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Jens Christopher Andvig

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Besøksadresse: Grønlandsleiret 25
Addresse: Postboks 8159 Dep.
0033 Oslo
Internett: www.nupi.no
E-post: pub@nupi.no
Fax: [+ 47] 22 17 70 15
Tel: [+ 47] 22 05 65 00

Family-controlled Child Labor in Sub-Saharan Africa – A Survey of Research

Jens Christopher Andvig

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The paper presents and analyzes recent research into child labor problems in Africa, mainly made by economists and social anthropologists. It focuses on the labor performed in African households and controlled by the family.

[Abstract] Family-controlled child labor –when children either work in their families or are controlled by them – constitues the bulk of children's work in Sub-Saharan Africa. Here I survey the research done economists and social anthropologists until the autumn 1999. Some important general studies of the welfare issues of child labor as they pertain to this form of child labor are also included.

Contents

Executive Summary

Child labor in Sub-Saharan Africa is the most extensive in the world. This paper presents a survey of is recent research. It makes clear that at least 95% of this child labor in Africa is taken place in private households. The focus is on situations where the children are controlled by a family to which it belongs. This means that the paper deals with forms of child labor that often are considered not to be a major welfare issue at all.

Drawing on established welfare economics we show, nevertheless, that there are a number of situations where there *are* reasons for concern. The most important one is whether their work duties interfere with their schooling or not. We present the major statistical analyses of child labor that has been done in Sub-Saharan Africa. It is clear from this work how important different characteristics of the household are for why and how much the children work: The presence or absence of father and mother, whether the mother or father is earning the household income or not, and so on.

Regarding child labor in the households the study shows that increasing poverty may not cause the children to labor more, but rather force the poorest into idleness or into increasing efforts of keeping the household infrastructure because of lack of complementary inputs.

A prominent feature of the paper is that it draws on research from both social anthropology ad economics, and thereby discover points of difference and agreements. For example, in economic models, if fathers withdraw from households and reduce their share of income transferred, an economic household model will predict that the children, including their sons will work more. A socialization model of social anthropology may predict that the withdrawing will influence the sons' role perceptions and make them work less.

The major conclusion of the paper is somewhat negative: Despite the research already done, we still does not really know whether this form of child labor is a major issue or not, for three reasons:

(1) No empirical research has yet been published that may decide how the children's labor is distributed across an inside households. That will decide whether African Cinderellas is a large group, or whether the labor is evenly spread.
(2) In the empirical studies the criteria for a child participating in the labor market is so weakly set, that they have been unable to determine whether, or how much labor interferes with schooling.
(3) The macroeconomic development in many African countries are so uncertain that it is not yet clear whether any interference with schooling will prove harmful to the child or not.

In a follow-up paper we will analyze the smaller, but potentially more harmful issue of children who are set loose from their families and labor in order to survive.

1. Introduction

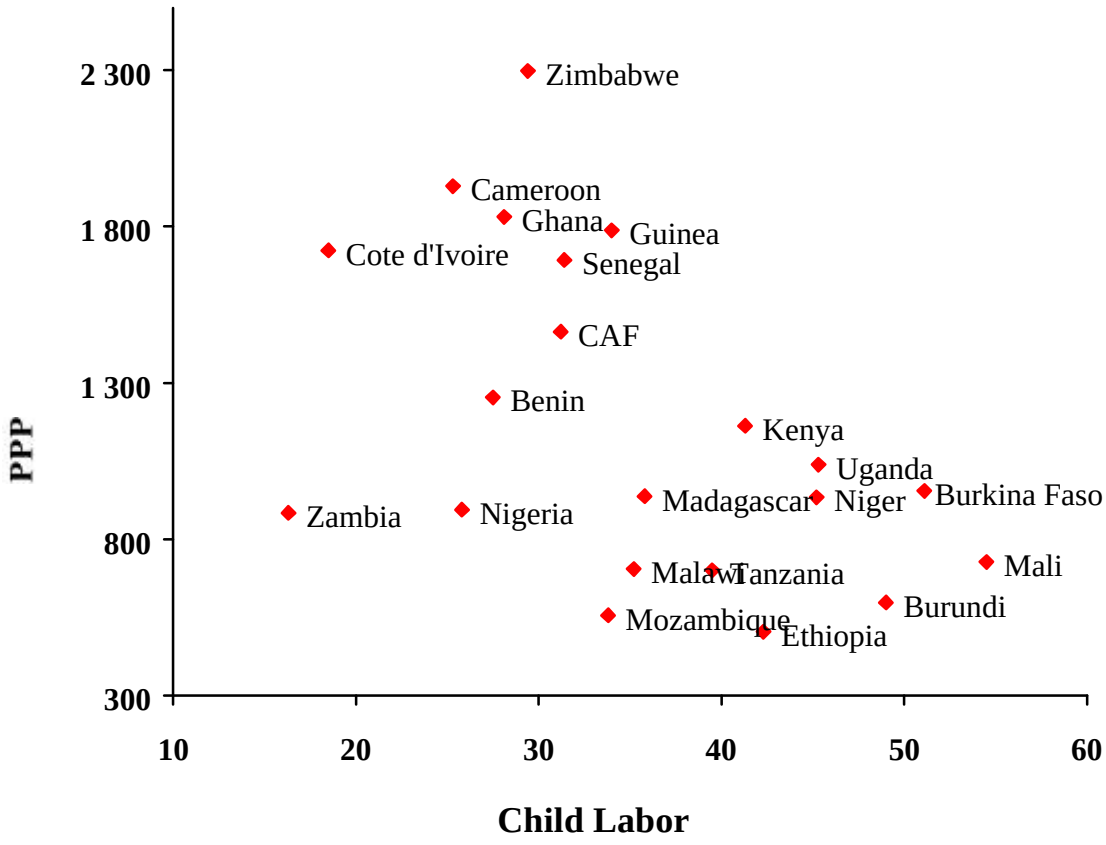
Among the major geographical areas Sub-Saharan Africa has a higher child labor participation rate than the other major regions; according to ILO (1998, 4) statistics 41% of the children between 5 and 14 years of age are registered as working. It is almost twice the Asian rate. ILO believes 80 million children in that age group is working in Africa, and that both the number and proportion increase.

Poverty appears to be the major explanation of child labor. Africa is the poorest continent. Also inside Africa the poorer regions have overall a higher incidence of child labor. Countries where a large share of children work, are on average poor. Apparently the poorer the country the more child labor there is. This confirms the frequently held notion that child labor is mainly explained by poverty. As Basu (1998) visualizes it, to send out their children is the family's last income earning resort. As soon as the income increases, the children are withdrawn from the labor force.

When we look at the sample of African countries for which ILO has child labor statistics, the positive correlation between the child labor participation rates and poverty becomes less clear[1]: At the same level of national income we find countries with widely different child labor participation rates, and countries with quite similar participation rates may have widely different national income levels:

[1] ILO statistics of child labor is the only one that covers enough countries to be used. That statistics is, however, based upon a so information-poor definition of child labor that the outcome is likely to be very misleading. The families are asked whether their children have been working at least one hour the last week on any GDP-increasing activity. The number of children who have done so is then considered to be part of the country's labor stock. When their number is divided by the total number of children, we get the *child labor participation rate*. We will use that expression when referring to the ILO numbers and the World Bank studies that apply the same definition. The definition is acceptable for studies of formal sector labor markets, but for labor in the household sector it becomes too weak at the same time as it define away much work that from the point of view of children (and the household) is the same as the one included. Until we have more appropriate statistics, the ILO measures are likely to remain a starting point for the analysis, as it will also be for this paper. However, when we add that there might also be raised questions about the sampling procedures applied, it will be foolish to consider the statistics applied in this section as anything but tentative suggestions of questions to be raised.

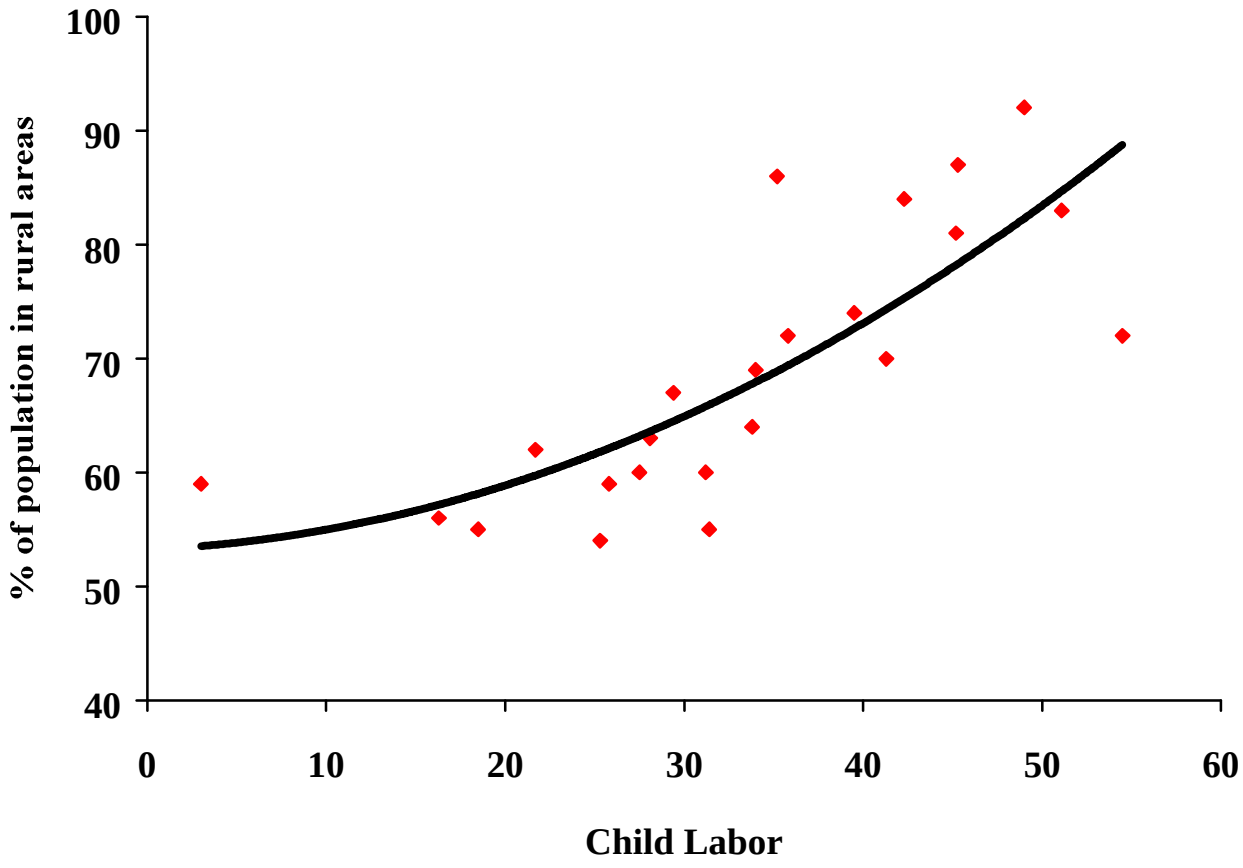
DIAGRAM 1



Why do we not find poverty to become such an important explanation of child labor any longer? One possibility is, of course, that the data are extremely noisy. The clue might, however, also be sought in another direction. The bulk of the child labor registered in Africa is not wage labor, but labor performed in the household where the children live.

To a large extent, the participation rate at the national level will reflect the share of total economic activities that are performed in the households. On average, that share is decreasing as the national income is increasing, but not uniformly so. Let us relate the child participation rates to the share of the population in the rural areas, since we don't have statistics on household production as such.

DIAGRAM 2



Here we are closer to the heart of the matter. Countries with a large, rural household sector are on average poor, but at given income levels the household sector applies more child labor than any other monitoring systems.

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An important reason both for the high incidence of child labor, and the feeling that it is not such a serious problem in Sub-Saharan Africa is that a large share of the economic activities are taking place in the households. Since most of the African child labor is performed in the household it is not sufficient to point to harmful labor conditions in sweatshops in order to consider child labor an issue. We have to look at the intra-household allocation. What determines the children's labor activities, what are the effects of them on the households' economic situation and what are consequences for the children

themselves? Do we have reason to believe that the children's share of its labor activities is in some sense too large or, for that matter, too small? If so, in which sense?

In this paper we will survey the research that focus on the situations where the children have close ties to a family to which it identifies. That in all likelihood constitutes the major part of child labor in the African countries. In the survey we include not only the empirical studies of child labor in Sub-Saharan Africa, but also the general welfare economic analyses of child labor in households.

In a later study we will discuss situations where children are responsible for their own economic survival while still children. We believe this to be a smaller, but more serious problem. Like what happens to household models in general when the issue of divorce arises, we have to focus more on the intra-family bargaining.

Moreover, we have to deal with the, for economists, non-traditional problems of changing family structures that may have stronger economic impact on African families than elsewhere because of the economic significance of household production. In particular, the effects of changing family structures and deaths of parents on this form of child labor are likely to be significant and should be explored. The same applies to the death of parents or other guardians. In an African context a reasonable question to ask is whether there are any systematic differences between patrilineal and matrilineal family systems? In areas of land scarcity are the children sent away at a too early age in order to somehow fend for themselves, making it easier for the parents to keep control of the land? [2] Is the allocation of labor tasks among the children fair across gender and age groups?

The focus of this paper will be on the children's welfare, but from a paternalist and modernization point of view. We are fully aware of the fact that going to school may make a large fraction of children more unhappy and frustrated than most normal work experiences might do, reducing their self-respect and future work capabilities in the

[2] Child labor is an issue sometimes associated with economic conflicts between generations inside the household sector that sometimes have turned violent. That generation conflict has been observed in the Rwanda massacre (Andre &Platteau, 1996) and in Sierra Leone.

process. To look at the choice between school and work from the child's point of view will in many instances mean to abandon school. Nevertheless, schooling is here considered given as a precondition for preparing the children for working and living in a modern market economy. Such a transformation is also considered desirable or at least unavoidable.

Most Africans, including their governments, accept and want this transformation. These value premises have implicitly been accepted in the discussion of child labor in Africa, and we will do so, too. Their acceptance allow us to consider child labor as harmful for the children's welfare in the long run if it strongly interferes with their schooling, although the children themselves might feel happy to be released from the series of defeats or drudgery the school may represent to some. In order to be acceptable, a somewhat optimistic view on the future economic development of the African countries is necessary.

We hasten to add that choice here in most cases does not mean *either* school *or* work, but rather which *mix* of school and work should be chosen. The welfare issue raised is mainly whether the blend chosen tends to contain too much work or not. .

A large part of the final answer to that question for Sub Saharan Africa and hence the normative evaluation of child labor, hinges not so much upon micro considerations of the type of work performed, but upon the whole macroeconomic development in the region. In this paper we will not indulge in speculation of the future, but focus on these micro considerations.

2. The research

Before going into the welfare issues involved, we will present what we know about the children's labor activities. That will constitute the main part of this paper.

There is very little research that addresses children's work directly, even in social anthropology that has studied African communities systematically for more that seventy years. We lack empirically based, precise knowledge even about some of the most straightforward issues, such as the distribution of labor time between boys and girls in the different countries or in the different social groups and ecological habitats. This necessitates a certain amount of guessing or conjectures supported by pieces of information tangential to the major aims of the research that has given rise to them[3].

As just stated, the empirical information available is far from sufficient to map the different forms of child labor in Africa. Nevertheless, valuable empirical research has been taking place over the years. There are basically two different sources of information. We have studies based on large household surveys, mostly analyzed by economists and demographers, the other from scattered anthropological work, often based on information gained through participatory observation. Most of the exploration of child labor based on household surveys is fairly recent, while most of the anthropological work dates back to the 1970s and 1980s and were focused more on child rearing practices and problems brought in from developmental psychology. In addition there is a smaller literature focused on the extreme groups of hunter-gatherer societies, which despite the small number of people involved, may tell some interesting stories.

These two approaches have their obvious weaknesses and strengths. The major problem of the anthropological work is the question of how representative each case study is. It is difficult to make sure whether the results of a particular study may apply even to the next village. The underlying problem with the large quantitative surveys is questions relating to the quality of the underlying data. Have the surveyors done their work honestly? Given that, are the respondents answering honestly? After all, in many areas of Africa economic information are often consciously hidden from neighbors and spouses. Why be honest in public surveys? So far they have also been too summary about what children actually do when they allocate their time. Ideally, the two approaches should be systematically com-

[3] The author is educated as an economist and cannot claim extensive knowledge of social anthropology, so he might have missed several important contributions made by social anthropologists. In particular, it

bined, for example, by having a few social anthropologists to explore the situation in a few of the surveyed areas.

So far, this has not been done in child labor research in Africa, as far as we know. Here we are only doing this informally, questioning some of the survey results by looking at anthropological literature and vice versa[4].

Quantitative studies of child labor in sub-Saharan Africa are quite recent. ILO has made and published two surveys in Africa creating its own household data, one from Ghana , the other from Senegal. Although these surveys were intended to focus on child labor, this work appears less useful than expected. The report from the surveys (ILO, 1996) is difficult to understand for outsiders, so we have not reported much from it. Although the drift of these numbers appears reasonable, their reliability is even more difficult to judge. At the time of writing ILO is directing several valuable statistical surveys of child labor in different African countries implemented by these countries' own central bureaus of statistics.

Being part of surveys mainly addressing other issues, the information about child labor participation in the living standard surveys initiated by the World Bank is naturally less detailed. However, the basic information is gained through surveys that are in principle replicable and where the sampling methods are properly done, so the results reached might be representative. In addition these data makes it more easy to link child labor to other economic and demographic variables.

The studies also contain some data of time allocation, most detailed for Tanzania. The measuring errors for the children's time allocation appears to be so large that when they are reported in the following, this should be brought to mind, however.

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proved impossible to go through the major classical monographs, looking for the possible light they might shed on child labor issues.

[4] Purists from both disciplines are, of course likely to remain skeptical. A social anthropologist might question the value of studying statistical fantasies that only exist in terms of constructed averages, an

This survey is biased towards economics, but we have tried to locate the most important contributions in social anthropology / demography.

We believe it is naïve to compare the results from economics and social anthropology directly without to some degree outline the major theories and methods through which they are reached. Hence, we will focus the survey around the two social science disciplines of economics and anthropology. In the economics part we will first outline the major analytical models considered relevant with their observational implications, followed by a discussion of the applied econometric work.

Social anthropology we consider less amenable to any neat division into analytical models and empirical research. Here there are too many scattered and widely different theoretical approaches to make it fruitful to outline them all before discussing the empirical work, that in some cases don't present any explicit theory at all.

This is, however, not intended to be a survey of the methodological problems involved in the research. It will be issue oriented, but we hope to give a "feeling" of some of the research problems involved.

What will we mean by a child's work or labor? We will follow the tradition in the policy debates about child labor and distinguish between a mainly descriptive and a mainly normative term, although we have great sympathy with some recent attempts to get rid of the normative one (Boyden et al. 1998).

In the context of the household it is not easy to say what the child itself considers work. Taking care of a baby by a small girl might mean that stressful conflict solving for her becomes mixed with joyful play.

Child *work* we will define as those activities performed by a child that either contribute positively to the *output* of a family or a firm, or to the family's public goods and which

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economist will question the value of research that does not follows it routines of logical control, research that may tell more about the whims of the researcher than about its subject matter.

the child itself consider to involve some sacrifice. With output we will mean not only output in the national accounting sense, but also its joint consumption processes and its infrastructure. Hence, we will define both water collection for humans and animals as work, although the first does not contribute to national output in the traditional national accounting sense.

By *child labor* we will mean *work performed by children who are too young for the task in the sense that by performing it they unduly reduce their present economic welfare or their future income earning capabilities either by shrinking their future external choice sets or through reducing their own future individual productive capabilities.*

This definition is not meant to be operational, but to clarify. To determine whether some piece of work is labor presupposes knowledge of psychological and economic processes that no one even under ideal circumstances can possess before many years have passed, and maybe not even then [5]. In practice we have to rely on registration of children's activities that they make before the age of 15 and sort out what we, or they themselves count as sufficiently goal-directed to be counted as work. Ex post one must then make some rough estimates of which of those should be considered harmful to the child or not.

With family-controlled will we here mean that the children belong to a family that it identifies with. This means that if the children work as wage laborers and thus are monitored by non-family, they are still family-controlled if they share any cash they earn, and have the right to return at any time in case of need. For example, according to Agarwal et al. (1994) there exists a group of girls in Ghana - the "kayayoos" - who do transport work in the markets in Accra carrying the goods on their heads. They are mostly from rural areas and work far away from home. Nevertheless, they share their income, the family may locate them, and they may return back home at any time, and expect to do so when they have saved enough for eventually getting married back home. Their labor is family-controlled, although they sleep and eat far away from home.

[5] The use of language is somewhat strained because we have chosen to define child labor to follow the language conventions in the child labor debate, but not in its ordinary meaning. Hence, I will sometimes use 'child work' and 'child labor' to mean the same and use the expression 'harmful' work or labor instead of 'labor'.

Normally, however, family- controlled child work is performed by children who live in the family to which they belong and their work will be monitored from there.[6]

3. Household models

More than 90% of all child labor in Africa is managed inside a family context. It is then quite appropriate that so-called *household models* became the analytical starting point for discussing African child labor among economists. These models are quite general and may apply to child labor anywhere. To put it simply, in these models a family utility function is maximized under an income and/ or production function restraint, and a time budget constraint. One of the advantages of these models is their great flexibility in this respect.

As pointed out by Strauss and Thomas (1995), they had immediate intellectual roots in Japanese agricultural economics in the 1950s and Becker's work of the 1960s. The primary problem in the setting of agriculture was to study the behavior of farmers when production and consumption was joined in the same decision-making unit, when there were markets for some goods and services while others were missing and the goods and services had to be internally supplied.

Becker (1981) had modern, consumption units in mind, but built in his models two features that made them interesting in a developing country context: (1) also consumption needed inputs of goods and services to reach the utility function, (2) households reared children who also needed inputs to develop. In particular, they had to decide how much education it paid to invest. (3) A family consisted of several decision- makers, which made it necessary to make clear when it would behave as a single decision-making unit. In particular, the interaction between children and parents and the spouses needed to be specified. These are all issues that are even more important in developing countries than

[6] In fact, one of the major reasons for why children mostly labor at home is precisely the comparative advantage their households have in monitoring and teaching work.

the somewhat old-fashioned American household Becker had in mind. The reason is simply that unlike the situation in the industrialized world, households are performing a large the largest share of regular production activities in terms of employment in most poor societies.

Children doing hard work in the household was thus not a problem Becker had in mind, when he discussed the quality of children. It was rather the expense of formal schooling and the investment of the adult's time. Rosenzweig (1977) and Makhija (1977) were two early contributions that dealt with child labor in an analytical way in the context of household models, both coming from the Chicago tradition. They were, however mainly using Indian data. As the number of household data from developing countries increased, household models were applied to analyze them, and have to a large extent been developed through this research, One consequence is that a strong interaction between these models' development, the data collection procedures and the econometric estimation problems has taken place.

Rosenzweig (1981) was an early estimation of a household model with child labor that included an analytical exploration of a household model. He mainly studied a model with labor markets in all directions: For men, women, boys and girls, each with different wage rates. Therefor he did not specify their work internal to the household, but he did single out the children's time spent at school. Since wage changes would generate both income and substitution effects with different signs, the model could not in general predict, for example, whether an increase in the wage rates for children would cause the child labor in the market to increase, or not. Nevertheless, since the substitution effect was positive, and the income from the children's wage labor constituted a small share of family income, on the basis of the model one would expect that an increase in the wage rate for children would increase the supply of child labor.

Among the empirical estimates from Rosenzweig's sample from rural India that may be useful for comparison with the household research from African samples, we may note that the children supplied 17% of total family time in the labor markets, but their income constituted only 6% of family income. A 10% increase in adult female wages would

reduce the girl's labor supply with 7-8%, but decrease the attendance rate at school for girls with 1% and for boys with 3.6-4.6% An increase of father's wages increase all children's school attendance rates with more than 7%., and reduce the boy's labor participation rate with 9%, but with almost no effect on the girl's labor supply. [7]

This Rosenzweig specification may be applicable to some areas of Sub-Saharan Africa, too, but as he suggested, different household models are likely to more appropriate. In particular, Rosenzweig himself believed that missing markets and surplus of land may make an autarky model more relevant, that is a model where the household produce and consume all its own goods and services. This is probably to go too far, but there are other options to adapt the basic household model to African institutional structures :

(a) Male adults are the only suppliers in the labor market (or suppliers of cash crop) while the female adults and the children produce the internally supplied consumer goods. The children divide their time between household labor, education and leisure, the women between household work and leisure. The income and home-made products are pooled, and the household centrally managed - the defining characteristic of the household models. In a variation the boys and adult men may work on the cash crops, girls and women supply work to the non-cash goods.

(b) Male and female adults are suppliers on the labor market, but the women divide their time between cash and own production where men are not involved . The children divide their time between schooling and own production. All groups have some leisure.

(c) The households are managed by adult females who divide their time between the labor (or cash crop) market - eventually as paid work for their husbands – own pro-

[7] These results on schooling are somewhat difficult to interpret. Maybe it is the mother's task to monitor whether the children attend school or not and the boys have a higher propensity to shirk. Since the model does not specify the household labor performed by the children, the strong effects on the girl's labor supply is likely to be caused by their substituting the mother's housework. Note that while these gender-related outcomes are interesting, they are difficult to explain on the basis of this model where all income is pooled, and where the only explicit differences between them are their wage rates. The rest is buried in the common utility function.

duction and leisure. The children do as in the preceding example. The income of the husband that is transferred to the household is considered exogenous. This is a way to keep the simple structure of the household decision making and at the same time recognize some of the decisive aspects of much African family life. Note that in this case an economic theory of the household may be easily be combined by sociological mechanisms at the macro-level. For example, the spread of particular versions of "modernization" norms through some kind of contagion mechanism may make adult men to transfer less income to their women and children. For example, there are indications of a negative shift in such income transfers in areas of Kenya. If so, the women have to respond to it through changing their own and their children's supply of labor.

We see immediately that the choice of model will have consequences for what to expect will happen with the allocation of children's time if family income changes. For example, if we have situation (c) an increase in female and male cash income (if transferred to the household) will have very different consequences for schooling. While an increase in male (transferred) income should have a pure income effect and increase schooling and leisure for the children, the increase of female income will also have a substitution effect that is likely to increase the home productivity of the children's labor, particularly for girls that might mitigate the income effect. In situation (ii) an increase in male wages may contribute to a lower female supply in the market which may reduce the amount of child labor in the household, while the increase of the female wages will not have this effect as long as males contribute little to the home production.[8] In the situation when boy's and men's labor are close substitutes, an increase in male labor supply should release boys' time for schooling adding to the income effect while only the income effect would work for the girls.

We should add that so far, to our knowledge, these gender-aspects of the household organization are not introduced explicitly at the theoretical formulation – except when the

[8] This statements in the text are, of course pretty strong, and will, inter alia, need assumptions about the complementarity and substitutability of the different types of labor in the own and, eventually, the cash

adult males are kept out of the household all together, but becomes an outcome of empirical investigation. Kevane (1998) who does not explore child labor is an exception.

4. Ainsworth's analysis of child fostering

Ainsworth (1996[9]) presents an empirical analysis of the West African institution of child fostering based on data from Cote d'Ivoire. In this institution parents are sending their children from their originating households to some more or less closely related ones where they spend their time and do their consumption. It is a rather important institution. In Cote d'Ivoire more than 20% of their children live away from home. In other African countries the rate is even higher (for example in Liberia close to 35 %, Serra, 1996)

Like so many other transactions where families are involved, economic, rule-abiding and emotional motives are intertwined. Ainsworth outlines several, including conceivable intergenerational effects: adults who foster in children to have an income option later in life, people who foster out children in order to give them educational possibilities. In her theoretical formulation, however, she focuses on a short run household production model in fact, a variation of household model (c). The focus is on the child labor aspect of child fostering. The household maximizes its utility over market goods, home goods and women's leisure and own children, who way or may not be present. Since it is a short-run model the stock of children is given. The home goods are produced with market goods, adult female and the children's labor power. The own and in-fostered children are perfect substitutes, but only the adult females earn cash income. No market for child labor exists so they can only been brought in through fostering, that is the children has to be brought into the household, fed and clothed at fixed cost, the same for own and fostered-in children. The men's income is exogenous like in model (c).[10]

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crop production. Note that it is not only a question of technical aspect of the production, but also a question about which tasks the different genders and age groups are allowed to do, the social norms that are ruling.

[9] The article is based upon a Ph.D thesis published in 1990.

[10] Compared to the existing literature on child fostering, Ainsworth herself emphasizes the child labor aspect, but not quite as much as we do. However, we do find it correct to include Ainsworth's analysis of child fostering in a survey of child labor in Africa, because of the light it sheds on the children's labor situation in the many African countries where the children so frequently have to migrate across households.

Since this model's demand for child labor is a net demand for fostered-in children whose leisure time is not included in the household welfare function, but is mainly constrained through the costs of bringing in children compared to their productivity in the production of home goods, the effects of increased income become quite different from the (c) model. Both an increase in male and female wage income will now increase the demand for child labor. In the case of male income this result follows when the demand for home goods is normal. For women a decrease of labor input should reinforce the effect. Note that this is contrary to what is commonly expected – that a decrease in poverty should decrease the demand for child labor. If home goods are normal goods and children's leisure (or schooling) is not included in the family welfare function, child labor will not decrease as income rises.

An increase in the number of adult males in the household will also increase the demand for child labor in the sense of in-fostered children, while the increase in the number of females should have an ambiguous effect since then the supply of labor in home production increases at the same time as home production and income increases.[11]

The empirical analysis is based upon the 1985 Cote d'Ivoire Living Standard Survey (CILSS), one of the two first of its kind.[12] There are 1599 households in the sample including 3110 children. More children register as fostered in than out,, 24.3% and18.6%. The major reason for the difference is likely to be an under-registration of children fostered out[13].

In addition the analysis is skillfully done. Her presentation shows how much information it is possible to wrest out of the household surveys initiated by the World Bank.

[11] In her own reading of the model Ainsworth claims that an increase in the number of adults only implies an increase in the demand for home goods, and therefore an increase for child labor. However, the asymmetric role of men and women in her household model should imply that their impact on the demand for child labor should be different. If girls' and women's labor are complementary in most of the observed variation of household members, more adult females should also have unambiguous effects on the demand for child labor.

[12] Similar household surveys have now been made in several developing countries. They are characterized by having an exceptional broad range of questions making it feasible to study empirically many of the interactions that takes place in economies based upon a large household sector. A brief history and analytical presentation is maybe most accessible in Deaton (1997).

[13] According to her definition a foster child had to be away from *both* parents in order to count as a foster child. When one of the parents were away the child could not be registered, because one had no information

The only asymmetry between fostering-in and fostering-out decisions in the theoretical model is that the household's welfare function only includes the own children, not the in-fostered ones. This is in fact a very strong assumption, since if true, around 20% of the children in some African countries live in households where the household heads don't care about them. The empirical analysis showed that the factors operating are so different that a separate estimation at each side of the fostering "market" warranted. The explanation of that may well be this unobservable asymmetry in how own and foster children are included in the household preferences.

In any case, Ainsworth estimates each side of the fostering "market" separately. A so-called two-limit tobit model method is applied to the fostering out since the dependent variable, which has to be an integer, is bounded both from above and below. In in-fostering the dependent variable is only bounded from below and a regular tobit. In both cases maximum likelihood methods are used. The main results are the following:

(1) Own children and foster children of the same gender are clear substitutes. If you have a girl of yours in the age group 7-14 you are less likely to foster in a girl and more likely to foster out. The same applies with boys but the effects are somewhat weaker. The cross-effects were small, except that when you have a girl your tendency to foster in a boy was almost as strongly reduced as when you had a boy. [14]

(2) An increased number of both female and male adults in a household will increase the demand for child labor. That is, fostering in increases and fostering out decreases for children of both genders,. The effect is equally strong for women as for men. [15]

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about whether the child was staying with that parent or not. This was unfortunate since the families that may be that subgroup of households having the highest propensity to foster out, is excluded. It is also in the nature of the household survey method that measurement errors for people present are likely to be less than for the members who are away.

[14] Since the stock of children has a negative impact on both the fostering-in and fostering out decisions, in the longer run - if the equations hold, a population growth that increases the share of children in the age group 7-14 should reduce the extent of child fostering..

[15] This is according to Ainsworth's but contrary to our expectations. The effect might even be somewhat stronger for women. This observation appears to indicate that rather been substitutes in household work, the

(3) Income had a positive and significant effect on in-fostering of both girls and boys, but only a weak non-significant, negative effect for out-fostering for boys, an even a positive one for girls. It is interesting to note to note that the income-elasticity for in-fostering in urban areas were about 0.9 for girls while it was 1.1 in rural areas, but somewhat lower for boys. That is to the degree the foster institution simulates a labor market for domestic child labor, an increase in income will not reduce it, since it increases the demand without hardly reducing the supply at the income level of Cote d'Ivoire 1985.

(4) When dummy variables for five ethnic groups were introduced none were significant except for the fostering-out for Mande boys. They were less likely to be out-fostered.

(5) The cost of rearing children is, unlike in the theoretical model., not specified as an independent variable neither in the estimation of the fostering-in or fostering- out equation, but she indicates that the negative shift of fostering-in for the Abidjan area may have been caused by high child-keeping costs.

In addition to the estimation results, Ainsworth article contains descriptive statistics of considerable interest. While only implicit in her model, clear C*inderella* effects are present in the following table:

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relationship between girls and women is portrays a need by each woman to rule a certain number of girls.

Table 1. Percent of own and foster-in children's (7–14) participation in different activities

	Girls:		**Boys:**	
Activity	Own Child	Foster Child	Own Child	Foster Child
Housework	65.9	78.8	36.9	56.1
Family Farm	17.7	23.8	17.7	26.3
Job	14.9	14.4	10.6	19.2
School Enrolment	67.9	50.6	81.4	71.1

(Source: Ainsworth (1996), Table 1 –2.)

Summing up, what Ainsworth here does is to specify a household model to explain child fostering, which Table 1 indicates that fostering is, indeed, correlated with child labor. A large part of her research has dealt with the problem of how to make the model amenable to econometric estimation and identify the separate economic forces at work. While education and better consumption baskets for the children may be one motive for sending children away, Ainsworth found these forces weak. Rather it was motives associated with children's labor that could be clearly identified.

5. An old variation of household modeling: Chayanov and African child labor

The Russian economist Chayanov - writing around 1920 - was an important source of inspiration for the household models sketched in the preceding. He developed his theories on the basis of a mass of statistics of peasants' households, and believed it was possible to uncover economic laws of motion for their type of economic adjustments that were

Or, put somewhat differently, child labor in African households needs adult women as managers.

different than the ones that applied for capitalist firms in a market environment. As we will see the specific predictions that can be made will often be almost the opposite ones.

Sketched quickly, the basic ideas Chayanov developed are the following: Each farm has a target income or production per consuming unit. When reached, the activity in the household slackens. The target income (consumption basket) is easier to reach if the fraction of producers divided by the total number of family members are high. Applied to the demand for child labor some rather obvious implications are following: The demand for child labor has to hinge upon the demographic composition of the family. When the number of small children or the number elderly in the family increase, the demand for child labor increased. When the number of adults, or family income increase, the demand for children's work will decrease.

Translated to stylized African conditions, if adult males are kept outside home production, and the home production behaved as a peasant a la Chayanov, an increased number of males will imply more child labor while more adult women will imply less. Since fostering is now possible, increased demand for child labor may also be translated to a fostering in of children in age groups with a production/consumption ratio above target and a fostering out of the younger children who have production/consumption ratio below the target level, if any household one felt it better to reach the target income by changing the family size rather than changing the amount of leisure. This kind of behavior presupposes either strong forces towards equality at the village level or a kind of conception of what the sustainable rate of production is in the longer run for the household's plots, to make much sense.

Serra (1996) is an attempt to translate these ideas into an explicit model of child fostering in West Africa. She assumes, however, that there exists technical complementarity between child labor and adult labor while we in the preceding implicitly had assumed independence. In Serra's understanding of the marginal productivity of children's labor there are two components, the direct effects and the indirect positive effect of their labor on the productivity of adult work. This means that the marginal productivity of the child efforts increase when the number of working adults increases. This implies that a house-

hold will import (or export) working children until the per capita consumption in the household is equal to the marginal productivity of the children's labor. The lower the average consumption is, the easier it may be to satisfy this condition.[16]

Hence, if the number of young , non- producing children and old non-producing adults increases, the household will tend to foster in working children. The same will apply to adult males if they are not included as working members of the household. An increase in the number of working adults will have two opposite effects: the marginal activity of the child labor will increase, but that might also the average rate of consumption. An increase in the number of working children will decrease the marginal productivity of child labor and increase the average rate of consumption. Hence the stock of working children will have a negative effect on fostering-in decisions. The area of application for this model is the circulation of working children across poor households in a non-market setting.

Some of these implications fit rather well with Ainsworth's estimation results. However, it is difficult to reconcile Serra's ideas with Ainsworth's high Engel-elasticity for fostering-in children in the rural areas. This together with the theoretical implausibility of some of the arguments for target average consumption rates, gives reason for some skepticism.[17]

6. Implicit household modeling - some recent empirical work

Child fostering is a neighboring phenomenon to child labor, but still is not child labor. Several of the living standard surveys, including a few African ones, contain data about children's activities above the age of seven, however, including their work activities. They have recently been used in empirical studies of child labor in an African context in

[16] Note how close this reasoning is to standard migration theory of Arthur Lewis and Harriss-Todaro. This is nor so surprising since a theory of child fostering by necessity implies a theory of child migration.
[17] We will, however, return to some of these ideas in a different setting when looking at the evidence brought in to social anthropology, or rather comparative psychology by Monroe (1984) later in this paper. Note that the consumption used in Basu & Van (1996) is closely affiliated with the Chayanov approach as a

a more direct manner by World Bank economists. The research has evidently been built around the short-run household models, but the links are more indirect since the structural models have not been specified.

Instead the researchers have gone rather straight to the reduced forms and included a number of exogenous characteristics of the children, of the household and a fairly large number of variables of potential policy relevance, such as distance to school. The econometric problems have been quite substantial, and have, naturally, received much of the attention. Two works have applied data from Cote d'Ivoire, Grootaert (1998) and Coulombe (1998), both mainly based on the 1988 Cote d'Ivoire Living Standards Survey (CILSS), but also going back to the 1985 survey, the one Ainsworth used. Another study from West Africa is Canagarajah (1998) on Ghana. World Bank researchers have also made a study of the more urbanized Zambia (Nielsen, 1998) and the even less urbanized Tanzania (Mason and Khandker, 1998).

Let us first look at the studies from Côte d'Ivoire and some of their descriptive statistics. In order to understand their results, their definitions of the variables, which have to be based on the ones applied when constructing the interviews for the living standard survey (acronym CILSS), are important. A child is defined as having *participated in the labor force* if it has worked at least one hour in the past seven days in any economic activity, that is any activity that contributes to the GDP in the country. This definition is reasonable when dealing with organized labor market where even one hour's participation presupposes a major commitment. In the context where the children may, for example, drop in and out of work on the fields at any moment, the definition is in a sense too weak and strongly exposed to measurement errors.

Coulombe checked for this and found the variable more telling than feared: 95% of the working children worked more than 10 hours a week, and 2/3 were laboring at least 30 hours a week.

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supply mechanism of child labor: restricted role of maximization and supply only above a threshold average income level.

On the other hand, the definition of child labor is too narrow, particularly when seen from a child welfare point of view by excluding household work. Even such demanding tasks as fetching water and firewood are excluded.[18] One of the advantages of the living standard surveys is that the children household activities are also registered and may be dealt with, as they are in these recent a child labor analyses.

Schooling participation rates are measured in the same way as labor participation. Since these involve considerable expense on the part of the household, measurement errors should here expected to be smaller. The descriptive statistics in Grootaert shows that child labor is, indeed, significant in Cotes d'Ivoire. The participation rates are high, particularly in rural areas:

Table 2 School and Work: Mutually Exclusive Categories, Ages 7-14

	Urban (% of)	Rural (% of)	All (% of)
School only	39.3	21.3	28.5
School and work	36.6	28.4	31.7
Work only	3.7	27.9	18.3
Home care or idling[19]	20.3	22.4	21.5

(Source Grootaert (1998, Table 8.)

Furthermore, the children's workloads are fairly heavy. Grootaert makes a portrait of the full-time child workers of which almost 90% live in the countryside. When we include homework the girls work 54.1 hours a week and the boys 48.4 hours. The average age is fairly high, however, because he includes children 17 of age. Even if we include the group of children who both work and go to school the average child's work efforts were high. In 1988 the average number of working hours pr. week for the children working in Côte d'Ivoire was 30.7 hours, constituting about 10% of total labor supply of the country. In addition, the children spent 12.1 hours on home care[20], that is, almost 43 hours of work

[18] Here the statistical practice go further than warranted from the GDP restraint. According to this, fetching water for livestock, but not for the family should be included. In practice none is.
[19] Grootaert adds the housework and the "do-nothing" categories since he believes the last is a measurement error. We agree that the error here might be larger that for some other categories. Nevertheless idling, particularly for boys, is also a significant problem, particularly in very poor families, we have observed, so this category is not empty.
[20] In a developed country as Denmark, the children do housework 1-2 hours a week, 2.17 hours for girls, 0.28 for boys. Bonke (1998).

altogether in a week on average. Coulombe (1998) got 46.6 hours for the same country with the same data. When including household work, girls were working 5 hours more than boys per week.

Another interesting descriptive statistics that appears in Grootaert is the complex association between poverty and child labor across households and over time. Let us first note that the period 1985 to 1988 was a period of declining income in Cotes d' Ivoire due to a combination of worsening terms of trade and a structural adjustment program. Overall, child labor in Cotes d'Ivoire appears to be associated with poverty:

Table 3 Children's labor (age 7 –14) in Cotes d'Ivoire 1985 and 1988 according to poverty level

	1985		1988	
	Participation rate	Yearly hours	Participation rate	Yearly hours
Very poor	30.6	1 268	43.9	1 713
Mid-poor	26.8	956	21.9	1 475
Non-poor	14.4	920	10.2	1 619
All	18.5	1 001	19.3	1 598

(Source: Grootaert (1998))

Grootaert interprets these statistics to tell " the importance of child labor for Ivorian households in absorbing the shock of falling incomes during the recession of the 1980s". While in several ways convincing, a closer looks at his statistics gives reason for doubt. In Abidjan there was almost no supply of child labor in any poverty class both before and after the income shock. Abidjan should, presumably, be one of the regions with the most severe income shock.[21] The impression is further weakened when we consider the following association between income and the children's labor participation for the year 1988 only:

Table 4 School and work among children 7-14 in Côtes d'Ivoire, by income quintiles

	Quintiles of Per Capita Household Income					
	1 (%)	**2** (%)	**3** (%)	**4** (%)	**5** (%)	**All** (%)
School only	20.6	21.7	27.4	24.7	38.1	25.3
School and work	23.0	25.5	31.5	38.5	38.2	30.2
Work only	30.9	27.9	21.3	17.1	8.9	22.8
Home care and idling	25.5	24.9	19.8	19.8	14.8	21.7

One way to interpret this table is to add the two first lines. Then we see how the fraction of children who goes to school rises rather steadily with income, from 43.6% in the lowest to the 76.3% in the highest income group. Not going to school defines the group of children who only work or do home care/idling. Their share decreases with income. That is, poverty may explain why the children are not going to school, but not child labor. In fact, the share of children who both work and go to school increases with income.

How to explain that? One possibility worth exploring is that the the poorest may have fewer resources by which they may gainfully employ their schoolchildren (less good land), but more demanding infrastructure (longer way to carry water), so there will be a tendency of their children to either do home care or idling. In other words, up to a certain income level the increased marginal productivity of employing children will work against the increased demand for schooling to make the demand for child labor rather flat or maybe even rising with income until the higher income groups' demand for more intensive education dominates..

[21] We should recognize that the number of observations here appear to be small.

However, so much is going on at the same time in households that it is possible to tell too many stories on the basis of descriptive statistics. In order to disentangle some of the forces at work and to check whether they really are likely to be systematic factors that determine the extent of child labor in the households, an application of proper (interpretive) statistical methods is necessary. Here the battery of methods developed by econometricians also gives a wide scope for choice, a choice often made difficult because of the very same development of methods that has also made researchers aware of the many pitfalls.

Grootaert's approach is basically a reduced form approach where a great number of exogenous variables are introduced to explain his few endogenous ones, the probabilities of any given child to belong to the different groups described by the lines of table 4. The exogenous variables includes a number of child characteristics such as gender and age, household characteristics such as gender, age of household head and education, and some environmental ones such as rural, urban location, distance to school, and so on. He does not explore the significance of the foster relationship for the allocation of children's work and schooling, however, although that relation does not seem to have changed much from Ainsworth's to his sample.[22]

No attempt is made to derive these probabilities from any economic theory of the households. Nevertheless, the estimation procedure Grootaert applies, a so called sequential probit model, that is carefully crafted to avoid some important statistical inference pitfalls, assumes a couple of important theoretical ideas of the typical household's decision process:

Altruistic parents start their decision sequence by considering the best alternative for the child, that is the alternative 'go to school and not do work'. It is an either or choice, so the rest of the alternatives are lumped together, hence a probit estimation of those probabilities on the basis of all observations in the sample is the appropriate procedure. At the next

[22] From Grootaert's 1988 data (table 5) it may look as if the extent of fostering was about the same as in 1985. 26.6% of the children (0-17) were living away from home. In his estimation model Grootaert does not distinguish between the children own and foster children and allocate both groups to the household heads where they are located, which he in the table of the estimated parameters calls "father" and "mother".

decision point, the children who is in this group is thrown out of the sample, and the next best alternative, the (conditional) probability of 'both going to school and work' is considered against all the remaining alternatives. That probability is then estimated. The procedure is repeated and the probability of 'only working' is estimated. The residual are then doing home care. For each stage the value of the exogenous impact parameters are estimated.[23] A realistic aspect of his statistical design is that he separates the rural and urban children and estimates the parameters separately for each group

Despite the fact that Grootaert notes that fewer than 2% of the children work for wages he consider the estimation procedures to catch the supply curve of child labor, while it is obvious that the observations realized are a mix of supply and demand where the bulk of both the demand and the supply is about the household's own children.

Many of the results are nevertheless interesting, but puzzling. For example, the employment of the "mother" has a strong positive and statistically significant effect for whether a child living in an urban area will *go to school and not work*, while it will have a strong *negative* (but not statistically significant) effect if that child is a girl. [24] It will *increase* the probability of the child 'only working' (not significant) while it *decreases* (not significant) the probability of the girls' 'only working'. In rural areas the effect of mother's employment is small (and insignificant) on 'only schooling', while it increases both the probabilities of children 'only working'(not significant) and the girls' 'only working' (significant).

An increase in mother's education has weak *negative* (insignificant) effects on 'only schooling' for children in urban areas, but positive (insignificant) for urban girls. It has

[23] As we have indicated in the text we believe that the realistic binary choice variable here should be " schooling or not schooling". In the absence of a labor market, work does not have this binary character but is more like a continuous variable. If one, nevertheless, because of all the zero observations should consider it binary, there should be two sequences. Schooling, then work and not-working; not-schooling and then working or not-working, where home care should be included in work.

[24] Grootaert also analyzes the data with a, from an econometric point of view, less satisfying method, a multinomial logit framework. Using this method the negative impact on girls education of mother's employment becomes statistically significant. The only really new results that are reached by the multi-nomial logit method is that now distance to school has significant negative impact on schooling only and positive effect on working only. If the distance increases to above 5 km this effect subsides. Coulombe does not supply any explanation, but the effects of boarding schools is a likely candidate.

negative effects on ‘only working’ (significant) for children in general while strong *positive* (and significant) effects for *girls’* ‘only working’! In rural areas more education for the mother works positive (weak, but significant) for children’s ‘only schooling’ while it has a stronger (still significant) and negative effect on girls’ ‘only schooling’! The effects on the probability of only working are weak and insignificant. When interpreting these results one should remember that ‘only working’ in the context means ‘not only home care or idling’.

These results may indicate real policy dilemmas. There appears to be a short-run negative effect of women’s accumulation of human capital in the countryside at the expense of their daughters’. Furthermore , women in urban areas who are employed tend to have children with less ‘schooling only’, but in this case the effect is likely to be on boys.

In general the characteristics of the “ father” appears to have overall weaker impact. Father’s education has weak, but significantly positive impact on ‘schooling only’ and negative (insignificant) impact on ‘working only’ in urban areas. It has weak positive (non-significant) effect on rural children’s ‘only schooling’ and weak, (but significant) positive effects on rural girls’ ‘only schooling’. Father’s employment has some negative effects (insignificant) on the urban children’s ‘schooling only’ and ‘working only’, but a positive (insignificant) effect on girl’s ‘schooling only’ and ‘working only’. The most striking result is for the rural area where his employment has a strong *positive* (significant) impact on ‘working only’ for children in general while it has strong (insignificant) negative effect on girls’ ’working only’.

Altogether these result appear to indicate that women’s and girls’ work are complementary inputs when we keep home care activities outside the work definition. The same applies for adult males and boys. This has important implications, for example, for the consequences for the impact of adult migration or deaths on the allocation of labor inside the household. It supports Ainsworth’s result that fostering-in demand for children increases as the number of adult females increase in the household.

In one sense it is obvious, but the most striking result of all are the number of cases where the changes in the exogenous variables have opposite effects for the pressure on girls' and boys' labor activities and schooling. Gender specific social norms somehow must strongly influence the economic activities of the children chosen, including their labor.

Grootaert operates with a dummy for being poor that has a strong (and significant) negative effect of both 'schooling only' and 'working only' in the urban areas, and a strong negative effect of 'combined schooling and work' (against the alternative 'no schooling-and - either home care - or working only'). That is it has to be positively associated with home care or idling. In rural areas the poor dummy has weak negative (insignificant) effects on schooling only, a fairly strong negative (significant) effect on working only and even stronger negative effect on the combined schooling-work alternative. Altogether these results support our interpretation of the descriptive statistics in table 4 - the view that there is no straight cause and effect from poverty to child labor in the African household economy. Child labor needs some complementary input often missing among the very poor.

As just mentioned in a published work Coulombe (1998) analyzes the same data using a third statistical method, a bivariate probit model where schooling and labor participation are the two simultaneously determined, endogenous binary variables on which the impact of a host of exogenous variables are studied. Also in this case the reduced forms are set up without any attempt to derive them. The impact of a large number of exogenous variables is then studied. Many of the results confirm Grootaert's analysis.

However, his results does not support the impression of strong complementarity between labor inputs of children and adults of the same gender. For the rural areas one explanation may be that he includes land size that may catch some of the apparent complementarity of the two forms of family labor. An interesting new exogenous factor introduced is religion. It appears to have some impact. Compared to the children of traditional animists the children of both Muslim and Christian parents work less than they do. The Muslim children participate less in schooling than the Christian children.

Another new point is that while sibling effects in Grootaert's exploration are weak, here they become quite strong. In particular, if you have an older sister you are likely to work less and go more to school.[25]

Before Coulombe (1998) Canagarajah and Coulombe (1997) had made a similar study of child labor and schooling in Ghana where a bivariate probit model was applied to study their interaction.

While the countries are roughly on the same economic level, school participation in Ghana is much higher than in Côtes d'Ivoire, which influences the school-work interaction for the children. The school system of Ghana is much less demanding.

In the Ghana case the effect of income (measured by total expenditure) on the children's work becomes even more questionable. It is only 'schooling only' and 'no school no work' categories that are clearly influenced by income, the first in a positive, the second in a negative direction. It is likely that it is the last category which contains the group of children with the lowest welfare levels.

[25] In principle, and for policy applications most important result of Coulombe's research, is the strong estimated negative correlation between the children's schooling and labor. Alas, it is difficult to believe in the significance of this correlation because of the way Coulombe has treated the data set. Somehow, the group of children who both do schooling and labor is practically empty in his descriptive statistics. This is difficult to believe in. Although Coulombe should be expected to have a smaller group than Groothaert since he , for good reasons, delete all children who were on vacation when surveyed, there should still be a good number of children who do both. And while the share of children who combine school and work is likely to be smaller in Côte d'Ivoire than in Ghana, where the school- system is less demanding, the difference is too large.

Table 5 School and work of children 7-14 in Ghana by expenditure quintiles

Expenditure quintile	Work only	School only	Work and School	"Idling",non -GDP work	All
Lowest (1)	13.1	46.4	15.5	24.9	100.0
2	6.8	54.1	21.7	17.3	100.0
3	10.5	53.8	18.6	17.1	100.0
4	8.7	55.2	19.2	17.0	100.0
Highest	5.7	64.6	19.1	10.6	100.0

(Source: Canagarajah and Coulombe, 1997)

This impression is confirmed in the results from the statistical analysis. An inverted U-shape of the impact of income on child labor participation rate was found,peaking around a number just below median income. Independently and only based on theoretical considerations, Andvig (1997) suggested an inverse U-shape for the realized amount of child labor as a likely shape of the impact income on child labor in farming areas.

This does not imply that child labor performed in households may not be a significant child welfare problem in its own right, and related to poverty, but rather that the standard definitions of child labor are unable to catch it. The main reason is that non-GDP enhancing activities are not included. In poor households with a labor-demanding infrastructure most of the children's work will consist in this kind of work: carrying water, fetching woods, and so on.

By comparing the descriptive statistics from Ghana and Côtes d'Ivoire it is interesting to note that while the children's work participation ratio around 1990 was considerably higher in Ghana compared to Cotes d' Ivoire (around 28% against 20%) the average time spent working among the children who participated was much higher in Côtes d'Ivoire, in fact two times as high. The hours spent on household work were roughly equal. Part of the difference in hours worked may of course be explained by various measurement

errors, but that is not likely to be all. The existence of such differences even at national levels strongly suggests that if one want to compare child labor problems across countries when household work is a significant part of the problem, the ILO-approach of comparing participation rates only becomes much too simplified. Numbers that indicate the overall mass of child labor and its distribution across children should be attempted.

When comparing the results from the inferential part of the statistical analysis, we note that unlike the situation in Cotes d'Ivoire, the mother's education effects their daughters' education positively. The same does the existence of a female household head. The Ghana study supports (weakly) the expected siblings effects. If the father is present in the household, his children tend to work less and go to school more, while the mother's presence increase both schooling and work. These effects are fairly weak, however. These results may be explained either by evil stepfathers or input complementarity between the mother and her offspring. If household work is not included in children's work participation there are otherwise no indication of such complementarity. If household work is included, we get the contrary result that if the number of adult females in the household increases, the work participation rates for the children decreases, a result more in line with common-sense expectations.

Religion has effect also in the Ghana sample, but this time also Muslim parents increases school-participation and labor participation, but by less than the Christian faiths. It is interesting to note that the Christian beliefs increase both school and labor participation compared to the traditional animist household in rural areas, but reduces labor participation in towns. May we get a glimpse of the Protestant work ethic transplanted to the African countryside?

The crucial part of Canagarajah and Coulombe is that they may study the effects of school and labor participation *simultaneously.* Since both variables are endogenous they may not ask whether child labor causes low school participation rates, but it may point out to exogenous variables that work on both, for example, increasing child labor and decreasing school participating rates. Furthermore, they may estimate the correlation in the error terms to see whether there is an overall negative co-variation. Such negative co-

variation was indeed corroborated in most of their specifications, but it was not very strong.

In Tanzania (Mason & Khandker, (1998), the situation appears to be somewhere between Ghana and Côte d'Ivoire when it comes to the time burden of the children's work. The difference between boys and girls is larger, however. Assuming that the size of the age cohorts 7-9, 10-12 and 13-15 are equal we find that the average working hours for children not in school were 30.2 hours for boys and 38.9 for girls in 1993. This fits well with an earlier sociological study of Kenya where the children's working time ranged from 35 to 50 hours per week (Kayongo-Male & Walji, 1984) when they were not going to school.

According to Mason & Khandker (1998) school children in the area studied in Tanzania spend roughly about the same time on school and work together as the working children spend on labor, which indicates that considered from the household point of view, schooling represents a considerable investment in unused child labor. For each boy between 7 to 16 who attends school, the household foregoes on average 22.2 hours of work a week and for each girl 27.5 hours. If the children themselves are indifferent between schoolwork and homework, their present welfare will hardly be reduced through this work.

It does, however, indicate that the children in this case are not willing or able to substitute much leisure when trading between schooling and labor. The descriptive statistics suggest then a clear negative co-variation not so much in evidence when only participation rates were compared. No statistical test on their co variation is given in the paper, however.[26] In an earlier study from Botswana (Chernichowsky et al., 1985, 35)

[26] An interesting study of such interaction is in Ravallion and Wodon (1999), but they are using Bangladesh data, that is not quite comparable because they can assume competitive markets for child labor. They study a kind of natural experiment, a food for school project that increase the attractiveness of school compared to labor. It has, however, an income effect that theoretically may increase the children's leisure. In that experiment, the probability of going to school increased by 17% for boys and 16% for girls and reduced the incidence of child labor by 4% for boys and 2% for girls. That is it has the strongest effects on the group of "idling "children.

Mueller reports that children who do not go to school report more leisure time than children who attend school, about 6% more for boys and 10% more for girls[27]

In Ethiopia research has been done to explain the low school attendance of that country. When directly asked, the most important reason for rural students for dropping out of school was because of conflicts between work and school (World Bank, 1998, 96). More than 30 % responded that this was the first reason for why their children never attended school, and almost 20 % said that this was their second reason. The low school attendance in the rural areas of Ethiopia makes the negative association of child labor and schooling in African countries to stand out more clearly.

It will be important, not the least for policy purposes, to clarify whether the high child labor participation rates in most countries in Sub Sahara-Africa go together with low substitution elasticities for children's "leisure"- vs. schooling and labor. As pointed out in Ravallion and Wodon (1999) only in this case is child labor in itself likely to cause poverty traps and make increased school attendance difficult. Otherwise it is likely to be other resource restraints that may cause vicious circles of poverty. Given the task distribution between the genders in most African communities, making girls on average more busy, we will expect the possibility of being stuck in poverty traps associated with child labor are more likely for females, if there are, indeed lower substitution elasticity for them with their shorter leisure. They may have lesser taste for it.[28]

In the preceding we have presented what we consider representative empirical analysis of child labor phenomena in Sub Saharan Africa made by economists. We have also presented some theoretical explanations of child labor as directed by households that are general, but applicable as well in African as well as in other countries where household production is important. The focus has not been on how the children are managed, their working conditions, their love or hate of work. The question has been on how much or how many. Few clues have been given to whether this is harmful or helpful to the

[27] It should be noted that the share of leisure for girls, particularly for young girls is probably seriously overestimated and their working activities underestimated.

children or to the economies as a whole. It is also clear that on the basis of these data it is improper to ask whether that work is harmful to the children or not, since we know next to nothing of their working conditions.

The matching question to ask is whether the children are likely to work too much or too little when controlled by their parents? This is the question we turn to.

7. Welfare economics of family-controlled child labor

Till now, the question to our knowledge has only been systematically raised in a couple of papers by Baland and Robinson (1998).[29] . Becker's (1981) study on the welfare economics of families presents points of view that also is of relevance for our problem. Of particular interest is his analysis of the conditions when transfers from one altruistic member of a family was sufficient for it to pool income, generate Pareto-optimal internal allocations and make selfish members to behave nicely (the "Rotten Kid" theorem). Child labor is, however, not an issue for Becker, but the question of how much education should be spent on the children, is.[30]

The setting of Baland and Robinson is rather abstract. Therefore it is also applicable to African conditions, but they make no attempts to look at children's role in the more specific welfare economic problems of African family systems. [31]

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[28] In Canagarajah and Coulombe (1998) they estimate the correlation between the error terms in their bivariate probit model for schooling separately for boys and girls and find very small difference, however.
[29] Their papers are to be published in a condensed and somewhat altered version in *Journal of Political Economy*.
[30] He has some remarks of the advantages of family firms that may well also apply to children: "The Rotten Kid Theorem indicates that the beneficiaries are more likely to consider the firm's interests than other employees and to refrain from shirking, theft, and other behavior detrimental to the firm" (Becker, 1981, 195). These are also some of the reasons why households may prefer the work of their own children or children within a shared authority structure (extended families). We return to this issue in a later paper.
[31] Economists have started to question whether husband- wife interaction may cause inefficiencies in African agriculture, however, but the allocation o the children's labor has not yet been brought into the plot. See Balsvik (1995), Udry (1996) and Fafchamps (1998).

i) A commitment failure

Baland and Robinson (1998) analyze several situations where the household head is in control and the children belong to the family network. The basic framework is the following:

The decisions of the parents are made for two periods. In the first period the adults make all of them, and decide how much the children should labor and consume. In the second period the children have also become decision makers and decide how they may dispose their income. The length of the period is fixed and defined by the time parents are in complete control. Outside the family there exist a productive education system where children's time may be used as input in the first period and the return of it will accrue to them as human capital. It makes them more productive in the second period.

The adults' welfare is a function of their consumption in the two periods and their children's welfare in the second period. In the main model the children don't care about their parent's welfare. The labor offers of neither children nor adults influence their welfare. Since the children have no leisure, the only possibility to increase their income above their parents' are by reducing their work when they are children. Children's consumption in the first period is given as fixed costs and is not a matter of choice. No problem of shirking exists. If the children are not working, they spend their time on education. As indicated before, that increases their labor productivity in the second period.

Both the children and their parents are working in the same technology units that transform their labor input into consumer goods. Production has unit scale elasticity and there are perfectly competitive markets everywhere. [32]The children's and their parent's labor are perfect technical substitutes.

[32] These are, of course not at all realistic assumptions in an African context where production is mainly done within the household, and where markets for child labor are likely to be missing many places. As long as consumption and production decisions may be separated, these assumptions are fairly innocent and may be added to a number of other assumptions that are of a more technical nature that are needed in order to reach conclusive results.

The parents may transfer some of the income in the first period, bequests, to be added to their children's income in the second period. They may also save and add to their own income in the second period. The children may, or may not receive a share of their own wage income in the first period, but this is decided by the parents. The income that the children receive in the second period is fully under their control, however.

Like in Becker, the kingpin of the analysis is what happens to the transfers. Note that there are two ways parents may transfer income to their children in the second period, either through direct monetary transfers, bequests, or through the children spend their time on not working. By assumption, the economic value of one time unit spent on education in the first period is above unity. The maximization is performed by the parents. The children only adjust their consumption in the second period to fill up all income received. If in optimum, the bequest hits its lower bound, zero, Baland and Robinson show that a non-Pareto allocation results. The children work too much in the first period.

Since the children dispose their own income in the second period, the adults might not be sufficiently rewarded for not letting the children work. When either the parents are too poor or not sufficiently altruistic to leave the children any bequests, this would be the case. Then, if it was possible for the children to compensate their parents for *not* letting them work, the welfare of both children and adults may increase. To reduce child labor (and increase education) would be a Pareto-improvement. This result is, of course, only valid in the case when not working in the first period increases productivity "sufficiently" in the second period.

Note that this result does not hinge upon any ordinary imperfection in the credit market, for making the parents invest too little in schooling and letting them labor too much. It is given by the decision structure in the family. The children are not allowed to make any decisions in the first period, hence, they cannot make any credible commitments for the second period. They can only *promise* to do so in the second period, but that promise is not credible, because they now are in full control of their income, and they have no

reasons to spend anything on their parents. Given this decision structure it is no way that the children may commit themselves in the first period.

But why would this not be a problem also when there are positive bequests? Because the parents can first transfer income to their children in the second period by making them work less until the return of the two methods are equal. That will happen when the child's wage rate in the first period is equal to the marginal return of the last hour spent in education. After that, monetary transfers will be more effective.

What happens if there is reverse altruism – that children care about their parents, may transfer income to them in the second period., and that their parents still know their preferences and calculate in their degree of altruism in their own maximization? Well, the non-Pareto optimality might still occur if the parents' degree of altruism is too week or if the credit market is imperfect.

It follows from their model that the children work more the less altruistic their parents are and the lower their wages. The authors interpret that to mean that child labor is an aspect of poverty. An increase in the children's wages, however, will also increase family income without similar clear effect on the family supply of child labor.

ii) Lack of credit markets

If imperfections in the credit market exist so the parents may be unable to borrow in the first period, excessive child labor may also arise in situations were they transfer resources to the children in the second period. These bequests would then be partly financed by the children's own labor. This situation occurs when the parents' preference for consumption in the first period is strong compared to the second period. When not allowed to dissave in the first period, the only way they may increase their consumption in the first period is to let their children work more. When combined with altruism they are willing to sacrifice part of their second period consumption by letting their children receive some bequests. In this case the excessive child labor could be avoided by a perfect credit market that would allow the parents to dissave in the first period.

If, however, the parents are sufficiently altruistic, the children are not "rotten" and consider their parent's welfare "enough" when they are allowed to make decisions, the child labor may not be excessive even in situations where the parents leave no bequests.

The families may not be expected to solve these inefficiencies themselves. Given some assumptions about technology Baland and Robinson also show that a marginal ban (for example a reduction in daily hours allowed worked by children, or reduction in their age) may be efficient in a general equilibrium context. The same will apply to a subsidy of education paid by taxes of the parents, or obligatory schooling.

Read literally, the model presupposes a market for child labor, but may be easily adapted to situations with household production. [33] In order to explain some of the empirical facts about child labor on African farms, it has, of course, to be modified. For, example when a decline in the parents' income increases the child labor supplied, this is due to the fact that this does not influence the marginal productivity of the children's work. In farm households, we will expect that the farms with more assets have both higher income *and* higher marginal productivity of the children's labor, so if there are some fixed cost of employing children from outside the household, we may observe a less clear correspondence with poverty levels and the amount of child labor without the necessary modifications of the model. In addition, as we have seen from the empirical studies, child and adult labor appear often to be complementary inputs not substitutes, as assumed by Baland and Robinson.

[33] These are the standard assumption applied for household models to allow the separation of consumption and production decisions. The children may move freely across households to have markets for child labor in a household economy. If the household is confined to only employ its own children, paradoxically some aspects of the situation analyzed by Baland and Robinson (and not presented here) may fit better, like the absence of shirking. However, it becomes difficult to believe that the children are completely free to dispose of their income in the second period in the case when we have a household economy based on an extended family systems. On the other hand we may also doubt that the authority structure assumed for the first period is likely to hold when the children are working for other monitors. These are both examples of situations where the second assumption for separation of the two types of decisions inside the household don't hold. This is not imply any serious criticism of the model. It moves at a different level of abstraction,

iii) Child labor and fertility

In another paper Baland and Robinson (1998a) explore another possible inefficiency of a family decision structure that may arise when the household head also decide the number of children endogenously. In a similar way as for child labor they argue that left to itself the family will choose to have too many children. The older children are unable to pay their parents not to have the last child. From our point of view it is of special interest to note that within the framework increased child labor does not necessarily go together with increased fertility. To put it simply, if the productivity of the schooling is high that tends to increase fertility more than child labor will do.

Deaton and Muellbauer (1986) have shown that even in developing countries the economic costs of having children are so high (30-40% of household income). The income due to child labor is not likely to be sufficiently high to compensate (in Ghana children supplied around 5% of total hours worked, in Côtes d'Ivoire around 10%). Combined with the valid arguments of Baland and Robinson it is sufficient reasons for doubting any simplistic causal chain from extensive child labor and to high fertility based on parents' economic calculation of the net value of increasing their child stock. A few case studies made from exceptionally transparent communities by social anthropologists (Blurton Jones et al, 1989, 1994) will present evidence that extensive labor of children allows for a nexus of high fertility –high labor participation rates

iv) Non-Pareto optimal allocation of risk [34]

The Baland and Robinson assumptions about the family decision structure may also be applied to argue that the children shoulder a too large share of the family risk-taking by working too much in the first period.. The simplest way to see this is to reinterpret the children's income in the second period as the income net of the income loss due to the fraction of children who have become disabled due to their labor as children in the first period. If they go to school or play, fewer will become disabled.[35] One of the reasons why

[34] In this section we argue that child labor expose children to excessive risks. In our characterization of children we wrote that child labor at bottom is a way to cope with risk. How come, isn't this a flat contradiction? To see that it is not so, we may note that in this section's model we assume that the family structure is intact. A more fundamental risk for a child will often be that its family protection will crumble. To cope with this risk in an uncertain environment, it should better learn to work as soon as possible.

[35] Baland and Robertson point to the hazards of child labor themselves in their introduction, and refer to a study of Nangia (1987) who claims that one in three working children dies before they are 18. If true for

schooling gives rise to increased human capital is that the human loss of this kind is reduced.

In the same way as before the children are unable to make a credible promise to pay their parents the *insurance* of not working. This will be the case even if it follows from this reinterpretation of their model that the adults will pay for their children's consumption in their first period as adults, in case they get disabled. (We are not considering the consequences for the children's life in their second period as adults in this model. This would only have reinforced the argument.)

v) Systematic parent mistakes

Baland and Robinson have no discussion of the labor offer of neither children nor adults. The only inefficiency that may arise is the effects of their work on their schooling schooling. However, much of the ethical intuition about child labor is about the labor offers. Is likely that the children's labor offers become too high compared to the adults'?

Let us raise the question within a Samuelson type of family welfare function. Then each member will work until the marginal loss of the family welfare is equal to his wage. If parents and children have equal weights, and have identical utility functions, children should still work less work less than adults if their wages are lower. They are not identical, however. For example, evidence from experimental psychology indicates that time passes more slowly for children who do work they consider boring (but may even pass more quickly for exciting tasks).[36] If we now only consider the boring tasks, their parents will then underestimate the children's dis-utility of labor and make them experience

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India, such numbers are unlikely for African child labor performed in the households. However, it is well documented from traffic research in OECD- countries that children have less ability to cope with risky situations. So the argument are relevant for all types of risky labor situations the children are encountering. The actual allocation of risks will depend upon the actual dangers involved in the production process: what kind of crop, climate, use of pesticides, and so on. We should perhaps not overdo this argument if the alternative is uncontrolled play. Particularly for boys that play might not be less risky. Comparing households with firms, again this is an area of comparative advantage for households. They will at least internalize some of this external effect. Parents will tell their children in which part of their fields there are likely to be snakes, which plants are poisonous, and so on. In a later section we will present an extreme case where the children do no work at all before 15-17 years of age because of the risks involved.

[36] In fact, children's experience of time is a quite complicated research area, where different aspects of the labor tasks may have different effects on experienced time. I believe, however, our presentation to be a fair, popular summary of the relevant research in psychophysics (e.g. Arlin, 1986, 1989).

higher marginal dis-utility of work than the intended one. In questionnaires there has also been evidence that parents underestimate the actual amount of time their children spend on work, particularly in recall data. (This effect is demonstrated for the Philippines in Evenson et. al.,1980). In both cases they are actually maximizing the wrong utility function.[37] Compared to the correct one the children will labor too much. The same will apply to the Baland Robinson head hold's utility function, except that the last type of mistake is unlikely, since the children supply their labor in the market.

vi) Non-altruistic parents

The normative assumptions we have applied until now have been rather uncontroversial. We have discussed situations where welfare economics may reach clear answers, and where we either have possibilities Pareto-improvements or there are some clear instances of mis allocations that cause children to work more than intended. In the Baland / Robinson model the children have to consume more and labor less as the parents become less altruistic.[38] At the same time would the rate of investment in human capital go down, and, presumably, also the growth rate of the economy. Hence the more altruistic the parents, the better? This is not unconditionally a reasonable answer. Firstly, within the altruism range where there is no scope for Pareto-improving reduction in child labor, the children will reach higher consumption levels than their parents and we are back to a classical dilemma of inter-temporal allocation in economics.

It will take us too far to go deeply into that discussion, but it points to a real dilemma: Is it right to sacrifice some of the children's future increase in production capacity by making them labor for keeping up their parent's rate of consumption? The more efficient the educational system is, the larger is the efficiency loss if the parents does no allow their children to be educated, but the larger will the difference in the parents and the children's

[37] To claim that this is another case of a non-Pareto optimal allocation is somewhat tricky, however. If the parents got the true information, their utility will go down, and the children's stay the same. After the correct information has arrived, they will adjust so both their and their children's utility are raised. But compared to the solution of the uninformed maximization problem their utility may be lower. If, so the first allocation does not a non-Pareto allocation.

[38] This relationship is an interesting, testable implication of the model. In the one bargaining model that introduces children as separate bargainers so far, Moehling (1997), Moehling predicts that the children's share of family consumption will increase, when they work., and she substantiates it with US. historical data.

consumption levels be. How altruistic should the parents be? What is the optimal amount of child labor? Efficiency may pull it towards zero, fairness towards some finite positive amount.[39] Note that inefficient school systems increase the amount of child labor that is acceptable on efficiency grounds while it lessens the strength of the fairness argument In any case, in this world where the parents make all the decisions in the first period, they may force there children to enjoy arbitrary small shares of family consumption and zero schooling.

Poverty may make altruism a luxury norm, and when combined with inefficient schooling system, even extremely high incidence of child labor might not cause any Pareto inefficiency. Other ethical criteria must be introduced or other real world situations outlined, to judge whether reducing child labor in sub-Saharan Africa would be an important thing to do for the poor in the continent or not.

vii) The Basu-Van model or the low wages trap

In a model developed by Basu and Van (1998) the parents are completely altruistic and withdraw their children from the labor market as soon as their own income passes a certain threshold.[40] Unlike what happens in the Baland/Robinson model, the children's labor offer enter directly in the family welfare function. Nevertheless, excessive child labor in the Pareto-sense may arise in this model too, but not in the single isolated family. It may happen as a result of the workings of the whole labor market.

If everyone are very poor both the adults and the children enter the labor market and since child labor and adult labor are near substitutes, the child labor pushes the adult wage rates down, which may get the economy stuck in a low wages - high child labor participation rate – equilibrium. The same economy may however, also reach another equilibrium where the adult wages stay high because they are high enough to make the

[39] In Baland/Robinson model the altruism parameter is exogenous. It is reasonable to consider it as a kind of social norm where the parents are fixing it on the basis of what they expect the other parents are doing. Increase in average income levels are likely to move it up.

[40] This behavior pattern does not have to be based upon altruism. A Chayanov-like income targets combined with an assumption that when the aim is reached, the least productive members of the household will be the first to withdraw.

altruistic parents keep their children out of the labor market. In this economy everyone are better off.

Hence the child labor in the first equilibrium is not a Pareto-optimal situation and economists would have no hesitation with applying policy against it, for example, by banning it. In practical policy one should be careful not to assume that an economy with high child labor participation rates necessarily was stuck in a non-Pareto-optimal equilibrium, however. If the productive possibilities in the economy are too poor, the Basu-Wan model will predict a single high –child labor participation rate- equilibrium. To force upon it a ban on child labor will only force upon it a deeper level of poverty.

- While interesting and important for economies with a high rate of child labor supplied to private firms in the market, the low incidence of such child labor in sub-Saharan Africa, makes the possibility of the non-Pareto child labor trap remote at the moment. Given the indication of excess supply of child labor when jobs become available, the possibility may soon become relevant, however, and a question of whether a ban on child labor – if implemented – will make the African countries stay poorer than their production possibilities warrant, or if the ban may make them avoid the high child labor participation rate trap.

viii) Applied welfare economics

The only applied welfare economic study of African child labor we are aware of (Canagarajah and Coulombe, 1998) is from Ghana. As in theoretical studies, the focus is on the interaction between schooling and child labor. The policy instrument that was assessed in the cost benefit analysis was the effects of giving a 10% income subsidy to children out of school. The benefits are the present value of the expected income increase of the children who now get schooling during the years they are in the labor force. The costs include the value of the subsidy, the increase in schooling costs due to increased attendance in addition to the income loss due to the decreased earnings of the children now going to school. That loss is valued to 1/3 of the earnings of an adult without education.

The difference between social and private return is built into the cost benefit analysis by using a higher discount rate for the private net return. The final result shows a significant, but modest social return. The costs to Ghana having its present stock of 800 000 children not going to school is estimated to somewhat less than 1% of GDP.

If we compare recent economic research on child labor in general and child labor in Africa in particular, and compare it to Rodgers and Standing's (1981) broad outline of issues involved when analyzing child labor so far, a noteworthy narrowing down of the research field has been taking place. It is mainly the interaction of education and child labor that is the focus. It has also been more professional. Data has been produced and published that make these phenomena amenable to modern econometric analysis. Baland and Robinson have shown that the problem may be studied by applying standard welfare analysis, and possibly even be condemned without using any stronger ethical judgements than the notion of Pareto inefficiency.

ix) Opening up for social anthropology

One of the reasons why standard welfare economics may be less helpful is that social norms are obviously important when it comes to children's work in the households about Standard welfare economics is not generally very helpful when it comes to tell which norms should be lifted and which should be introduced. There are exceptions, however. For example, Udry (1996) is making a detailed microeconomic study of agricultural production in a area of Burkina Faso that showed that the allocation of male and female labor input was inefficient across plots (i.e the allocation of plots across genders was inefficient). Detailed studies of the allocation of boys' and girls' labor are likely to tell similar stories for many areas of Africa (cfr. Mason &Khandker's data from Tanzania) showing that shifting tasks to boys should improve efficiency. That is, if it is possible to change norms about what girls and boys should do, economic efficiency (and fairness as seen from an European point of view) should improve.

This should be possible, because we may observe that rather rapid change in this area have already taken place. For example in some Africans countries most domestic servants used to be boys when the colonialist powers were established, but they are now girls, a

norm change traced for Zimbabwe by Grier (1994). This change was not politically engineered, and might not be considered desirable, but it indicates their importance for explaining and evaluating the child work phenomenon in Africa.

Compounding the policy difficulties in this area is the fact that norms are likely to constitute systems. Changing one norm may cause changes in others in ways that economists are not accustomed to think about, and where welfare economics is silent. Norms are also less likely to be directly influenced by conscious policy. When attempted, the results may become surprising.[41]

This is actually an infant research area for economists, but so far, we have to rely mainly on contributions from social anthropology

8. Social anthropological research into child labor in Sub- Saharan Africa

I t will be wrong to claim that social norms have had the same theoretical status in social anthropology in the way that constrained maximization has in economics. It has been only one of several distinct theoretical frameworks applied. Nevertheless, it has been an important perspective almost forced upon them through the fact that social anthropologists have to learn to behave in societies different from their own before they can analyze them. Mapping household behavior in African countries for almost a century, social anthropologists have, of course, also collected much information about the children's behavior, including their work. Most of the information about the children is buried in articles and monographs addressing other issues, and we have not been able to make a fair survey of this vast literature. The studies actually addressing child labor that

[41] Bird (1996) reports on an attempt to make lone parenthood less desirable by limiting cash benefits., Policy makers believed that this would be achieved through two mechanisms. The obvious one was to make the choice of lone parenthood less attractive. The second was to make the resulting decline in the number of lonely parents to cause a decrease in the social acceptance of the state, i.e. to change of social norms. According to Bird the norm changed in the opposite direction as the one predicted: lone parenthood became more acceptable.

we have found, are few, and even fewer have an explicit comparative perspective. The comparative perspective is maybe most pronounced in Bradley (1993).

i) Child labor and family task allocation

Bradley's work is related to the great effort made by a group of American anthropologists lead by G. P. Murdoch to collect descriptions of behavioral rules from a large number of different societies in a standardized way. The descriptions were gathered in a data base, an "ethnographic atlas", that could function much like a museum of material artifacts (one version is Murdoch, 1967) . On the whole the approach was rather inductionist in spirit. The behavior patterns were compared in different, often random ways to discover empirical correlations which then might be used for different theoretical purposes. For example, if one had information about the timing of the correlations of the behavior pattern, the correlation estimates may, for example, be applied to ascertain diffusion patterns across societies and time.

In her study of child labor Bradley specifies 15 different tasks such as water carrying, marketing, land clearing, harvesting, etc. The population of 91 different societies, including 17 African ones, is divided into five groups, adult men, adult women, boys 6-10, girls 6-10 and children below 6. Ethnographic evidence are then used to determine which task is done by which group, and at which age the children are starting to do the different tasks. Certain tasks such as large-game hunting and clearing of land was done by adult men in almost all societies.

Her main results are the following:

(1) Children tend to do the same tasks as adults of the same gender.
(2) Children, especially younger children do more of the adult women's tasks, and Bradley assumes this is because they occupy the same space as the women and women normally control the children's work and socialize them.
(3) There exist tasks which normally are only done by children (such as tending small animals).

This implies that the more important the child-specific tasks are in the society in question, the larger share of the total work is done by children. But more iinterestingly, the larger the share of total tasks that are assigned women, the larger the share of tasks are done by children, particularly by small children. Thus, what girls and boys do are not simply a question of socialization to adult roles. The number of child specific task and their importance; and the number of woman specific task and their importance, are all influential.

Note what Bradley does here. She says that one kind of rules – task assignments for adults - determines another set of rules - tasks assigned to children. These rules together with the actual distribution of the economic activities to a large extent determine how much the children have to work in a given situation. Economists may like to think of it as analogous to an input-output system where rules for task assignment are the input coefficients, and the size of the economic tasks acts like a demand system to determine the scale of the labor activities allocated to the different groups. The setup is somewhat more ambitious, however, by the fact that the task rules are both exogenous and endogenous variables. As just mentioned, the number and character of tasks of the women to some degree determine the children's tasks over and above straight socialization to adult roles by the fact that younger boys often do women's tasks.

Changing focus, the different task assignments have, of course, also to be more or less appropriate for children at their various stages of socialization. For example, while the children 6-10 harvest in 81 % of the 91 societies, they plant in 64%, but only assist with land clearing in 33% of these societies. When we compare the workloads of boys and girls, the distribution of workloads between adult males and females is, of course, of major importance. When adult females carry many task, the effects on girls are double: They have to work much because they have to become adult women, the socialization factor, and they have to do much (like their young brothers) because their mothers' are busy and they are nearby.

Let us try to illustrate the difference between this type of explanation of child labor and an economic one by looking an observation set of children's time allocation in Botswana:

	Boys		Girls	
Activities in %	Age 7 - 9	Age 10 - 14	Age 7 - 9	Age 10 - 14
Animal tender.	22.3%	28.8%	3.2%	3.5%
Trading	0.1%	0.1%	0.0 %	0.5%
Crop husbandry	2.1%	3.0%	2.4%	3.5%
Wage labor	0.4%	0.4%	0.1%	0.8%
Hunt./gathering	1.2%	1.6%	1.6%	2.6%
repairing	0.8%	0.5%	0.5%	0.8%
Child care	3.8%	1.7%	10.5%	5.5%
Water collection	1.6%	2.3%	4.8%	6.3%
Housework	2.8%	4.4%	9.5%	15.5%
Illness	1.5%	1.5%	1.1%	2.0%
Schooling	11.1%	13.7%	14.4%	17.4%
Leisure	52.3%	43.5%	52.0%	41.0%

(Source: Chernichovsky et al. (1985, tables 3.5 and 3.6)

The data here are not rules for task assignment, but the children's actual time allocation. We may still observe the importance differences between the genders, however. Since animal husbandry is such an important part of Botswana's economy, boy's and girl's have about the same share of leisure.[42]

What would happen if Botswana suddenly shifted out of animal husbandry and into specialized agriculture? Economists would tend to predict that the short-run consequence would be that some boys will be under- or unemployed, but after a while the gendered division of labor would be realigned so that boys would get new tasks and move their marginal productivity into line with the girl's in order to optimize the household welfare function.

[42] As noted before girl's work is probably understated, particularly their child care activities, that are notoriously difficult to measure since they are so often undertaking together with other activities including play.

A strict social anthropological prediction along Bradley's lines will predict, however, that the rules for task assignment will stay stuck, and men's and boys' leisure will increase, while the women and the girl's will increase their workloads. The norms regulating the gendered task division are slowly moving, will be propagated to new generations through socialization, and have strong impact on observed behavior, even when leading to very inefficient results. Despite the roughness in both the theory and the statistical methods for gaining evidence, many will feel that the last theory has fitted the broad facts of African development better where so many task have been assigned to African girls and women.

Summing up. according to Bradley, the explanation of how much the children work is partly determined by social structure, rules about female and male tasks, and partly by the economic structure of the community in question that determines the relative frequency of the different tasks that are appropriate for the children and how often they will apply. The scope of choice, the main focus of the economists' explanation, narrows down and becomes less interesting.

It is a stylized fact about African agriculture, in those areas where not animal husbandry are important, that the women do an extraordinary large share of the number of tasks in the agricultural households. Hence, Bradley's research may supply a reasonable hypothesis for why the child labor participation rates in African countries are higher than on other continents.

Bradley's observations receive support from another type of research, presented in Munroe et al. (1984). This research group took a sample of 48 children from each of four "traditional" societies in Belize, Samoa, Nepal and Kenya in the age group 3-9. Local investigators were used in assessing what was work in a sample of 30 observations for each child through an observation period of 6 weeks. And the number of observations when they were working were recorded. Parent's activity was also recorded (but fewer observations for each) and whether the children were in social interaction when they worked/non-worked.

On average they were working 23% of the times they were observed, but already at 3 years the were working 10% of the observations. Across cultures they found support for Chayanov's rule: as the number of consumer divided by producers increased, the percentage of observations where the children worked increased. This was probably mainly caused by the impact of infants and their impact for the children's work. Lonely motherhood was also significant (and would cause a high Chayanov -ratio).[43]

What supported Bradley's hypotheses was the fact that the African children (from the Logoli tribe in Kenya) were working significantly more often when they were between 5 and 7, but the difference became less after that. Munroe's results also supported Ainsworth in the sense that children who were not residing with their natural parents were working more.

The main problem addressed in the Munroe-article, was, however, not work as such, but rather how children's labor became associated with specific interaction patterns with other children and with adults; how it contributed to socializing the children.

ii) Child labor and socialization

First of all, she noted that the child's work activities were positively related to the mother's workload. Children's labor activities caused more frequent rejection responses on the part of parents and to be associated with more frequent responsibility responses on the part of children compared to other types of child behavior. In other words, child labor was a particular way of changing the child and adapting it to the environment, a way of *socializing* the child.

A striking difference between the economics and social anthropology literature when they deal with the subject of child labor in Africa, is that this major theme in anthropology is practically not dealt with at all in economics. The central part of economics deals with the choice of given economic agents with given preferences. To

[43] It is worth noting that in this type of research female households are clearly measured, while in the large surveys, the measurement errors here are probably so large that the study of the impact of single female

analyze situations where these preferences are deliberately changed or changed endogenously as the outcome of interacting systems of economic variables, appear often too complex to be handled with the analytical rigor economists normally demand of themselves. Moreover, the subject itself may be said properly to belong to psychology. Often being the only social scientist on the spot, anthropologists often haven't shared these inhibitions against scientific transgression, and socialization has become their major issue in their analyses of child labor.

While Bradley's study is s wholly based on other anthropologists' fieldwork, Munroe et al. (1984) have collected data from field observations in different societies, but only quick and designed ones. Neither have done the long thorough fieldwork, staying in a community for longer periods and participated in its affairs which characterizes much of its best empirical research.. We have only discovered a few major studies that have focused on children's work of this kind, all dealing with socialization as a major theme.

One (Bock, 1998) is almost wholly addressing the problems of socialization and skill acquisition.[44]He studies two widely different communities in the same area of Botswana, but both consisting of different tribes. In one, A, there is hardly any cash economy and the main livelihood is farming, some animal husbandry and hunting/fishing. There is no store in the community, and a car was seen once every second week. Cash was mainly received through remittances, about 20 % of the men were working outside the community, temporarily migrated. The children were doing a wide set of tasks. The workload when coming to the boring tasks, were slowly increasing with age.

An interesting observation made by Bock (1995) is that also inside the set of traditional set of activities there is a similar trade-off as observed in the choice between labor andeducation : The parents may allocate their children's time to simple tasks where they give immediate output, or they may be assigned more difficult tasks where their output is low or almost non-existing, but where there is an important training component. Children

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household heads to be of less value. Hence Munroe et al.'s result here is important, although we have not found their statistical procedures transparent.

who are allowed much work of this kind are becoming more productive as adult. Bock claims that in practice the child's sibling status is important. The fewer siblings it has, the more will it be forced into the boring tasks, and the less likely is it that it will receive formal schooling.[45]

Among the task of the first kind is the work that the girls are doing in processing millet, a demanding and boring task. No children below eight are doing it, but from then on the time girls have to spend on it are increasing gradually with age. At age 12 they spend an average of 40 minutes a day only on this task increasing to 50 when they are 15 and 60 minutes when thay are 18. Adult women at 30 spend 97 minutes a day processing grain.

At the other end of the spectrum is hunting large animals. This demands long learning periods and traditionally, men are not competent at it before their mid-twenties.

In A only 20 of 120 children are attending school. They are back home every weekend walking 30 km through the bush.

The other community, B, is dominated by wage labor for the tourist industry (safaris). Both women and men are working for wages that are comparatively high. The work is dangerous, however and yearly persons get killed (by crocodiles, buffaloes, and so on). They do little food production. All children above seven years old (81 children) attend school, but can only return home at school holidays. When at home they do little work. This community used to be a more specialized hunting-gathering society than A and had little agriculture. The present affluence as wage laborers is based upon skills and knowledge of the fauna acquired during that period.

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[44] We have not had access to the Ph.D. thesis (Bock, 1995), but only a more popular summary (Bock, 1998).

[45] Here Bock points toward an explanation of why larger families may have higher schooling participation rates thaan smaller families in some African countries, if they are not financially constrained. Financially poor families are likely to be more constrained with more children, and here larger families are likely should go with lower participation rates. In a sample that contains drawings from both these populations are likely to show a weak influence of siblings on the school participation rate while it has strong effects on both its sub populations, but with opposite signs.

Bock tried to test the skill level of doing traditional tasks between the two communities. He found that despite that the girls in B were tested as stronger than the girls in A, their productivity when doing the traditional millet-processing is lower, particularly among the younger girls. Despite their parents specializing in game observation, the children of B have lost most of the knowledge of local wildlife and scored much lower than the children in A when being tested about the local fauna. The parents in B have been unable to transmit that knowledge since their children are at school and they at work. Despite the fact that they themselves have a better livelihood than most people in Botswana, they don't want to, or are not able to transmit the necessary knowledge to their children. They consider their profession too dangerous. They would rather let their children be prepared for modern life through formal schooling than making them work for long hours in their local households.

Seen as a matter of parental investment, we see here the paradox that more investment on the part of the parents would give less schooling and more child labor. This is , of course, an exceptional situation where the transmitting of parent's skill demand a long learning period, where children also would have to work (but with low output.

Will the work of the children in A be harmful to them compared to the schooling of the children in A? It is rather obvious that the answer to that question relies on the macro development in Botswana. It is not only a question of what happens in A and B.

iii) "Dance civet cat"[46] – or are girls exploited in African families, after all?

Unlike the other studies that portray child labor in traditional African households as a kind of socialization into necessity, Reynolds (1991) presents a very detailed description of the children's labor activities in a poor village in northern Zimbabwe gives a harsher picture. The distribution of labor is blatantly unfair. When the mothers' are forcing their daughters to work more than they feel like, violent punishment is routinely meted out in an otherwise non-violent population.

[46] The title of Reynolds' (1991) monograph on child labor in a Tonga village in Zimbabwe. The title is taken from a children's riddle that plays with the idea of children as controlled by parents and at the same time are uncontrolled (ibid., xv)

Reynolds try to see the life in the village from a child's perspective, and supports it with detailed statistics of the children's time allocation. She observes 12 families including 69 children. In her sample of children to be studied there were less than fifty so the possibility for statistical inference is limited. Nevertheless both her results and methods are interesting.

She applies four different methods for recording of the children's time allocation:
(1) *Peak labor records* where the researcher does conventional observations during harvests activities and the like and record all labor performed by the different family members.

(2) *Instant records(IR)*. The researchers perform random sampling of persons and meeting times with pre specified persons, and record what the person in question is doing at the designated point of time.

(3) *24 hour recall (24R).* Each person in the sample was visited once every eight day and asked in detail what she had done the last 24 hours. This is the method closest to the one applied in the larger statistical living standard surveys.

(4) *Observation (O)* for two hour periods where the activities of all the present were recorded. As might be expected, the methods give different impressions of how extensive the children's work burdens are. For example while O made girls work 95 % of the times recorded, boys 60%, IR made girls work 65% and boys 24% of the times and 24R gave 35% and 11%. Since 24R is the closest to the one applied in the living standard surveys while IR may in principle be the most valid, [47] her results suggest that child labor is likely to be underreported in those surveys.

The degree of unfairness in the labor allocations are indicated in a 24R result, which shows that during the busier seasons women worked on average 8 hours and 27 minutes,

men 3 hours and 32 minutes while boys work 1 hour and 7 minutes. Girls work 4 hours and 49 minutes. That is, the girls are working significantly more than adult men. Moreover, the spread in girls' labor activities is large: Some work as little as boys, others as much as their mothers. Looking at the data, it appears that the girls are not introduced to a gradual increase of their workloads as in Botswana, but that the increase is rather stepwise: A large minority of the girls are treated as small children and given some freedom to play while the rest had approximately the same workload as adult women. The different families start to treat their girl children as adults at very different ages, however.

Of the survey-based studies the studies from Botswana and Ghana (and a forthcoming one from Benin) do not support the impression of wide gender disparities, but the one from Tanzania and Cotes d'Ivoire do to some degree .[48] There are also other field-based studies that indicate that the variation is, indeed, considerable and that support Reynolds' concerns.

Recall that Reynolds (1991) with the IR method found that in her poor Tonga village in Zimbabwe, the girls spent 65% of their (wake?) hours on labor while the boys in the same age group only worked 24% of their time. This is an extreme result, but in a similar study (Wenger, 1988) observed that in the age group 8-11 girls spent working 51% of the time (daylight hours), while the boys only worked 26%. Wenger's method was to visit the compounds at random intervals with pre-assigned children to watch, drawn randomly from a list, that is the same method as the IR of Reynold's study. Again we have it confirmed that when domestic work is included, girls work considerably more than boys in rural Africa, except for the pastoral societies where the workloads of boys are heavier than elsewhere.

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[47] As pointed out by Reynolds herself, since she is a woman, she had less access to men's and boys activities, so there is a female bias in her observations.

[48] If we use the numbers for weekly working hours from Grootaert (1998), which we recall is based on a survey, and assume that only 12 hours a day is available, 38,76% of the girl's time are spent working while only 17.61% of the boys time is spent that way. This fits well with Reynolds' results from the 24R-method. A corresponding calculation from Ghana gives 15,74% for girls and 15.66% for boys, however. The great difference in the result for girls between Ghana and Cotes d'Ivoire is puzzling.

Even inside the single family the distribution of labor is often strongly skewed, not only along gender divisions, but also between the individual children. Reynolds (91) has some detailed data in the matter. The household survey based research also provides some indirect, circumstantial evidence. Lloyd & Brandon (1994, 303) empirical study of fertility and schooling in Ghana shows that each additional younger sibling increases the probability for a drop-out at school significantly for an elder girl, but not for boys. If the observations of Mason & Khandker (1998) from Tanzania can be generalized, these drop-outs imply increased child labor for these girls.

Bledsoe (1994) indicates how inequalities in the formal labor market may reinforce the unequal distribution of labor between the children inside the household, as long as the formal schooling system is perceived as the main method of rent-seeking for reaching the upper-end jobs. Then it pays for the families to pamper the academically promising children, and let the rest of the children do the work in the homesteads. As societies change, so do the socialization of their children.

While rational from an economic point of view, this practice often gives rise to considerable emotional strain among siblings that may make their labor more harmful than would otherwise have been the case. The close interconnections between emotions and economic activities are both one of the strengths and the weaknesses of the family monitoring structure, that manages most of the child labor in Africa.

iv) Child labor, socialization and fertility: some observations from hunter-gatherers

Even in the countries in Sub-Saharan Africa, hunting-gathering peoples are tiny minorities, and thus less interesting from a macro-oriented point of view. Nevertheless, they have been extensively studied by social anthropologists, who have brought up ideas about the causes and consequences of children's labor in these tiny, transparent societies which may supply hypotheses about causes and consequences of child labor in other, larger ones.

Traditional !Kung society in Botswana versus Hadza in Tanzania !Kung is a well known tribe of hunter-gatherers living in the Kalahari desert.. The main subsistence activity is

collection of fruits and nuts. Observations from their life were an important source of inspiration for Sahlins' theory of hunter-gatherers as "the original affluent society" (see. Sahlins, 1972) where the adults work only a few days in the week and the children almost not at all. Sahlin constructed a theory of why adult people in general did not have to work long hours in these societies. An obvious implication of it was that children should also do little work.

That children work little in the !Kung tribe is well documented. Draper and Cashdan (1988) report, using random observations of the children age 4-14 in day-time, each observation lasting 10 minutes, that girls were working 6% of the recorded time while boys were working 2%. Children were almost never going out on their own, foraging, but stayed in the camps till they were at least 15.

This implies that their mother has to collect and carry all the staples needed to feed themselves and their children. The food is far away from camp and they have often to walk in an extreme heat. They bring home more than 58 % of the calories reaching the camp. They bring their smallest children with them, which implies that there are light child care responsibilities for the older children. The children's weaning age is 3 years

Although several adults are usually present in the camp at all times, the recorded interaction between the parents and their children are much more intense than between a child and other adults. The father has also a clear responsibility of assisting in feeding their own children. The death of the father decreases his children's survival probability significantly (Blurton Jones et. al., 1994).

Another important characteristic was the low fertility of !Kung with an average birth interval of 4 years (Blurton Jones et. al., 1989).

The Hadza situation is different. The food is not far away, and the children start to work foraging at an early age. When they are 5 years old they are able to provide about half of their own calorie intake. They spend considerable time working, but we could not find

any time allocation budget for the children. When they are 2,5 years old they are weaned, and left to the care of older children.

The spaces between each birth is shorter and the Hadza have more children, also surviving ones. The children are treated more harshly, field observers claim, and the children are ordered more around by their mothers and by other adults. The death or disappearance of the father has no influence of the child's survival probability, and divorce is very common.

When explaining the large difference in these two societies, the grand explanation along mode of production line has disappeared. The key factor is the different conditions for socializing children to work. !Kung children are not sent out to work because the long distance to food, the heat and the difficult terrain for finding their way, in sum, for them to labor is too risky, and the output too low. In many ways their economic position is similar to children in the OECD countries.

The key restraint in this economy becomes the women's carrying capacity. If they get too many children that is overloaded, and the children's survival probability goes down. By not being able to labor, children become expensive in this society. The environment does not give much scope for a population increase.

Hadza children, on the other hand, have easy access to food, but that does not make their life softer. They have to work more, but in this case it does not improve their bargaining position, and they are treated more harshly. They become less expensive, and in the high fertility environment become more expendable.

Traditional African agriculture share many characteristics of the special gathering environment of the Hadza, and it seems to share many of its characteristics: A social nexus of high fertility, high child labor participation rate combined with a fairly high productivity of the children. It suggests that high fertility may give rise to high child labor participation rates, while the children's ability to cover a large share of their expenses at an early age contribute to the high fertility.

Seen from a purely economic view, even among the Hadza, to get a child is not profitable, and child labor may not explain the fertility rate. It may, however, reduce the optimal spacing time between births if the maximand is the number of surviving offspring.

Bush !Kung versus sedentary sedentary !Kung. The !Kung described in the preceding was a hunter-gatherer people living in the bush. Most !Kung bushmen are now living in small sedentary units doing agriculture. Anthropologists have studied what happened during the transition (Draper and Cashdan, 1989).

The adults, particularly the women became more busy. The interaction between adults and children became more sparse, while interaction among the children of the same gender went up. The children started to do significantly more work, girls more than twice as much and boys more than six times as much [49]and their activities became gender segregated. The boys went away from the compounds while the girls stayed closer to home. The families were still poor and could not yet afford cattle.

This change in behavior Draper and Cashdan explain mainly as caused by the changes brought about in the children's socialization environment where the adults now can let them more loose, in addition to needing their labor input. This may not be the whole explanation, however. Girls and boys in the bush camps were treated equal. Why now suddenly turn to different tasks? Innate different behavior propensities may, of course, be one possibility. More likely, I believe, is a copying of the task allocation norms of their neighbors.

Here we see that not all norms are equally invariant to changes in the environment and thereby useful in generating explanations. How could the bushmen's norms for their children's activity evaporate so quickly, while the norms telling boys and men to avoid

[49] Their activity patterns were studied with the same method, random ten minutes intervals.

household tasks have shown themselves to be robust against adverse economic developments?

9. Some remarks about child labor and social norms

i) Norms are important

Traditionally some social anthropologists used to borrow from the economists' choice perspective. If any interaction took place between the academic disciplines, it was mainly in one direction. This is about to change. One of the key concepts, at least in several of the many diverse directions in sociology and social anthropology, is *social norms*. Until recently most economists did not consider the study of social norms as any fruitful path to understanding. At a general level this is about to change. Haavelmo (1976?) and Akerlof (1980) started to explore their analytical possibilities. Today there is almost an explosion of theoretical studies.

Closer to our subject, Agarwal (1997) has urged that the role of norms should be brought into the study of household allocation conflicts, and Kevane (1998) has applied norms and norms about norm-deviation in a study of intra-family allocation of female labor power in western Sudan and a village of Burkina Faso. So far I have seen no attempt to use norms in this way to explain the variation in child labor across communities, but Basu (1998) made a brief sketch.

It is obviously an important inroad. I believe it will prove almost impossible to explain the great difference in tasks and in total working hours between girls and boys in many African communities without invoking social norms as behavioral guidance, or for that matter, to explain the sudden decrease in children's work at home in most OECD-countries. Neither differences in marginal productivity of boys and girls nor a declining set of task at home will do.

When observing that boys work less than girls in African households and then accept that this happens because the norms tell them so, is too simple however. It might be done with almost any kind of behavior. As pointed out by Elster (1989?) norms need sanctions, and sanctions needs someone to shoulder the costs of sanctions. This is an important part of a likely explanation of why girls work more. When boys are allowed to leave the household they are more difficult to monitor, and to mete out sanctions to them become more costly for the mother. Their genetic dispositions may also make them more unruly and harder to discipline – on average. So societies that have left the largest number of tasks for women, including the one to sanction children, will tend to make the girls work more because that reduces the monitoring costs of their women.

There is wide space for moving in different directions. As pointed out by Basu (1999) while the introduction of social norms may appear analytically trivial, they are clearly empirically important determinants. It is also difficult to imagine that the child labor participation rates in Africa can be reduced in the short run without any major changes in social norms. So a difficult policy question is whether or how to change norms.

ii) Normative considerations when social norms determine child labor

One possibility of combining the norm-and decision perspective is the simple one that Akerlof has suggested and Kevane (1998) applied to African adult female behavior. That is to consider the amount of child labor supplied for a given age and sex as guided by social norms and include deviation of labor actually supplied from the norm as a negative arguments in the family welfare function. When norms loosen, larger deviations in both directions may be assumed. In many areas we may expect stronger sanctions against girls when there is deviation from norms, since they are less costly to implement and girls behavior are more circumscribed by rules. Whether this will cause larger or smaller differences depends on the direction of norm change and the economic forces.

The norm change may move only in one direction; telling for example that in modern families children should go to school, not work. It is difficult to accept for fairness reasons the norms that regulate girls economic activity, but they may be more easy to change than the social norms that regulate males' work tasks and income support duties

in many African communities. Let us now say that the norms for girls productive duties loosen due to some modernization norms? In practice these norms will have to interact with the older ones, and the outcome may be difficult to predict. Will the consequence simply be that the girls work less, and boys and adult males more? Or will the consequence become less food for girls, earlier marriages and early expulsion? One need to know more about the interaction between norms within norm systems and the interplay between social norms and the actual behavior to safely predict in this area.[5051]

10. Conclusions

We have presented recent research about child labor in Africa. It has been shown quite clearly that most of that labor is taking place in the large African household sector. Much of it is probably unnecessary in the sense that with a different and fairer allocation of the tasks, the girls' workloads might be easier without causing a decline in production. It is also likely to be an inefficient allocation of the children's time between labor and education in the wide sense, even in areas where schooling is no alternative.
We have not conclusively shown that the great bulk of this work is really harmful to the children, that it is *labor* according to our definition.

We believe that we cannot tell whether it is better for African children to work hard today or rather go more to school before we know what will happen in the future; whether the African economies then have grown in such ways that it will make present education productive. If not, the allocative reasons for not let them work, become less compelling.

In other words, when we want to make up our mind whether the labor activities should be reduced and school activities increased among the children in the actual world where a

[50]The game-theoretic literature of norms indicates the possibilities of a wide number of equilibria, maybe supporting the frequently held notion among social anthropologists that local communities are like a paper card house where even minor external interventions might upset it and destroy the society they have learned to become fond of? A major point in this literature, is how difficult it is to predict the outcome of planned norm changes. Example: Bird (1996) }

bewildering sets of norms and institutions are operative, we will need as one of the value premises that a modern type of economy that may exploit a large amounts of the present day technological knowledge, is the one the African societies really want their children to build.

At all times, however, there will exist a fairly large set of household heads that are not considering the welfare of their children. Since it is difficult to leave your own family, even in an African context many children will be stuck with really harmful work burdens. Even when it comes to child work that is family-controlled there *are* good reasons for serious concern.

In this paper we have focused on the family-controlled child labor, which is likely to be the major form of child labor in Sub-Saharan Africa. Reynolds observes (1991, xxxi) that in the case of the traditional Tonga people (north in Zimbabwe) that

" the freedom of the children lies in the fact that once old enough to move about they have a choice in the matter of their residence and thus of their guardian. The Tonga say that a child must be permitted to decide where it will stay since otherwise it will cry that it is being treated like a slave, whereas it is a free person. … Even if both parents are still alive and living together, the children may still take themselves off to live with other relatives. Their parents have no right to curb them. … The right to self-determination among men, women and children is a deeply held Tonga value."

In many parts of Africa there exist similar traditions for the children leaving or being expelled when the conditions warrant it. In a follow-up study we will look into child labor that is not family controlled. Here intra-household bargaining becomes more important as well as the child's characteristics as an economic decisions-maker and their change with age. While it is a smaller problem than family-controlled child labor it is also a potentially more serious one. The freedom for the children of the isolated Tonga village of choosing parents might become the desperation of family-isolated children on the streets of Nairobi or in the armies of Sierra Leone.

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