female head	**34.5**	***	**45.5**	*	**40.8**
	share of children 0-6 yrs	**0.34**	** (***)	**0.28**	*	**0.21**
	share of children 7-13 yrs	**0.46**		**0.44**		**0.43**
	share of children 14-18 yrs	**0.19**	***	**0.28**		**0.35**
Education profile						
	male head	**7.7**	** ( )	**6.4**		**7.6**
	female head	**5.8**	***	**4.3**		**3.8**
Health Status (poorhealth)						
	male head	**0.38**	(***)	**0.36**	***	**0.81**
	female head	**0.42**	***	**0.62**		**0.71**
Income	*Above poverty line*	**0.33**	***	**0.05**		**0.04**
Shocks						
	Shocks in the past year	**0.54**	**	**0.71**		**0.79**
	No death shocks	**0.10**	** (***)	**0.22**		**0.29**
HIV impact (%)						
	HIV-deaths in the past 10yrs	**0.35**	***	**0.53**		**0.63**
	HIV Orphans absorption by the hh	**0.29**	*** (**)	**0.82**	**	**0.57**
	Financial loss due to HIV-death	**0.52**	***	**0.95**		**0.93**
Nutritional status						
	Nr of meals per day	**1.97**	***	**1.33**		**1.42**
	Nr of days without enough food in a week	**1.04**	***	**2.54**		**2.92**
	Eating meat/chicken/fish in the past week	**0.41**	***	**0.06**		**0.04**
Extended family: Average nr of siblings						
	Wife's sisters	**2.16**	***	**1.01**		**1.00**
	Wife's brothers	**2.20**	***	**1.24**		**1.00**
	Husband's sisters	**1.51**	***	**0.62**	**	**0.21**
	Husband's brothers	**1.35**	***	**0.42**		**0.29**
Extended family: parents						
	Wife's side	**1.01**	***	**0.58**	**	**0.25**
	Husband's side	**0.71**	***	**0.27**		**0.17**

Notes: Column 2 reports statistical significance of T-test statistics for the stable vs. at-risk family comparison. In parentheses we report T-test significance for the stable vs. street family comparison only if different from the previous one. Column 4 reports T-test significance for the 'at risk' vs. street family comparison.

Both tables clearly show that stable families differ substantially from the other two (risk and street families) on many key dimensions. In Table 2, with the exception of education level and the poor health status of the male head of the household and of the share of children 7 to 13 years old, stable families differ in statistically significant ways from street and risk families on all observed dimensions – household structure, basic demographics, economics shocks and measures of consumption. On average, stable households are less likely to be female headed. They are also less likely to host orphans (43% of stable families vs. 80% and 96% of risk and street families, respectively) and they are characterized by a younger average age for both male and female heads of household (e.g. male household heads are almost 10 years younger than the male heads of risk families and almost 7 years younger than street families). Female heads are also more educated compared to the other two categories. Roughly 33% of stable families live above the 1$ per day poverty line while only 5% and 4% of risk and street families respectively are above that line. Stable families also differ substantially in terms of the extent to which they are affected by the HIV pandemic. Only 35% of stable families have experienced an HIV-death over the past decade compared to 53% (63%) of at risk (street) families. More importantly, the fraction of households who took in an HIV orphan is approximately two to three times as large for street and at risk families, respectively, than for stable families. This statistic seems to confirm the view that the HIV pandemic puts the extended family network under strain, However, the comparison of at risk and street families also suggests that the HIV pandemic does not seem to have an impact, at the margin, on the probability that a child ends up on the street. Finally, risk and street families also fare worse than stable families in terms of food intake (number of meals per day, or number of days in a week with no food). The difference in terms of the likelihood of eating meat, chicken or fish in the past week is most striking as it is an order of magnitude larger for stable than for at risk and street families.

To capture the importance of the extended family, Table 2 shows statistics on the number of existing links at intragenerational level (i.e. with siblings of the head of household's couple divided by gender) and at intergenerational level (i.e. with parents of both male and female head of household). Stable families look significantly different from risk and street families on these dimensions, with a higher number of existing links with extended family members.

In contrast risk and street families are more similar on many dimensions. For instance, risk and street families are very similar in terms of household size, the education profile of the head couple, income level, shocks experienced over the past year, the impact of HIV and nutritional status. However there are some important (statistically significant) differences. Risk families are disproportionately female headed households. Male heads are more likely to have good health status and female heads in risk families tend to be older than those in street families. Risk families are less likely to have orphans and have a higher share of children in the age group 0-6 years. With respect to extended family links, risk families tend to have a higher number of sisters on the husband's side and a higher presence of grandparents on the wife's side. These differences point to some of the potential risk factors for originating street children – male-headed households, male heads in poor health, a greater share of young children, and fewer female extended family members on the husband's side.

A similar pattern emerges when we analyse the descriptive statistics at the individual child level (see Table 3). Here as well, children belonging to stable families differ substantially from the children of street families and children living in families considered "at risk." The differences between stable families and both street and risk families span demographic characteristics, as well as income level, shocks in the past year, HIV impact on the family, nutritional status and extended family links. Measures of the age and sex of the children indicate that children in

stable families tend to be younger than children in risk or street families. Moreover, children in street families are in great majority boys.

The comparison of children from risk families with children from street families reveals only a few statistically significant differences. Children in risk families are more likely to be female and are more likely to have a female head of household. They live in larger households with a lower share of orphans. Moreover, when applicable, children from risk families are more likely to have a male head of the household who is in good health but also who is older and less educated. Children from risk families also have female heads who are older and in better health than those in street families. Children from risk families seem to belong to families where there is a significantly higher absorption of HIV orphans but they also have a significantly lower number of days without enough food in a week. In terms of extended family links, Table 3 is in line with Table 2 showing that children from risk families have more living aunts on the paternal side and a higher presence of grandparents on the maternal side compared to children belonging to street families. Moreover children from risk families have more maternal uncles.

Table 3 - Descriptive Statistics: Children Level

		[1]	[2]	[3]	[4]	[5]
		STABLE FAM.		RISK FAM.		STREET FAM.
Nr of children		**232**		**250**		**94**
Children's age		**11.60**	*** (**)	**12.37**		**12.49**
Children's sex		**0.48**	(***)	**0.51**	***	**0.33**
Total Household size		**7.2**	*** (***)	**8.1**	**	**8.70**
Female headed households		**0.19**	*** (*)	**0.56**	***	**0.26**
Share with orphans		**0.46**	*** (***)	**0.81**	***	**0.96**
Nr of other orphans i (excluding the respondent)		**0.77**	*** (***)	**2.40**		**2.7**
Heads of HH charact:						
Age structure						
	male head	**42.2**	*** (***)	**51.7**	**	**48.2**
	female head	**36.7**	*** (***)	**45.5**	***	**41.0**
Education profile						
	male head	**7.48**	***	**6.17**	***	**7.55**
	female head	**5.91**	*** (***)	**4.49**		**4.46**
Health Status (poorhealth)						
	male head	**0.41**	(***)	**0.38**	***	**0.78**
	female head	**0.41**	*** (***)	**0.58**	**	**0.68**
Income	*Above poverty line*	**0.28**	*** (***)	**0.05**	*	**0.01**
Shocks						
	Shocks in the past year	**0.52**	*** (***)	**0.73**		**0.77**
	No death shocks	**0.08**	*** (***)	**0.22**		**0.26**
HIV impact (%)						
	HIV-deaths in the past 10yrs	**0.33**	*** (***)	**0.59**		**0.63**
	HIV-deaths with orphans behind	**0.86**	** (*)	**0.93**		**0.93**
	HIV Orphans absorption by hh	**0.20**	*** (***)	**0.85**	***	**0.67**
	Financial loss due to HIV-death	**0.45**	*** (***)	**0.97**	*	**0.93**
Nutritional status						
	Nr of meals per day	**1.92**	*** (***)	**1.28**		**1.35**
	Nr of days without enough food in a week	**1.13**	*** (***)	**2.65**	***	**3.11**
	Eating meat/chicken/fish in the past week	**0.41**	*** (***)	**0.06**		**0.07**
Extended family: Average nr of siblings						
	Wife's sisters	**2.13**	*** (***)	**1.04**		**1.04**
	Wife's brothers	**2.06**	*** (***)	**1.22**	**	**0.94**
	Husband's sisters	**1.50**	*** (***)	**0.55**	***	**0.23**
	Husband's brothers	**1.39**	*** (***)	**0.37**		**0.32**
Extended family: parents						
	Wife's side	**0.95**	*** (***)	**0.63**	***	**0.29**
	Husband's side	**0.64**	*** (***)	**0.22**		**0.21**

Notes: Column 2 reports statistical significance of T-test statistics for the stable vs. at-risk family comparison. In parentheses we report T-test significance for the stable vs. street family comparison only if different from the previous one. Column 4 reports T-test significance for the 'at risk' vs. street family comparison.

Against this background, because of the considerable differences between the category of stable families compared with risk and street families, the multivariate analysis performed in the next section will focus only on the latter two categories. The relative homogeneity across these two groups should help us isolate those factors which, at the margin, determine the street outcome. For example, Tables 2 and 3 suggest that many families currently labeled as “stable”

may fall in this category simply because the household heads and their spouses are still very young and have not yet developed those risky conditions that lead to street children.

This sample restriction generates an analytical sample composed of 103 households (79 risk and 24 street) and 344 children, of which 31 (or 9% of total children) are currently on the street while the other are considered children at risk. This restriction represents a key element of our analysis as it generates an informal matching between risk and street families and can highlight those structural elements that differ across the two categories. The results of the multivariate analysis presented below show that our findings from the mean comparisons of characteristics of risk and street families in Tables 2 and 3 largely hold once we control jointly for an array of household and children characteristics.

b. Multivariate analysis

In order to identify the characteristics of the nuclear and extended family which, at the margin, distinguish a family that originates street children from a family that is at risk of originating street children but is still able to keep them inside the family net, we run two separate sets of regressions: one at the household level and one at the individual child level controlling for household fixed effects. To check the robustness of our results, we rely on both linear (OLS) probability models and non-linear (PROBIT) models.

The first set of regressions uses “street families” as the dependent variable and measures the probability that a family gives origin to a street child as a function of characteristics of the heads of household and of the nuclear and extended family. This allows us to distinguish families with street children from families at risk, isolating those features of family structure that, at the margin, determine the street children outcome. The second set of regressions has “current street children” as the dependent variable and aims to determine what characteristics of the child within a street family makes him more likely to wind up on the street than others.

Tables 4 and 5 show the regressions’ results at the household level and report respectively OLS coefficients and average marginal effects based on Probit.

Table 4 – Household Level Regressions: OLS Estimates

Dependent variable = 1 if the family has at least one child currently on the street						
	[1]	[2]	[3]	[4]	[5]	[6]
male head age	**-0.003**	**0.001**	**0.001**	**0.000**	**-0.003**	**-0.005**
	[0.002]	[0.006]	[0.006]	[0.006]	[0.006]	[0.006]
female head age	**-0.003**	**-0.006**	**-0.006 ***	**-0.007 ***	**-0.007 ***	**-0.009 ****
	[0.003]	[0.004]	[0.004]	[0.004]	[0.004]	[0.004]
male head educ	**0.018**	**0.032 ***	**0.028**	**0.036 ***	**0.030**	**0.025**
	[0.015]	[0.018]	[0.018]	[0.020]	[0.019]	[0.017]
female head educ	**-0.016**	**-0.018**	**-0.020**	**-0.024**	**-0.016**	**-0.015**
	[0.014]	[0.014]	[0.014]	[0.014]	[0.016]	[0.015]
male head poor health	**0.376 ***	**0.318 ***	**0.297 ***	**0.287 ****	**0.310 ***	**0.294 ***
	[0.114]	[0.120]	[0.116]	[0.116]	[0.113]	[0.108]
female head poor health	**0.035**	**0.101**	**0.097**	**0.105**	**0.102**	**0.116**
	[0.086]	[0.091]	[0.091]	[0.093]	[0.099]	[0.095]
female headed hh		**0.303**	**0.237**	**0.267**	**0.002**	**-0.160**
		[0.358]	[0.356]	[0.382]	[0.424]	[0.417]
hh size		**0.018**	**0.016**	**0.017**	**0.013**	**0.023**
		[0.016]	[0.016]	[0.016]	[0.016]	[0.017]
share of boys		**0.366 ****	**0.355 ****	**0.335 ****	**0.323 ****	**0.333 ****
		[0.128]	[0.128]	[0.130]	[0.152]	[0.152]
share of children (0-6yrs)		**-0.493 ****	**-0.445 ****	**-0.415 ***	**-0.349**	**-0.347**
		[0.210]	[0.206]	[0.213]	[0.205]	[0.201]
share of children (7-13yrs)		**-0.102**	**-0.064**	**-0.080**	**-0.003**	**0.069**
		[0.201]	[0.202]	[0.201]	[0.202]	[0.199]
share children/hh size		**0.213**	**0.248**	**0.161**	**0.115**	**0.077**
		[0.310]	[0.307]	[0.317]	[0.313]	[0.307]
orphans in the hh			**0.165**	**0.132**	**0.119**	**0.061**
			[0.088]	[0.093]	[0.116]	[0.115]
HIV death in past 10yrs				**0.098**	**0.094**	**0.097**
				[0.086]	[0.086]	[0.083]
no-death shocks				**0.095**	**0.059**	**0.049**
				[0.106]	[0.102]	[0.098]
nr of wife's brothers					**0.020**	**0.054**
					[0.035]	[0.039]
nr of wife's sisters					**-0.028**	**-0.022**
					[0.038]	[0.037]
nr of husband's brothers					**0.013**	**-0.005**
					[0.054]	[0.053]
nr of husband's sisters					**-0.086 ***	**-0.067**
					[0.040]	[0.035]
nr of wife's parents						**-0.166 ****
						[0.072]
nr of husband's parents						**-0.047**
						[0.090]
constant	**0.318**	**-0.128**	**-0.204**	**-0.175**	**0.071**	**0.303**
	[0.180]	[0.367]	[0.358]	[0.375]	[0.404]	[0.387]
Number of observations	103	103	103	103	103	103
R-squared	0.18	0.28	0.30	0.31	0.34	0.40

Notes: Robust standard errors in brackets.

*Significance at 10% level. **Significance at 5% level. ***Significance at 1% level.

Table 5 – Household Level Regressions: Average Marginal Effects Based on Probit Estimates

Dependent variable = 1 if family has at least one child currently on the street						
	[1]	[2]	[3]	[4]	[5]	[6]
male head age	**-0.003**	**-0.002**	**-0.002**	**-0.003**	**-0.005**	**-0.005**
	[0.002]	[0.005]	[0.005]	[0.005]	[0.005]	[0.005]
female head age	**-0.003**	**-0.006**	**-0.006 ***	**-0.007 ****	**-0.007 ***	**-0.007 ****
	[0.003]	[0.003]	[0.003]	[0.003]	[0.003]	[0.002]
male head educ	**0.017**	**0.020**	**0.018**	**0.020 ***	**0.015**	**0.016**
	[0.014]	[0.015]	[0.014]	[0.014]	[0.014]	[0.016]
female head educ	**-0.015**	**-0.017**	**-0.018**	**-0.021**	**-0.018**	**-0.021**
	[0.013]	[0.012]	[0.012]	[0.012]	[0.013]	[0.012]
male head poor health	**0.411 *****	**0.349 ****	**0.308 ****	**0.288 ***	**0.354 ****	**0.329 ***
	[0.150]	[0.142]	[0.138]	[0.130]	[0.140]	[0.130]
female head poor health	**0.025**	**0.098**	**0.101**	**0.101**	**0.111**	**0.122**
	[0.086]	[0.086]	[0.086]	[0.085]	[0.080]	[0.074]
female headed hh		**0.113**	**0.066**	**0.063**	**-0.088**	**-0.144**
		[0.307]	[0.299]	[0.310]	[0.255]	[0.286]
hh size		**0.021**	**0.018**	**0.020**	**0.016**	**0.026 ***
		[0.013]	[0.012]	[0.012]	[0.012]	[0.012]
share of boys		**0.407 *****	**0.380 ****	**0.373 ****	**0.332 ****	**0.313 ****
		[0.124]	[0.126]	[0.123]	[0.120]	[0.110]
share of children (0-6yrs)		**-0.519 ****	**-0.440 ****	**-0.409 ***	**-0.286**	**-0.335**
		[0.194]	[0.188]	[0.188]	[0.178]	[0.158]
share of children (7-13yrs)		**-0.113**	**-0.071**	**-0.112**	**0.016**	**0.022**
		[0.174]	[0.163]	[0.164]	[0.155]	[0.139]
share children/hh size		**0.198**	**0.225**	**0.180**	**0.175**	**0.206**
		[0.289]	[0.270]	[0.267]	[0.239]	[0.221]
orphans in the hh			**0.147**	**0.120**	**0.123**	**0.098**
			[0.140]	[0.128]	[0.150]	[0.161]
HIV death in past 10yrs				**0.093**	**0.088**	**0.074**
				[0.082]	[0.079]	[0.073]
no-death shocks				**0.077**	**0.043**	**0.007**
				[0.089]	[0.085]	[0.074]
nr of wife's brothers					**0.034**	**0.054**
					[0.029]	[0.031]
nr of wife's sisters					**-0.015**	**-0.004**
					[0.027]	[0.026]
nr of husband's brothers					**0.053**	**0.011**
					[0.071]	[0.066]
nr of husband's sisters					**-0.150 ****	**-0.080**
					[0.057]	[0.053]
nr of wife's parents						**-0.174 *****
						[0.063]
nr of husband's parents						**-0.032**
						[0.073]
Number of observations	103	103	103	103	103	103
Pseudo R-squared	0.16	0.29	0.30	0.32	0.37	0.43

Notes: Robust standard errors in brackets.

*Significance at 10% level. **Significance at 5% level. ***Significance at 1% level.

Table 4 shows a strong significant impact of the poor health status of the male head of the household across all specifications. Households with a sick male head are about 37% more

likely to originate street children. This impact is attenuated (29%) when controlling for the presence of both inter-generational and intra-generational extended family links.

A similar positive impact on the probability of generating street children is given by the share of children in the household. A higher share of boys raises the probability the family has street children by 36%. Girls are simply less likely to take to the street.

On the other hand, having a higher share of children in the 0-6 years range lowers the likelihood of originating street children. Families with a younger composition of children are 34 to 49% less likely to have children on the street. Like the effects of gender, this result reflects the fact that only older children take to the street. .

Families with older females (either as single female heads or as wives of a male head of household) have a lower probability of generating street children.

Finally, extended family links prove to play an important role in reducing the probability the nuclear family originates street children. Surprisingly a higher number of husband's sister can reduce the probability of originating street children by 9%. This effect is no longer significant if we control for intergenerational links. Instead, the presence of maternal grandparents appears to reduce the probability of generating street children by about 16%.

Table 5, reports average marginal effects based on Probit models at household level. This table largely confirms the results discussed in Table 4.

Similarly Tables 6 and 7 show respectively OLS coefficients and average marginal effects based on Probit models for the set of regressions run at the individual street child level.

As mentioned above, the dependent variable in this set of regressions is a dummy variable indicating whether the child is currently on the streets. These regressions include household fixed effects, to isolate those characteristics of a child in terms of age and the sex, orphan status, health status over the past year and the role in the family (e.g. whether he is a son, grandson, nephew or stepchild with reference to the head of the household) that are associated with living on the street.

In Table 6, age and sex of the child have a strongly significant impact across all specifications. In particular, table 6 shows that older children have a higher probability of ending up on the streets (+6%) while girls are less likely than boys to become street children (-30%).[7]

[7] The latter result needs to be interpreted with caution given that we only had one girl on the street.

Table 6 – Children Level Regressions: OLS Estimates

Dependent variable = 1 if the child is currently on the street			
	[1]	[2]	[3]
Age	**0.063** ***	**0.063** ***	**0.065** ***
	[0.015]	[0.015]	[0.014]
Female	**-0.307** ***	**-0.307** ***	**-0.290** ***
	[0.067]	[0.068]	[0.069]
Orphan	**0.042**	**0.040**	**0.388** *
	[0.193]	[0.195]	[0.220]
Poor Health		**0.066**	**0.077**
		[0.129]	[0.130]
Nephew/Niece			**-0.385** **
			[0.160]
Grandchild			**0.037**
			[0.456]
Brother/Sister			**-0.477** **
			[0.181]
Stepchild			**-0.709** ***
			[0.203]
Constant	**-0.383**	**-0.392**	**-0.456** *
	[0.266]	[0.267]	[0.234]
Number of observations	94	94	94
Adj. R-squared	0.29	0.28	0.29

Notes: Regressions include household fixed effects. Robust standar errors, clustered at the household level, in brackets.

*Significance at 10% level. **Significance at 5% level. ***Significance at 1% level.

Table 7 – Children Level Regressions: Average Marginal Effects Based on Probit Estimates

Dependent variable = 1 if the child is currently on the street			
	[1]	[2]	[3]
Age	**0.088** ***	**0.087** ***	**0.080** ***
	[0.014]	[0.015]	[0.013]
Orphan	**-0.234**	**-0.234**	**0.456** *
	[0.223]	[0.225]	[0.256]
Poor Health		**0.002**	**-0.006**
		[0.162]	[0.161]
Nephew/Niece			**-0.472** ***
			[0.044]
Grandchild			**-0.082**
			[0.350]
Brother/Sister			**-0.419** ***
			[0.024]
Stepchild			**-0.508** ***
			[0.052]
Number of observations	57	57	57
Pseudo R-squared	0.33	0.33	0.37

Notes: Regressions include household fixed effects. Robust standar errors, clustered at the household level, in brackets.

*Significance at 10% level. **Significance at 5% level. ***Significance at 1% level.

Controlling for relationship and health status, orphan status increases the likelihood the child ends up on the street. Most interestingly, though clearly suggestive of selection issues, are the relationship variables. In these regressions, sons/daughters are the omitted category. Relative to them, step children, nephews/nieces and brothers/sister's are less likely to end up on the street. We interpret this finding as suggestive of the possibility that a child is unlikely to end-up living with an extended family unless this family is likely to "keep" him.

The results of the probit regression analysis shown in Table 7 confirm these results.

The phenomenon of street children might have a long lasting negative impact for the economy because, by propagating its effects across consecutive generations, it amplifies the loss in human capital of prime age individuals due to the HIV/AIDS pandemic. In order to get a sense of the economic benefit of public policies aimed at preventing the phenomenon of street children we performed a simple back-of-the-envelope calculation. According to our estimates, (see Table 4) having the head of household in poor health increases the probability that the household produces a street child by 29% to 38%. Moreover, based on our data, street children tend to have -1.88 to -1.56 fewer years of schooling (depending on the specification) than idle children. We combine these findings with cross-country estimates based on the Barro and Lee data set (see Barro 2001) showing that, everything else being equal, an additional year of schooling raises the growth rate of an economy by 0.44% per year.[8] Multiplying the 0.44 loss of yearly GDP growth times the 1.56 (or 1.88) fewer years of education of a street child, times the range of coefficients for the health of the head of household from Table 1 we get that moving the self-reported health of the household head from poor to good would imply an increase in the growth rate of the economy by 0.20 to 0.31 of a percentage point per year. This is a sizeable effect. Hence, our analysis suggests that policies aimed at improving the health conditions of the male head of household could potentially have very large economic benefits not only in the short run but, more importantly, in the long run.

5. Conclusions

Our analysis highlights several interesting features of the role of family structure on the street children phenomenon.

Contrary to common belief, income is not a main determinant of the street children phenomenon as most families in this setting live below the poverty line. The same applies to the impact of HIV and other shocks at the household level. These play an important role in separating “stable” families from the group of “risk” and “street” families but within the latter group these elements have little influence on the probability of generating street children. While many street children come from poor families and families affected by HIV, poverty and the impact of HIV per se do not lead children to take to the streets

[8] Barro (2001) actually provides a range of estimates, from 0.23 to 0.84 of a percentage point per year, for the effect of schooling on growth. The upper bound of this range is obtained for the sample of poor-countries. Because Barro (2001) discusses 0.44 as a benchmark estimate, we use it as the basis for our back-of-the-envelope calculation.

Looking at both set of regressions (i.e. those at household level, assessing the probability a family originates street children, and those at the individual child level, assessing the characteristics of a child within a street family that make him more likely to end up on the street) the following elements emerged: the health status of the male head of the household plays a fundamental role in determining the probability of the street outcome. Moreover the extended family net matters. A higher number of husband's sisters and the presence of maternal grandparents reduce the probability of originating street children. Finally a younger composition of children in the household, a lower presence of orphans as well as a higher share of girls in the household are all associated with a lower probability of the street children outcome. In addition, the role of the child within the family matters: nephews, stepchildren and household heads' siblings are less likely to end up on the street compared to natural son and daughters, thus indicating that when an extended family accepts nephews and stepchildren, it is because there is the intention to keep and protect them.

Overall these results confirm the importance of the extended family safety net as well as the key role of the female presence in the household in reducing the likelihood that children end up on the street. They suggest that promoting the role of women in the household and supporting extended family links may represent an important avenue for policies aimed at reducing the risk of street life. Moreover, we consider that the phenomenon of street children might have a long lasting negative impact for the economy through the loss in human capital of prime age individuals. We calculate that policies aimed at improving the health conditions of the male head of household could potentially have very large economic benefits in the long run, increasing the growth rate of the economy by 0.20 to 0.31 of a percentage point per year.

However, we urge some caution in interpreting these results too strongly. In our analysis, we focus on those characteristics that distinguish street children or street families from families that, based on observable characteristics, look quite similar. But, there could be unobservable factors that are correlated with these characteristics and the drive the likelihood that children end up on the street. Nonetheless, we think these unique data and the characteristics they point to as predictors of the street children phenomenon identify important areas for future research.

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