

A THEORETICAL FRAMEWORK FOR CHILD FOSTERING ARRANGEMENTS IN SUB-SAHARAN AFRICA

Renata Serra

(Please send comments to renataserra99@yahoo.com)

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Abstract

The paper provides a first economic analysis of the phenomenon of fostering in SSA, paying particular attention to the economic incentives and consequences for natural and foster parents. Fostering, both of young and older children, can be a mutually advantageous arrangement to natural and foster parents, when it exploits the differences between the two parties in the opportunity cost of time, in the life cycle phases, and in the potential for child education and training. In some cases, the transfer of a child *per se* can bring net benefits to both parties. Therefore, monetary transfers are not always necessary to make fostering exchanges mutually advantageous. However, fostering arrangements do not always lead the parties to benefit equally, even allowing for a long horizon. This is so because fostering transactions may be embedded in other types of relationships between natural and foster parents, who are usually relatives. In these instances, fostering provides functions that lie beyond the child care domain, such as informal insurance and kinship support. The effects of fostering on child welfare do not depend on the way benefits are distributed among the parties, and are often linked to child own characteristics. Fostering is more often the consequence, rather than the cause, of the observed discrimination among children.

JEL Classification

Keywords

1. Introduction

Child fostering is a temporary and reversible transfer of child rearing responsibilities to other people than the natural parents. Anthropological and demographic studies show that, in Sub-Saharan Africa (SSA), a large proportion of non-orphaned children (up to 1/3 in many communities) lives with neither parent, often with relatives, for a significant part of their childhood. Fostering in this part of the world is embedded in a complex system of reciprocal obligations among relatives and is accompanied by an exchange of goods and services over a long stretch of time. The functions served are varied, in either rural or urban settings, and in households with different socio-economic characteristics. Some aspects of fostering are 'traditional' and are connected to customary child training, and to the requirement that, for preparing for certain professions, a child not only learns from the master, but also works for him and lives with him (Goody 1982). Other aspects are more recent, such as the increasingly younger age at which children are fostered, as a consequence of their mothers assuming new roles in the changed household and urban economy (see Fiwawoo 1978 for Southern Ghana), and fostering for educational purposes (Bledsoe 1994). In some areas the incidence of fostering is decreasing, because migration and mobility has loosened the cohesiveness of the extended family (Blanc and Lloyd 1993); in other contexts its roles are reinforced, because individuals cannot cope alone with the increasing uncertain economic scenario.

Fostering practices represent potentially a topic of considerable interest to economists concerned with the behaviour and the welfare of households in African societies. There are at least four aspects requiring study and attention. First of all, fostering induces a circulation of people, goods and services across households and is thus a component of their complex system of informal exchange and support (Serra 1996). Secondly, fostering might affect child nutritional and health status, and therefore influence the child's future physical development (Ainsworth 1967; Bledsoe and Brandon 1992). Thirdly, fostering interacts with child education and training, and influences both the amount and the type of investment made in children's human capital, with long-term consequences for their welfare and that of their parents and relatives (Ainsworth 1991; Lloyd and Desai 1991). Lastly, the existence of fostering practices may affect long-term parental choices about fertility and intergenerational transfers, with repercussions on next generation's welfare, natural resources and technology (Dasgupta 1993).

Although these links are obvious to most economists working on African societies, economists have hardly devoted themselves to the analysis of the phenomenon of fostering and to the development of the necessary analytical and empirical tools.¹ The study of fostering, limited mainly to anthropology and demography, has proceeded so far by a piecemeal approach, which has clarified a number of isolated instances but has not connected their results in a systematic way. Admittedly, the study of fostering presents the difficulty of making sense of the incredible variety and complexity of arrangements found in practice, and of identifying, and explaining, 'prevalent' patterns. Coming to an unambiguous evaluation of the implications of fostering for household well being, and child welfare in particular, appears as a puzzling exercise, since the outcome seems to depend on the circumstances of the case. A context-based approach to the issue of fostering is not satisfactory, however, in the face of the increasing concerns about child welfare in Sub-Saharan Africa and the compelling debates on the causes underlying persistent low levels of well being.

¹ To my knowledge, the only economic work focused on fostering is Ainsworth (1989, 1991) and Serra (1996, 1997).

It appears therefore important to attempt to attain some general understanding of the main factors that may induce, and affect, fostering arrangements, and how this may impact on welfare indicators. The aim of this paper is to contribute to lay down the foundations for the economic study of fostering practices. It proposes a methodology for analysing the extraordinary variety of fostering arrangements and for identifying their most relevant functions, by developing simple analytical tools from the existing literature on household models. The objective of this research is to show that child fostering is an important, yet under-studied, micro-institution based on family ties, performing crucial material (economic) functions. A sound theoretical understanding of this institution is clearly a precondition for empirical studies to address properly the four aspects mentioned earlier.

A puzzling question for anyone who has approached the issue of fostering in SSA is “who benefits from fostering and in what ways”. This paper addresses this issue, by trying to explain, in each particular instance, what might induce households to foster in or out, what are the types of benefits expected, if any, and what are the chances that these benefits might materialise within the context under consideration.

In order to analyse the issue of individual and household incentives to foster in or out, two steps are followed. First, we ask which are the particular conditions under which a given fostering arrangement could be sustained as a mutually beneficial exchange, whereby both natural and foster parents (the two main parties) receive immediate gains. After having identified a number of types of fostering, each serving a distinct function, the market or ‘competitive’ value of that particular type of fostering to both parties is identified.

Second, we examine the possibility that the net benefits to either party differ from the incentive-compatible values. We are mainly interested in deviations from the competitive pattern due to fostering being embedded in the wider relationships between foster and natural parents, who are usually relatives. In these instances, fostering plays other roles beyond those specifically related to child rearing. Two main functions that fostering arrangements could provide are informal insurance against unexpected exogenous shocks, and kinship support, provided by richer to poorer relatives according to well-sanctioned norms.

The rest of the paper is organised as follows. Section 2 explains the problem of regarding fostering as a mutually beneficial exchange in the literature and describes a way of identifying different patterns of fostering, three of which will be analysed in detail in the following sections. Section 3 examines the types of incentives for natural and foster parents when young children are fostered. Section 4 deals with the fostering of older children, in a context where the latter only contribute to household production. Section 5 illustrates the more complex model of fostering of older children when children can either go to school or work and when parents need both market and household goods. Section 6 considers the cases where there is a deviation from the competitive patterns previously identified and provides a general typology of fostering arrangements, drawing some implications for empirical analysis. Section 7 provides some final comments and conclusions.

2. Identifying the ‘market-like’ component in fostering arrangements

Surveys’ responses suggest a multiplicity of reasons for fostering in or out and an impressive variety of arrangements, which makes it difficult to establish in quite a specific way how the benefits may be distributed, in an either ex-ante or ex-post sense.² Empirical studies on fostering do not provide an unambiguous answer to the question as to “who benefits from

² See for instance Fiawoo (1978), Goody (1982), Etienne (1979a and 1979b), Bledsoe (1990), Renne (1993).

fostering and in what ways". Anthropological and sociological studies have emphasised the advantages accruing to foster parents, in terms of the support received from other people's children, but have not given a satisfactory answer to the question of why natural parents should send children away in these situations. (The accepted answer is what actors report, e.g. that 'a child is given as a gift to relatives to whom one wants to show love', Goody 1982). Other studies (mainly demographic) regard instead fostering as a way to pass the costs of child rearing onto relatives – again the explanation is based on a 'cultural given', in this case the norm that one cannot refuse a child given by relatives, with the additional feature that parents do not internalise all consequences of their fertility decisions. Two different interpretations lead in turn to distinct conceptions of the impact of fostering for society at large. The notion that fostering enhances child capabilities and skills, therefore benefiting present and future generations, (Goody 1982) contrasts with the perception that fostering, by providing natural parents with a low-cost child rearing option, may lead to negative reproduction externalities and to a too high fertility rates from the point of view of societal optimum (Isiugho-Abanihe 1983, Dasgupta 1993).

First thing to note is that the fact that natural and foster parents might have different socio-economic status and bargaining power does not necessarily mean that one party is 'forced' to accept an unwanted arrangement. An explanation resorting merely to kinship obligations (according to which a relative *must* meet a request for fostering in or out a child) appears unsatisfactory, if nothing else, because not all poorer parents foster in or out children in the face of relatives' pressure; sometimes pressures go the other way around. However constrained parents' choice may be in particular instances, therefore, incentives to foster in or out play an important role. Moreover, norms are better explained rather than assumed as given. The singling out of incentives at the level of individuals and households is the aspect of main interest in this paper. Benefits do not need to be interpreted exclusively in terms of immediate economic returns: they could also encompass parents' desire to improve the living conditions of their own children or the desire to strengthen the link with relatives, whether or not in the expectations of future material support.

How is it possible to identify individual incentives and how many 'types' of fostering arrangements can be conveniently singled out for analysis? The approach followed here takes the lead from existing empirical evidence (most of the existing studies on child fostering are from West Africa, the region where the phenomenon is more diffused or more distinctive).³ The scrutiny of anthropological field studies and large-scale demographic surveys suggests that some aspects above others determine the particular working of a fostering arrangement. These elements are the child age, the factors affecting whether a child can convey immediate benefits besides future ones, and the degree of status differential between the sending and receiving households. The interaction between these elements leads one to identify three main patterns of fostering.

All studies agree that the age of the child is an important motive for fostering and that the main divide occurs around the age of six-seven.⁴ The fostering of very young children (under six years of age) constitutes the first type of fostering, where the delegation of child-care responsibilities represents undoubtedly the most relevant function. Although the proportion

³ For a description of the source material and for a better description of the criteria for the selection of the three patterns, see Serra (1996).

⁴ In the accounts of African childhood the age of 6 or 7 marks a turning point for the child, who is then given new responsibilities and induced to participate more actively in both household activities and in the life of the extended family. Whereas boys and girls are treated alike when very young, after the age of 6, children take up gendered roles, e.g. boys and girls assume distinct rights and responsibilities (Erny 1987).

of foster children aged 0-6 is everywhere significantly lower than that for older children, the phenomenon of fostering young children is still quite remarkable in SSA, particularly in West Africa, when compared to the rest of the world.⁵

As far as older children are concerned, there are more complex considerations to take into account, since these children can contribute to the household economy, yet they also need training or formal education in order to prepare for adulthood. Traditionally, fostering has acted mainly as an institution favouring the move of children to the house of relatives where they could learn important and much valued skills, such as techniques of cultivation and animal husbandry, fishing, metalwork, sculpture, weaving, Coranic teaching, music, etc. The informal training scheme regulates the appropriation of the benefits by the relevant parties: the child works for the master in order to repay him for the teaching, and the sending family would also contribute with gifts and other transfers.⁶ Although fostering for training into traditional skills can still be found, the peculiar trait of this form of fostering e.g. the compatibility between child work and training and between adults' immediate and future benefits derivable from children is losing ground. The main causes are the increasing importance of formal education, which, unlike traditional education, is incompatible with child active contribution to the household economy, and the deterioration of household material conditions, which induces adults to discount heavily future returns.

In order to account for the changes in traditional forms of fostering, two patterns of fostering older children are examined in this paper. In the first, the focus is simply on child work: when deprived of its traditional training function, child circulation acts as a mechanism for redistributing child labour across households, thus responding to their immediate requirements for child labour (section 4). The other pattern considers the case whereby natural and foster parents try to mediate between the conflicting goals of child work and formal education, but face different constraints and options: fostering may represent a way to negotiate between the incompatible needs of the two parties (section 5).

It could be argued that there are in reality more than three fostering patterns, and that the proposed classification is rather reductive. However, it will be shown in section 6 that other patterns of fostering may be derived as variant of either of these three, the latter thus tackling the most basic aspects of the interaction between fostering and other domains of household decision-making. As a result, the analysis of these three patterns represents a good compromise between the goal of formulating a simple theoretical framework and, at the same time, that of keeping analysis adherent to a varied, multiform and complex empirical context.

3. Fostering young children: the child-care function

Evidence from SSA contexts shows that, when young children are fostered, there exist significant generational and locational differences between natural and foster parents, e.g. the latter are generally older, less economically active, and more likely to reside in rural areas than the former. The key factor under consideration here is the trade-off between the various uses of women's time: outside work, household work, child rearing, leisure, etc. We consider first how fostering creates the scope for a more efficient allocation of women's time across various tasks, to be followed by an analysis of the reasons why fostering might have emerged in these settings as a response to the need for such rationalisation.

⁵ For a comparison of parent-child living arrangements across countries and continents on the basis of the Demographic and Health Surveys, see Lloyd and Desai (1991).

⁶ See for instance the study by Goody (1982) among the Gonja in Northern Ghana, a community from which earliest information on child rearing dates back to the first half of the 20th century.

The model proposed in this section is a very simple extension of the standard household models, but we discuss it here in details, because it will provide the basis on which more complex models are built in the following sections. The household is assumed to maximise a joint utility function, which is a twice differentiable, quasi-concave utility index defined over market and household goods. Market goods are purchased with the productive activities of both husband and wife.⁷ It is assumed that the husband's income is given (e.g. his supply of labour is fixed), whereas that of the wife depends on her time allocation decisions. A woman divides her total time between productive work and household work, which includes child rearing, and there is no leisure decision to make (leisure beyond minimum is a superior good for most women in SSA). The woman's productive work is any activity that gives her the possibility to procure consumption necessities for the family, besides those provided by her husband (normally there is a socially recognised division between the goods procured by husbands and wives, respectively) – it could be agricultural production yielding a homogeneous consumption good, or any work for cash (market work, salaried work) that enables her to buy the goods.

Woman's production is described by a generic function:

$$y(t_w; A) \quad y' > 0 \quad y'' < 0$$

Such function is defined over the share of time devoted to productive work, t_w , and dependent on a set of parameters, A , such as age, health, education and experience, which are specific to each woman and affect the efficiency with which labour is translated into output. The form of the production function may vary according to the work activity; here it is supposed to exhibit decreasing marginal returns to scale (as if it were agricultural production), but these may be constant in the case of wage work.

Household goods, which are jointly consumed by household members, are produced according to the function h (twice differentiable and quasi-concave), for which woman's time (t_h) is the only input. The time devoted to household work must be at least sufficient to ensure the care of the young children in the house (there are only young children here, since the implications of fostering older children, who may release mother's time from household work, will be considered only later). Child rearing is not exogenously given, because women can rear a number of children greater or lower than their own, by, respectively, fostering in or out. The mother's time required to care for n children is represented by a generic function $\mathbf{t}(n)$, which may or may not incorporate such features as economies of scale in child rearing. Therefore the amount of household goods produced, net of child rearing tasks, is:

$$h(t_h - \mathbf{t}(n)) \geq 0 \quad \text{since } t_h \geq \mathbf{t}(n)$$

If a child is fostered out, natural parents are expected to compensate foster parents by a transfer of market goods, equal to F – the value of market goods may be expressed in terms of a generic consumption good or in monetary value, where the price has been normalised to one.

The simple decision problem considered here is one of maximising a household utility function with respect to woman's time allocation and to the net number of children to rear in the household. Since the husband devotes all his time (T_m) to work at a fixed wage (w_m), there is no relevant decision for him to make. If the woman has the autonomy to make her own choices, the problem set up translates from a context of joint decision into one of female

⁷ This assumption is supported by evidence that women in SSA typically engage in other productive activity than household work, involving outside work or work for cash.

choice.⁸ In any case, the income earned by the husband, or the share of such income transferred to the wife, represents an exogenous variable.⁹

The problem may be characterised as follows:

$$\begin{aligned}
& \max U_{t_h, f} = U(M, H) \\
& s.t. \\
& M = y(t_w; A) + T_m w_m - (N + f)X + fF \geq 0 \\
& H = h(t_h - \mathbf{t}(N + f)) \geq 0 \\
& T = t_h + t_w \\
& \mathbf{t}(N + f) \leq t_h \\
& y', h', \mathbf{t}' > 0 \quad y'', h'', \mathbf{t}'' < 0
\end{aligned} \tag{1}$$

Note that the child rearing function is here supposed to be increasing in its domain, but at a diminishing rate (allowing for economies of scale in rearing children). The exogenous number of own young children is N , whereas f is the number of foster children; f is a positive number if children are fostered in, and negative if children are fostered out. For each child fostered in (out), parents receive (pay) an amount F of market goods. The number of children fostered out cannot be greater than the number of own children, N . The non-negativity assumption for the solutions for M and H will ensure an upper limit on the maximum number of children that can be fostered in (given time and productivity constraints).¹⁰ Note that young resident children consume each a fixed quantity X of market goods, so that M , net of such costs, is just the share for the parents.

Women will differ in their productivity (in outside as well in household work) but not in their child rearing capability. The first order conditions of the maximisation problem [1], for two women i and j , yield therefore the following equalities:

$$\frac{U_M^i}{U_H^i} = \frac{h^{i'}}{y^{i'}} = \frac{h^{i'} t'}{F - X} = \frac{h^{j'} t'}{F - X} = \frac{h^{j'}}{y^{j'}} = \frac{U_M^j}{U_H^j} \rightarrow y^{i'} = y^{j'} \quad \text{and} \quad h^{i'} = h^{j'} \tag{2}$$

At the optimum, the ratio between the marginal utilities of market and household goods must be equal to the ratio between the marginal productivity in household work and that in outside work, and to the ratio between the marginal cost of rearing one additional child (expressed in terms of time inputs) and the marginal benefit (measured in terms of the market goods received net of the goods consumed by the additional child). If this set of equalities is satisfied across all women i and j , this means that all women will end up with equal marginal

⁸ The extent to which a woman has the freedom to make autonomously these types of choices vary according to the social and cultural context and to the bargaining power of each spouse. Evidence suggests that each spouse's contribution to household income does not usually occur in a context of joint decision-making and resource pooling; however, in some situations, the wife may have limited choices and her husband decisions may be determinant also in the typical female domain.

⁹ The model could also apply to a polygynous family, where each wife chooses her time allocation and the husband makes a transfer to each wife, on the basis of his understanding of the consumption necessities of each wife and her children. Usually husbands contribute to part of food needs (for instance, the staple cereal whereas the wife provides the 'condiments') and to lump-sum expenses, such as house maintenance, medical costs, school fees.

¹⁰ For instance, $M \geq 0$ implies $f \leq \frac{y(t_w) + T_m - w_m - NX}{F - X}$

productivities, in outside work and household work respectively. Such equality is the result of mutually beneficial exchanges between women.

Fostering out can enhance current utility, if the value of the (market or household) goods produced thanks to the additional time made available is greater than the transfer that is made to foster parents. Women with greater productivity in agriculture or higher wage (because they are younger, healthier, or more experienced, or more educated) are therefore more likely to foster out. Conversely, when the opportunity cost of rearing a child is lower than the compensation one can receive by raising other people's children, women may demand to foster in children to increase their consumption. This fits with the evidence that young children are typically cared for by older or poorer women, who are less productive in agricultural activities, and are not able to earn a sufficiently high wage. Profitable exchanges may therefore occur between women with the same lifetime productivity but belonging to distinct generations, as well as between women of the same generation but with different productivity/wage profiles.

The value of F , derived from [2] once substituting the appropriate form for the utility function, is endogenously determined by the aggregate supply and demand of foster children within the group of households linked by fostering ties. F will be negatively related to the number of in-foster children and positively related to the number of out-foster children.

The results from the optimisation problem [1] represent an interesting extension of the outcomes from standard household production models. In particular, if a woman has a greater productivity in outside work than, not only can she devote less of her time to household production (as standard household theory predicts), but she can also foster out children. Therefore the decrease in household production (other than childcare) induced by a rise in female wage is going to be less pronounced than that predicted by standard household models, other things being equal.¹¹

Up to now, the theoretical model underlying the fostering of young children appears to be a relatively simple exercise. However, a more complex issue is why, in the face of the universally observed differences in women's time opportunity costs and of their need to share some of their tasks, fostering should emerge as a typical response in SSA, but not in other parts of the world. The tentative explanation provided here focuses on the particular household structure and family organisation in Sub-Saharan African societies, which provide women with fewer possibilities to achieve efficient task sharing (not to speak of risk sharing) with other members of the household.

Lack of efficient task sharing within the household is due not only to a fluid household structure, marked by frequent changes in residential arrangements, but also because of a typology of spousal relationships that does not imply, even normatively, budget communality, shared decision-making and extended reciprocal assistance (Whitehead 1999). The organisation of traditional African societies revolves around the supremacy of kinship links, which implies that an individual, even after marriage, does not loosen the rights and obligations to the lineage: for kinship links to be strong, then, the spousal bond must be weak.

¹¹ The situation becomes more complicated when there are both economies of scale in rearing children (β) and complementarities between child rearing and other household work (α), as in the function:

$H = h \left(t_h - (1 - \alpha)t(N + F)^{1-b} \right)$. For values of α and b high enough, child rearing becomes more compatible with other household work; yet fostering may still occur.

For women this fact is of particular relevance, because of their relatively weaker position in the household, the multiplicity of roles that are required of them and the fewer means available to carry them out. In SSA there is little of the task specialisation between spouses found elsewhere, according to which the wife takes care of all aspects related to the household economy whereas the husband specialises in outside work and provides the family with the essential market goods. Women's duties include not only household chores but also procuring consumption goods for the daily needs of the family, either by producing them directly or by earning cash and buying them in the market.¹² Double roles, outside and inside the household, exercise a considerable pressure on women's time in SSA, and demand the scope for task sharing. But the extent of sharing within the household is minimal, due to the lack of resource pooling and separate decision-making. Therefore, if an African woman needs help, she is more likely to turn to her circle of kith and kin, instead of asking her husband or his relatives. Fostering is a component of this vital system of flexible sharing across households, and between women in particular.

It cannot be overemphasised that fostering arrangements are vital to women, but only due to the disadvantaged position they face. Fostering is thus a social institution that helps women to cope with precisely the kind of pressures that society puts on them. Child rearing practices are adapted in a way to attain the most important duty society asks of women, that of bearing many children. Hence, the widespread 'generational specialisation' with respect to the functions of bearing and rearing children, in African societies. If women in their reproductive age are to bear many children, it is essential that older women, or young unmarried women, help substantially with the task of rearing them.

This situation appears different from that characterising other societies, for instance in Asia, where households tend to be more compact and vertically extended, the spousal budget is jointly held, and wife's responsibilities are more clearly centred on the household domain, also when she works outside. In such contexts, a mother with young children is not expected to carry out many duties incompatible with the task of caring for them. Moreover, child rearing can be more easily arranged within households thanks to the help of other resident members.

Other characteristics of SSA societies concur to explain the emergence of fostering practices. The strive to promote kinship links may be a direct causing factor, since the practice of sharing child rearing among the members of the extended family may be regarded as an instrument by which kin people claim their rights over a typical marital 'resource'. (The reason for the supremacy of kinship links in SSA is a somewhat deeper issue: it may be driven by the goal of maximising the long-term survival of the lineage, by making group's interests prevailing over individuals', or it may be sustained by a gerontocratic system associated with the prevailing extensive agriculture systems.)¹³

According to our simple model, in a society where fostering practices are widespread, so that many children are reared by women with lower opportunity costs of time, the average cost of rearing children within society becomes lower. This can be counted as one instance in which the lack of efficient task sharing within the SSA household has a positive effect: women, in the absence of support within the household, are 'induced' to look for help outside, and can thus select child carers out of a wider pool of candidates. However, the best child carer from the point of view of women's immediate needs may not be the best from the point of view of

¹² There is a wide variation, across societies and ethnic groups, in the type of contribution expected of women to daily food and necessities. However the need for a woman to work to comply to such obligations is uniformly found across SSA.

¹³ Caldwell (1978), Caldwell and Caldwell (1987).

child present and future welfare. The positive effect just mentioned must therefore be weighted against potential harmful consequences for the children themselves.

4. Fostering of older children: adjustment to child labour needs

Empirical evidence shows that many foster children work quite long hours (refs). However, fostering cannot be adequately explained as a voluntary exchange by the mere fact that older children work. If children are so valuable to the household economy, why would natural parents voluntarily agree to foster them out? The most immediate explanation is that foster parents compensate financially natural parents, or the child, for the labour they receive: fostering thus functions as an informal market for child contribution to household work.¹⁴ In a competitive market situation, the compensation given by foster parents should be equal to the marginal value of child labour (or, if marginal returns from child labour are constant, should be comprised between the marginal value of child labour to the sending household and, respectively, to the receiving household). This should be a straightforward situation to analyse via economic modelling.

However, many fostering arrangements involving the transfer of child labour do not reveal the presence of payments in money or in kind. In fact, the existence of compensatory monetary transfers is not necessary for a transfer of child labour to be beneficial to both natural and foster parents. This may be so for two reasons. The first is that child and adult labour may be complementary factors in household production, so that child productivity varies according to household size and composition, and therefore households might experience excess supply or demand for child labour. The second is that there may be asymmetries in the way natural and foster parents perceive fostering (the former regarding it as a way to sponsor the child into better-off families, whereas the latter seeing it as a way to acquire labour services), and fostering can actually satisfy apparent incompatible needs.

In this section, the notion of complementarity between child and adult work is explored to explain why a demand and a supply of economically active children can arise at the same time; the notion was first used by Ainsworth (1991), but it is explored here to a greater extent. The next section will deal with the second issue mentioned above.

The model in this section makes the simplifying assumption that all resident members of working age contribute to a joint household work activity. This is not the 'representative' situation in SSA households, where each working household member is typically engaged in distinct economic activities, partly individually, partly together with other household members, partly in co-operation with people from outside the household. Allowing for this more realistic scenario would however add complexity without affecting substantially the aspect of main concern here, e.g. the effects on fostering arrangements of child-adult complementarities.

Household size S is the sum between the number of adults A , of resident children of working age C , and of young and non-working children I . Working members in the household, both adults and children, participate in a joint household production, which yields a homogenous consumption good, shared among household members according to a fixed rule. Labour supply is fixed for each worker, e.g. there is no choice between work and leisure.

¹⁴ This may be compared to the phenomenon of adolescent service occurring in 16-18th century England (Laslett 1977). The latter was much more circumscribed with respect to its functions, in that it concerned children from low family backgrounds who wanted to accumulate sufficient savings to set up a household on their own upon marriage.

Children provide a different type of services than adults, so that the level of household production is affected by the household's child/adult composition ratio C/A . Household production can be considered to be an integrated activity, where basic low-productivity chores are combined with more complex, high-productivity tasks. Children can provide only the former, whereas adults can provide both. If children perform the elementary and tedious tasks, then adults can concentrate on the more productive work. In this respect, child contribution induces an increase in adult productivity.

Household production is separable in adult and child contribution, and both components are measured in terms of the homogeneous consumption good. Adult production is equal to the product between the number of adults A and a function, $g(C/A)$, defined over the child/adult ratio C/A . The function g is a monotonically increasing function in its domain (its first derivative is positive), but its second derivative is negative, e.g. additional children induce a diminishing increase in the marginal productivity of an adult. The first derivative g' can be regarded as measuring one component (the indirect one) of the contribution of each child to total household production. The other (direct) component, \mathbf{g} measures the services made directly available by child work (although γ is here constant for all children, its value is likely to vary according to child gender and age). The household production function can therefore be written as:

$$H = g\left(\frac{C}{A}\right)A + \mathbf{g}C$$

where $g' \equiv \frac{dg(C/A)}{d(C/A)} > 0$, $g'' \equiv \frac{d^2g(C/A)}{d(C/A)^2} < 0$ [3]

Child marginal productivity H_C and adult marginal productivity H_A are, respectively, equal to:

$$H_C = g'(C/A) + \mathbf{g}$$

$$H_A = g(C/A) - g'(C/A)C/A$$
 [4]

Child marginal productivity is always positive. Adult marginal productivity, instead, is positive only if:

$$g(C/A) > g'(C/A)C/A$$
 [5]

e.g. if per-capita adult production remains greater than the decrease in marginal adult productivity induced by an increase in C/A . A production function can be easily chosen that always ensures the above inequality.¹⁵

Let us now calculate the cross partial derivative, H_{AC} . This indicates how adult marginal productivity varies following a variation in the number of children:

$$H_{AC} \equiv \frac{\partial H_A}{\partial C} = -g''\left(\frac{C}{A}\right)C/A^2 > 0$$
 [6]

¹⁵ For instance, the functional form $g\left(\frac{C}{A}\right) = \sqrt{\frac{C}{A}}$ ensures that g is always greater than $g'C/A$.

The positive sign of this cross partial derivative (due to the hypothesis that g'' is negative) captures the desirable notion that additional children induce an increase in adult marginal productivity.

Given the above features, the problem under consideration is one of a household maximising the level of per-capita current consumption c (obtained as the ratio between total production and household size),¹⁶ by choosing the optimal value of resident children, C^* , in any one period, given the number of adults A , of own adolescent children N and of own young children I . The optimal number of children may differ from the number of own older children N , which is the result of past fertility decisions. A household will either foster in (if $C^* > N$) or out (if $C^* < N$) or will not foster (if $C^* = N$). A fostering arrangement is such that the receiving household satisfies child consumption needs while securing its labour: the sending household forgoes both the costs and the benefits associated to a child (but there are no intertemporal consequences).

The maximisation problem can be characterised as follows:

$$\max_C c = \frac{g(C/A)A + \mathbf{g}C}{S} \quad [7]$$

The first order condition of the problem [7] yields:

$$\frac{\mathcal{J}c}{\mathcal{J}C} = \frac{(g' + \mathbf{g})S - (gA + \mathbf{g}C)}{S^2} = 0$$

and therefore:

$$g' \left(\frac{C^*}{A} \right) + \mathbf{g} = c(C^*) \quad [8]$$

The optimal number of working children, i.e. the one that maximises per-capita consumption, is the one which ensures the equality between marginal child productivity (which includes the indirect and direct component) and per-capita consumption. Since the marginal value of child labour is inversely related to the C/A ratio, a household will foster in (out) as long as the marginal productivity of a child is larger (smaller) than the induced per-capita consumption.

This simple framework shows how fostering has the scope for redistributing efficiently child labour across households with structural differences in their composition (due to distinct fertility and mortality histories) or in different phases of their life cycle. There is no need in this model for any transfer of goods or money to make both parties gain from the arrangement. Nonetheless, transfers may be observed in practice. This may imply two things. Either the parties agree to foster without the participation constraint [8] being fully satisfied, e.g. the productivity of the child in the natural home is not lower than average consumption or the productivity in the foster home is not greater than average consumption. Alternatively, the fostering arrangement is serving a wider function than that of redistributing child labour

¹⁶ Different weights could have been attached to the consumption shares of adults and children. However, since this assumption would not have changed the results in a significant way, it has not been added to keep the notation as simple as possible.

efficiently across households, for instance insurance or family support (a topic deferred until Section 6).

Child fostering as a response to imbalances in household size and composition needs to be put in perspective and compared with alternative mechanisms, such as various forms of adult mobility. Adults' work moves across households, sometimes on a short-term basis as in the context of 'work parties', in which friends and group members are called to work in one's field in exchange for beer or food or cash (Donhalm 1981). Adults move also for longer period, by migrating in search for seasonal or permanent work, but here the move is mainly driven by the sending household.

Child fostering can be regarded as a way of modifying labour and consumption requirements in a way that is intermediate between the two mechanisms of adult mobility just described: it is not as flexible as working parties but it is less costly, and more reversible, than adult migration. If a household experiences a change in either consumption or production needs and predicts it may last for a while, but does not want to commit to a too costly strategy, then child fostering may be contemplated. It is easier to move children than adults across households, given that child work has a more fungible nature, whereas adults' human and physical capital is likely to be more household-specific. Fostering of younger children is another mechanism altering household size and composition, which modifies not only consumption demand but also total needs for household labour (given that children require care). When older children can assist in caring for their younger siblings, there may be interesting substitution effects taking place between fostering out young children and fostering in older children, as examined in the next section.

Different forms of circulation by household members' are not only alternatives, they can also depend on one another. For instance, out-migration by one spouse, by reducing the extent of resource pooling and of reciprocal assistance within the couple, may cause difficulties in raising young children, as well as induce a fall in the demand for child labour, since the departure of adults reduces the scope for child work given complementarities. Hence families may have more incentives to foster out.

There are other, quite important implications that can be derived from condition [8], e.g. those concerning the long-standing debate on the value of children in poor countries. Some empirical studies have claimed that children represent a negative economic asset for their parents, since child work does not always "repay" child consumption from birth until marriage.¹⁷ Children's contribution to household income consists of very simple tasks, whose value, it is argued, is lower than the value of the goods they consume.

The model in this section suggests that two further aspects need to be taken into account to determine the net value of child labour. First, a distinction needs to be made between the direct production value of child work (g), which may be indeed low, and the total child net contribution to household production, which includes the enhanced adult productivity component (g'). A negative "direct production-consumption gap" ($g-c<0$) does not *per se* imply that total net child contribution ($g+g'-c$) is negative. Second, the same child may represent a positive economic asset for one household but a negative asset for another,

¹⁷ Among the early studies, see Mueller (1976). The data used by Mueller from a number of countries, however, might underestimate children's contribution, since they measure productivity with market wages (which are well known not to reflect the value of child work contribution, especially in rural areas) and may not have controlled for parents' under-reporting of hours worked by children. Cain (1982) concludes that in Bangladesh the services from children, at least until they are fifteen, are not enough to repay parents for the rearing costs. According to Kyerere and Thorbecke (1991), the contribution of children in Ghana is less than their caloric intake.

depending on the composition of each household. This highlights that the economic value of children in traditional rural societies depends on the synergies between children's and adults' work which arise in each particular household.

Theoretical and empirical analysis have so far given insufficient consideration to some of the complex features of household production in African societies, such as complementarities between the contribution of members of different gender and age, and economies of scale.¹⁸ Yet, economies of scale in household production may be the key to make sense of the apparent inconsistency between the typical finding from household surveys, that poverty is positively related to household size and fertility, and the conclusion from in-depth anthropological case studies that larger households are also wealthier (Whitehead 1999).¹⁹ The flexibility with which children can be moved across households might provide an additional reason to why there might be no direct relationship between household welfare indicators and fertility or household size. The absence of reliable data on residential changes in household surveys (especially those due to child mobility) as well as on the different ways in which household may face temporary shortages or abundance of labour often represents an impediment to the analysis of these issues. Theoretical understanding of the fostering phenomenon and an accurate recording of data on child mobility across households might contribute to a great deal to the knowledge of the household economy in SSA.

5. Coexistence between the motives of child labour and child education in the fostering of older children

This section examines another scenario in which the fostering of older children may lead to mutually beneficial exchanges between natural and foster parents without the need for compensatory monetary transfers, and is based on the evidence from recent anthropological studies that natural and foster parents have different but complementary requirements.²⁰ Better-off kin need children to perform house chores, especially if they live in urban areas, since few household members would do household work, as they either attend school, or work for a wage or enjoy leisure; and hiring external help is expensive. Poorer parents, women without husband's support and rural folk cannot ensure their children a comfortable environment at home and an education. They might be prepared to renounce to their child contribution if they feel that a child, by living in a better-off and educated household, can have the possibility of "learning the ways of the world" and make useful connections. They foster out, not because the child is of zero net economic value to them, but because this may be a better investment in the child.

How these opposing perceptions and needs are reconciled varies across contexts and the interpretation is left open in existing studies. In many instances, children are treated less well

¹⁸ Deaton and Paxson (?) are among the first who pointed to the need to peer into the issue of scale economies within households, not only with respect to consumption, but also, crucially, to production. Some of the articles in Alderman, Haddad and Hoddinott (?) deal also with these issues from both a theoretical and an empirical point of view.

¹⁹ To this effect one might need to operate a distinction between household and agricultural production, since economies of scale appear to be more important relative to the performance of such household tasks as food processing and preparation, rather than for strictly farm operations, where constant marginal returns to scale more often prevail – this is the reason why the role of scale effects has not been explicitly acknowledged in the joint household-agricultural production function [3]. Hunt (1979) and Toulmin (1991) show the absence of economies of scale in agricultural production for Kenya and Mali, respectively.

²⁰ For instance, Isiugho-Abanihe (1983, p.90), Oppong and Abu (1987) and Bledsoe and Isiugho-Abanihe (199?).

than what hoped for by their parents, they devote most of their time to house chores and very little to school. This may be so, because pre-commitments on the part of foster parents cannot be enforced. In other cases, however, fostering does enable poor children to be sponsored by better-off relatives and to be given opportunities for that personal advancement that otherwise would be precluded to them. The socio-economic gap between the families of origin and of destination can therefore be a positive element, instrumental to the child's improvement. Under certain conditions, expected child quality is an increasing function of the socio-economic gap, which explains why many parents accept to foster out their children.²¹

One element making up for the gap between parents' perception is the fact that there are various "types" of children (some work, others go to school, some may be better at some tasks rather than others). Parents may want to substitute temporarily the type of children they have with another type when there are changes in the factors affecting their differential demand for children.²² (Younger children are instead a more homogeneous category: they all invariable require time and care, so that a mother who fosters out her own children is not prepared generally to mind other people's children.²³) One source of changing needs is the variable demand for child labour; and one reason why parents may substitute own with foster children in this respect is their concern for own children's education. Although in principle own children may provide the required labour services, parents' preference structures make them unavailable for that, so that other people's children need to be fostered in.

Evidence shows that, on average, foster children work more than own children living in the same household, but they may be better educated than siblings left at home. This could suggest that fostering represents an intermediate choice between child education and work, combining the features of investment in child human capital and utilisation of child services.²⁴ In the model we are presenting, fostering is regarded as a second-best option for enhancing child human capital, whereas the first best remains attending school in the home of origin. (Also a foster child can receive valuable education but generally this is so when natural parents contribute substantially to school fees, uniforms, books and maintenance expenses, a scenario which is not considered for the moment, as the focus is on the incentives to foster in and out *per se*, without monetary transfers.)

²¹ As Bledsoe (1994) puts it: "Fosterage strategies of mobility for older children produce important lines of social and geographical stratification. At each upward step, the children's lower status marked them as domestic servants for more educated or urban families. This in turn means that the greater the status differential between the sending and receiving families, the less the foster children will be treated like guardian's own children, and the more hardship they are likely to undergo. The trade-off, of course, is the possibility of an incremental rise in the child's adult status" (p.123).

²² Oppong and Abu (1987) speak of a "...cultural context in which many children are still obedient providers of services to relatives, while others in contrast are expensive consumers of schooling, books, clothes, pocket money, transport and leisure. They [mothers] all try to put their own children in this second category. If child labour is needed in the home for chores or baby nursing during school hours, they see to it that, as far as possible, this assistance is provided by other people's children, not their own" (p.89).

²³ Fostering in and out young children simultaneously could bring an advantage only if mothers spent less time in the care of foster than of own children. But, knowing that her children would be treated with less care, without any particular advantage, no woman would foster out.

²⁴ The trade-off between child schooling and work is an established topic in development studies. Research in the context of Sub-Saharan Africa has identified a significant negative correlation between child schooling and the value of child contribution to family income, which provides an indirect measure of the price of schooling. This relation is proved to be even more significant for families that own assets that enhance child productivity. See Chernichovsky (1985) and references reported there. An analogous study for India is Rosenzweig and Evenson (1977).

The model analyses parents' decision to foster children aged 7-15, jointly with their choice of time-allocation between market and non-market activities and the choice of whether to educate children or put them to work. The choice variables belong to the women's domain, as in section 3, whereas husband-related choices are typically exogenous for the problem at hand, although important in determining total resource availability. In the following, the joint decision problem will be treated in practice as if it were a woman's decision problem.

A woman (couple) maximises a quasi-concave twice-differentiable utility function, defined over the quality of her own children, market and household goods consumption:

$$U(Q, M, H) \quad [9]$$

with the customary assumptions on the first and second derivatives and further assumptions on interior solutions for Q , M and H :

$$U_i > 0 \quad \text{and} \quad U_{ii} < 0, \quad \text{for } i = Q, M, H; \quad \text{and} \quad Q > 0, \quad M > 0, \quad H > 0.$$

Since Q does not depend, for assumption, on the number of children fostered in (e.g. a mother cares just for the quality of her own children), there is an asymmetry between the mother's decisions to foster in and out. If own and foster children are not substitutes when they are older, different symbols must be used to distinguish between the number of children fostered in and the number of children fostered out. They are now indicated, respectively, by f^i and f^o .

The index of aggregate quality of own children, Q , is constructed as follows. Let $q < N$ be the number of own children who live at home, do not work and go to school. By normalising its coefficient to 1, q will also denote the level of the human capital of such children. Let us then indicate by f^o (where $0 \leq f^o \leq N$) the number of own children fostered out. Their human capital is lower than that of the former children, because, although they acquire new skills and useful contacts, they work and they may not finish school.²⁵ The weight attached to f^o must therefore be positive but less than unity; such coefficient will be called \mathbf{j} . No human capital instead accrues to children who stay at home and work. However, parents should derive a greater utility from children who stay at home or at least perceive the quality of children who stay at home to be greater than that of out-fosters, all other things being equal (because control on children is tighter). Therefore, index Q is assumed to increase for each own child living at home, but at a declining rate. The index Q can thus be written as follows:

$$Q = q + \mathbf{j}f^o + \mathbf{c}(N - f^o) \quad \text{where} \quad 0 < \mathbf{j} < 1 \quad \chi' > 0 \quad \text{and} \quad \chi'' < 0 \quad [10]$$

The sum of the number of non-working children staying home and that of children fostered out must be no greater than the total number of children, the difference being the number of own children who contribute to household production:

$$q + f^o \leq N \quad [11]$$

The second argument in the utility function is M . Market goods are bought with the woman's income, which is the product between her wage, w , and the amount of time devoted to cash work, t_w , at price P .²⁶ A woman has also to buy a fixed amount of market goods X for each of

²⁵ In this model, foster parents do not incur any additional cost as a result of their enhancing foster children's human capital; this positive effect can be thought of as an unrecognised externality associated with past choices (the investment made by foster parents' parents in children's education).

²⁶ M is a vector of market goods where each good is in fixed proportion for any level of expenditure. The vector of prices P is therefore exogenous and independent from demand levels.

the children resident in the household, own and in-fosters. The woman's consumption of market goods will be:

$$M = \frac{wt_w}{P} - X[N + f^i - f^o] \quad [12]$$

Given [12], our initial assumption that $M > 0$ also implies that the number of children fostered in is always constrained from above, e.g. $f^i < \frac{wt_w - PM}{PX} - N + f^o$.

Household goods H are treated as an homogeneous entity, produced only with the time inputs of the mother t_h , of own children who do not go to school ($N - f^o - q$) and of in-fosters (f^i). Work and school of own children are taken to be incompatible and the supply of each working child is fixed.

The production function is separable in its two arguments, implying substitutability. Mother's and children's production are measured, respectively, by functions h and g . For both mother and children, marginal productivity decreases with an increase in labour supply. Children's marginal productivity is lower than woman's marginal productivity, e.g. $g' < h'$. Household work must at least guarantee the task of taking care of children, which can use either woman's or child's work and is here expressed by a generic function l , positively related to the number of children to care for. The latter is the sum of own young children (N_y) and of the net number of in-fosters (f_y can be therefore positive or negative). The amount of household goods, once child care is ensured, is therefore given by:

$$H = h(t_h) + g(N + f^i - f^o - q) - l(N_y + f_y) \quad [13]$$

$$\text{where: } h' > 0, g' > 0, h'' < 0, g'' < 0 \text{ and } -f_y \leq N_y \quad [13']$$

e.g. the number of young children fostered out cannot be greater than the number of own young children (the upper constraint on f_y is taken care of by the assumption that $H > 0$, as for f^i).

Let T be the woman's time available for work, to be divided between market and non-market activities:

$$T = t_w + t_h \quad [14]$$

The mother's utility maximisation involves to choose the time-allocation between market and non-market activities (t_w and t_h); the number of young children to foster in or out (f_y); the number of own older children either to foster out (f^o), or to keep at home to attend school (q), or to keep at home for household production ($N - f^i - q$); and the number of children to foster in (f^i) for household work. The exogenous variables in this decision problem are: the woman's wage, w ; market prices, P ; the market goods' consumption of each resident child aged 7-15, X ; and the number of own young and older children, respectively, N_y and N .

The woman's decision problem is therefore to maximise [9] subject to constraints [11], [13'] [14], and the non-negativity constraints on all the choice variables excluding f_y (which can be also negative). By substituting [14] into [12] and [10], [12] and [13] into [1], we can write the Lagrangian for this problem as:

$$\max_{t_h, f_y, f^o, f^i, q} L = \quad [15]$$

$$= U \left(w \frac{T-t_h}{P} - (N-f^o + f^i)X - \underline{M}; h(t_h) + g(N-f^o + f^i - q) - l(N_y + f_y); q + \mathbf{j}f^o + \mathbf{c}(N-f^o) \right) \\ + \mathbf{I}_0 t_h + \mathbf{I}_1 (T-t_h) + \mathbf{I}_2 (N_y + f_y) + \mathbf{I}_3 f^o + \mathbf{I}_4 f^i + \mathbf{I}_5 q + \mathbf{I}_6 (N-q-f^o)$$

There are five first order conditions:

$$\begin{aligned} \text{a) } \frac{\mathcal{L}}{\mathcal{L}_{t_h}} &= -U_M \frac{w}{P} + U_H h' + \mathbf{I}_0 - \mathbf{I}_1 = 0 \\ \text{b) } \frac{\mathcal{L}}{\mathcal{L}_{f_y}} &= U_M F - U_H l' + \mathbf{I}_2 = 0 \\ \text{c) } \frac{\mathcal{L}}{\mathcal{L}_{f^o}} &= U_M X - U_H g' + U_Q (\mathbf{j} - \mathbf{c}') + \mathbf{I}_3 - \mathbf{I}_6 = 0 \\ \text{d) } \frac{\mathcal{L}}{\mathcal{L}_{f^i}} &= -U_M X + U_H g' + \mathbf{I}_4 = 0 \\ \text{e) } \frac{\mathcal{L}}{\mathcal{L}_q} &= -U_H g' + U_Q + \mathbf{I}_5 - \mathbf{I}_6 = 0 \end{aligned} \quad [16]$$

When one obtains internal solutions for each choice variable, and therefore all multipliers are set to zero ($\mathbf{I}_i=0$ for each $i=1, \dots, 6$), the first order conditions yield:

$$\begin{aligned} \frac{U_M}{U_H} &= \frac{h'}{w/P} = \frac{l'}{F} = \frac{g'}{X} \\ \frac{U_Q}{U_H} &= g' \\ \mathbf{j} &= \mathbf{c}' \end{aligned} \quad [17]$$

According to 17.a), the ratio between the marginal utilities of household and market goods must be equal to the ratio: i) between woman's marginal productivity in household work and her real market wage, ii) between the time costs involved in rearing an additional young child and the share of market goods that one receives as a compensation and iii) between child marginal productivity and child consumption for market goods.

These results directly expand the standard results of household economic models on the choice between market and household work. Comparative static indicates that, for instance, the effect of an increase in a woman's wage leads to a reduction of the woman's time devoted to household work (greater h'), which may or may not lead to a greater substitution of household for market goods, unlike in the standard household production framework, where an increase in women's wage and a higher demand for more educated children always decreases the consumption of household goods.²⁷ This is so due to the availability of a large supply of child work through fostering. Evidence from SSA societies confirms this finding.

²⁷ See Becker (1991). This occurs when the substitution effect associated with the price variation is greater than the income effect. Fertility decline in Western societies has been explained within the same framework. If children are a household consumption good which requires mother's time, then an increase in mother's income induces a decrease in fertility, and a greater purchase of other goods for which mother's time is less needed ("child quality" may be an example).

The expression 17.b) states that the rate of marginal substitution of child quality for household goods must equal the marginal contribution of children to household production. Finally, in 17.c), the optimal number of children to foster out is the one in correspondence of the equality between the marginal cost of fostering out (as expressed by \mathbf{c}') and the advantage of increasing child quality (\mathbf{f}).

Corner solutions for any choice variable implies that the correspondent equality is not met, as in the following:

$$\begin{aligned}
t_h = 0, \mathbf{I}_0 > 0 &\rightarrow \frac{U_M}{U_H} > \frac{h'}{w/P} \\
t_h = T, \mathbf{I}_1 > 0 &\rightarrow \frac{U_M}{U_H} < \frac{h'}{w/P} \\
-f_y = N, \mathbf{I}_2 > 0 &\rightarrow \frac{U_M}{U_H} < \frac{l'}{F} \\
f^o = 0, \mathbf{I}_3 > 0 &\rightarrow \mathbf{c}' = \mathbf{f} \quad \text{if } \mathbf{I}_3 = \mathbf{I}_6 \\
f^i = 0, \mathbf{I}_4 > 0 &\rightarrow \frac{U_M}{U_H} > \frac{g'}{X} \\
q = 0, \mathbf{I}_5 > 0 &\rightarrow \frac{U_Q}{U_H} < (>) g' \quad \text{for } \mathbf{I}_5 > (<) \mathbf{I}_6 \\
N = f_o + q, \mathbf{I}_6 > 0 &\rightarrow \mathbf{c}' > (<) \mathbf{f} \quad \text{for } \mathbf{I}_6 < (>) \mathbf{I}_3 + \mathbf{I}_4
\end{aligned} \tag{18}$$

Two results follow from what seen so far.

Proposition 1. Parents will have none of their own children working at home, and the only working children will be in-fosters, if either of the following conditions is satisfied i) $\mathbf{c}' < \mathbf{f}$, or ii) $\chi(N-f^o)=0$. These are sufficient but not necessary conditions, in particular because, as shown, the same result can be obtained under certain cases when $\mathbf{c}' > \mathbf{f}$.

Proof: see Appendix 1.

Proposition 1 i) states that, when the human capital of own children can be increased only by full-time schooling or by fostering, there is no point having own children working at home if the benefits from fostering out overcome the correspondent disadvantages, for any child.

Proof in Appendix 1 shows that this is a sufficient but not necessary condition. Even when the cost of not having children in the household is greater than the benefit of fostering, parents will still not retain own children for household production if the difference between the costs and benefits is small enough.

Condition ii) states that when parents do not derive any extra utility from having own children in the household, so that foster and own children can be perfect substitute for the tasks required, they will never retain children for household production.

Proposition 1 therefore shows that the choice to retain own children at home to work crucially depends on the existence, and shape, of function χ as a component in the Q index.

Corollary 1. A necessary but not sufficient condition for parents to foster in and out simultaneously is that $\mathbf{f} > 0$ and $\mathbf{c}' \leq \mathbf{f}$. They cannot foster in and out simultaneously if $\mathbf{c}' > \mathbf{f}$

Proof: see Appendix 1.

Comparative static exercises show that foster children are more likely to go from lower-income parents to higher-income parents. Higher-wage mothers are less likely to foster out, because they want their children to be raised at home and go to school. Being more specialised in market production, these families employ more intensely other people's children in household production. Therefore, lower-income mothers send children to higher-income mothers, because of the co-existence of a child labour motive on the fostering in side and of a human capital motive on the fostering out side. Fostering in and out is more likely when parents are in the middle of the socio-economic scale (neither too rich nor too poor). Note that the hypothesis that fostering enhances child human capital is essential for the result that parents may foster in and out simultaneously, whereas it is not for the result that children are fostered from lower-status households to higher status households.²⁸

6. The 'value' of fostering beyond the instances of immediate reciprocity: A general classification of fostering arrangements

Sections 3-5 were concerned with establishing the conditions under which the transfer of a young or older child is mutually beneficial to both foster and natural parents. It has been shown that the fostering of a child does not need to be always accompanied by a compensatory transfer, as it may *per se* involve net benefits to both sets of parents. Although our previous treatment of fostering exchanges was limited to one period, reciprocity can occur over a longer horizon, since a party can accept to incur a cost or forgo a benefit in view of future advantages. The intertemporal dimension can be built within the previous fostering arrangements without affecting in any substantial way the result that fostering can be sustained as a mutually advantageous arrangement, enabling parents to pursue more efficiently the objectives of minding children, utilising child labour and investing in child human capital. However, delayed reciprocity makes more sense when a compensatory transfer is envisaged than when benefits are generated automatically by the child move, since such benefits are less prone to deferment (but for instance parents may still accept to foster out a child even if they do not experience an excess supply of child labour at the present, only in the expectations of such need in the future).

The competitive value of a delayed transfer needs to be greater than the value of what is exchanged at the present, as it must incorporate inter-temporal preferences and the degree of uncertainty of future outcomes. Uncertainty can be positively or negatively related to the price of fostering. If people do not have sufficient access to alternative mechanisms for smoothing consumption over time, they may be prepared to incur high costs today (and this includes rearing other people's children) in order to enhance the chance of future benefits. It is not uncommon for foster parents to expect their foster children to support them, when grown up. The uncertainty affecting such expectations is mainly due either to the child not succeeding in adult life and not obtaining a remunerative labour, or to the competition between the claims of natural and foster parents. These claims are the more incompatible the lower is the child's degree of economic success, e.g. the smaller is the size of the total cake. However, from the natural parents' perspective, the decline in the transfer with respect to what they would have received, had they not fostered out their child, can be well regarded as

²⁸ The same hypothesis is not needed to explain why lower-income mothers foster children to higher-income ones (the "upward trend in fostering"). In this case, a simplified version of the present model could suffice, one where $\epsilon=0$, and therefore $Q=q$ (child quality can be raised only by keeping children at home and sending them to school). In this different scenario, mothers would foster only to adjust actual child labour supply to the desired level, taking into account their degree of specialisation in market and non-market activities and the number of children they send to school.

the price to pay for having in the past passed onto others the costs of child rearing or education (Bledsoe 1991).

The inter-temporal dimension, when it occurs, emphasises the fact that fostering strategies are an important element of reproductive behaviour, which is also governed, as suggested by an ample literature, by parents' need to secure essential labour and insurance services in moments of difficulty and in old age.²⁹ Fostering adds to this known context the circumstance that people other than parents can share in the costs and benefits of children, widening the 'strategic domain'. By allowing temporary shifts in costs and benefits associated with children, fostering enhances flexibility in reproductive choices in the face of unpredictable events, and thus makes fertility choices more profitable. This may be an important reason why fertility is higher in societies when fostering practices are diffused.³⁰

Especially when stretching over a longer horizon, fostering arrangements are not likely to give rise to transactions of comparable value to the two parties. In these cases, the equilibrium conditions in the models described in Sections 3-5, in correspondence of which natural and foster parents are expected to participate in fostering arrangements, are better regarded as benchmarks from which deviations can be considered. Two main reasons can be thought of to account for such deviations.

First, natural and foster parents may participate in a reciprocal insurance agreement, whereby the household that is affected by a negative exogenous shock (bad weather, thefts, illness, death of a working household member, etc.) is allowed either to make a lower transfer or to receive a greater payment by the other household. The principle of reciprocity is preserved but only in an expected utility sense: it is not ensured *ex post*, e.g. after the realisation of exogenous events. This role is the analogous to the insurance function served by informal credit arrangements found by Udry (1993) in Northern Nigeria.

The system of transactions related to child fostering may serve an insurance function in two ways. One is when households send children to each other, contingent to the occurrence of exogenous shocks. When children contribute less than what they consume in any one period, children may be fostered by households hit by negative shocks. Conversely, if children are positive economic assets, they may be sent where needs have suddenly arisen. The other instance occurs when, although the act of fostering may not itself have been driven by exogenous shocks, natural and foster parents agree to make transfers to each other conditional upon the realisation of unpredicted events. To the extent that these transfers would not have occurred, had the two sets of parents not been tied by the fosterage contract, this insurance function is to be attributed to fostering. Evidence suggests that fostering indeed ties further the economic conditions of the receiving and the sending households and that natural parents become more concerned with the wellbeing of another household, if one of their children lives there. For example, Bledsoe (1990a) suggests that a Mende mother in rural Sierra Leone has more chances to be regularly visited by a daughter who lives in town and to be given, when required, cash and other goods, if she rears one of her daughter's children.

A second reason why fostering transactions may not adhere to the competitive model is when they take up the role of assistance provision to poorer relatives. This case differs from the insurance function just described, which presupposes that the parties face similar prospects and, *ex-ante*, are equally likely to make or receive a transfer. When, instead, there is a more

²⁹ Caldwell (1976, 1978), Cain (1982, 1983, 1987).

³⁰ Whereas the observed positive relationship between fostering and fertility is normally explained in terms of negative reproduction externalities, Serra (1996; chap. 5) shows the mechanisms by which fostering enhances the benefits from having children and thus provides an incentive to high fertility.

pronounced socio-economic differentiation between households, which is bound to affect next period outcomes independently from random events, the more disadvantaged party is likely to be always at one hand of the transaction, e.g. the receiving one. Transfers in this case respond not to the principle of reciprocity but to that of kinship solidarity – the latter is sustained by moral values and social norms prescribing that better-off relatives have the duty to support poor relatives.³¹ The flouting of this norm by well-off relatives may attract reprobation by the community and also material sanctions.³² Indeed, a typical way in which rich relatives support their poorer folk is by taking care of a child, and providing for her education and training. Richer families could help a poor household also by sending their own children to help; but this is much rarer, because of the fear of how the child is going to be treated in the host household. In any event, if they can afford it, parents prefer their own children not to work (Section 5).

In the presence of transactions between relatives presupposing either an insurance function or kinship support, one party may gain, within the particular fostering arrangement, relatively less than the other. The difference between the values of what one gets and receives represents, respectively, the cost of the informal insurance mechanism or the cost to pay to support relatives (for instance to assure one's reputation within the community). As a result a number of different types of fostering are associated to each of the patterns in Sections 3-5.

As an attempt to arrive at a systematic understanding of fostering in SSA, Table 1 lists the types of fostering arrangements as identified so far, their functions and the direction of the associated transfers.

Part 1 of the table deals with the fostering of young children. Since the latter typically involves the shift of rearing costs from natural to foster parents, for an arrangement to be mutually beneficial (case 1.a), a compensatory transfer (simultaneous or delayed) must take place whose magnitude is determined as in [2] section 3. At this competitive value, the fostering of children enables households to exploit fully the differences in women's opportunity cost of time.

When instead the transfer is lower (greater) than its competitive level, foster parents (natural parents) are either insuring the other party against a negative shock or are supporting it out of their kinship duties (cases 1.b and 1.c). Instance 1.b is better documented in anthropological studies than 1.c. The idea is that fostering provides the context in which young and often unmarried parents receive help by their own parents, or other relatives, to cope with the pressures of early child bearing and economic instability (Bledsoe and Isiugho-Abanihe 1989). Case 1.c is possibly the one described by Lallemand (1978). In the Mossi community studied that she studied, elder female members of the patrilineage used to assert their superior status by claiming a child from a junior co-wife or another young woman and by pretending to get most of the benefits from the child.

The fostering of older children can encompass a greater number of scenarios. First, there are the two cases (2.a) discussed in sections 4 and 5, respectively, in which fostering involves mutually beneficial exchanges, either because there are complementarities between child and adult work in household production, so that households exhibit either an excess supply or

³¹ The principle of kinship solidarity can be explained in terms of the reputational benefits accruing to rich relatives who support poor relatives (see Levac 2000), when good reputation may be valued intrinsically or instrumentally.

³² The punishment associated to the deviation from the norm may be suggestive of a particular type of reciprocity logic, one that stretches over the long term and preserve the group or the lineage – collective memory helps in this direction by providing a link between a good gesture made today and one received by one's ancestors.

excess demand for child labour; or because children can either work or go to school and parents face different constraints that make them perceive fostering in different but complementary ways.

Compensatory transfers are not needed to obtain a situation in which both parties benefit. However, their absence does not preclude the occurrence of an unequal distribution of the advantages from fostering, as documented by the evidence, cited at the beginning of section 5, that children fostered with the understanding that they will go to school may in fact end up working as servants. If a fostered child turns out to work long hours and does not improve her life conditions, natural parents do gain comparatively less from the arrangement (case 2.b). This may occur because, when natural parents face a weak exit option, foster parents can more easily renege on their commitments; they *de facto* free ride on the costs of child rearing, by taking responsibility for other people's children only when their contribution becomes valuable. On the other hand, it might be that poorer relatives manage to pass the costs of educating their children to richer relatives, by claiming their right to be assisted when in difficulty (case 2.c). The extent to which this implies that natural parents free-ride on the costs of child education depends on how subsequent benefits are going to be distributed between the two sets of parents; both parties could gain if the child obtains a well-paid job and makes generous transfers.

Evidence shows that it is very difficult to strike the right balance between the need for immediate child labour services and the obligation to invest in child education in a way that benefits equally the sending and the receiving households. In practice some fostering arrangements, instead of pretending to achieve complementary objectives, lean decisively towards either child labour or education. In these cases, a transfer is customary to compensate the party who bears a cost. If natural parents want to make sure that a child sent to another household attends secondary school, they might pay for school fees, books and uniforms and also make transfers to cover for the child living costs (the arrangement may be compared to an informal boarding system, case 2.d). Alternatively, if a child is fostered to provide labour services to another household, the latter is expected to pay goods or cash to either the child or her parents (case 2.e).³³ In either case, the transfer may not be at its competitive level (e.g. one that provides each party with an incentive to participate, whereby the incentive is based only on the costs and benefits directly linked to the arrangement). When it is not, it means that one party is insuring or supporting the other.

The theoretical framework laid so far provides a useful key for empirical studies of fostering. It makes explicit the notion that fostering exchanges may or may not give rise to monetary transfers, and the latter may or may not provide a full compensation for the services provided. It clarifies that transfers related to fostering can be implicit (for instance the forgone costs of rearing a child) or explicit (transfer of goods), immediate to the task of child rearing or external, e.g. related to other needs. Finally, it suggests a number of steps to be followed in order to identify the economic function and implications of fostering arrangements. In sum, these steps are the following.

First, one should determine what is the main immediate function served by a particular fostering arrangement (child care, child labour, child education, etc.) so to establish the value of the implicit costs and benefits accruing to each party from the transfer of the child. Second, one should record over a sufficiently long period of time the monetary and in-kind transfers between the sending and the receiving households that are directly related to the fostering arrangement. Third, the net position of each party as a result of all these implicit and explicit

³³ See also footnote ?

transfers should be calculated, to determine whether the balance is even. If it is not, the reasons for potential deficit or surplus should be explored: the fostering arrangement might interact with other types of relationships, such as insurance agreements, kinship support, unequal relationships between relatives (with some exploiting their stronger economic or social position).

The last column of Table 1 is an attempt to categorise fostering arrangement according to their effects on child welfare. There are only few and scattered data on the effects of fostering on child welfare, and, in most cases, just one aspect is taken into consideration, without the possibility of observing how fostering might affect differentially the various aspects of child well-being: nutrition, health, physical development, education. The plus and minus signs in the last column are very indicative and should be taken with great caution.

The main point to note is that the effects on child welfare are not necessarily a function of the way net benefits are redistributed among the two sets of parents or of the monetary transfers occurring between them. If positive transfers to foster parents might encourage the latter to treat the child well (cases 1.a and 1.d), the benefits accruing to foster parents from child work may be inversely related to child present and future well being (cases 2.b and 2.e).

Moreover, the treatment reserved to a child depends not just on the characteristics of the carers, but also, crucially, on the characteristics of the child itself, such as age, gender, birth order. This is so in the foster home as well as in the home of origin. Girls are everywhere less educated than boys and are penalised the most in periods of financial distress. Age and parity change over time so that families do not behave consistently with respect to these factors. In general, older children, especially girls, are penalised to the advantage of younger siblings; the former may be withdrawn from schools in order to work and make resources available for the youngest. Sometimes, children in the middle suffer the most, because parents may not afford to give them what they did to the elders; the latter, in turn may not be old enough to provide resources for educating the middle parity children, although they will probably help their youngest siblings.

If the way children are treated depends on their own characteristics, fostering should not be assumed as the cause for lower well-being, if a foster child is found to have lower welfare indicators than her siblings. The same child might not have had in any case the same chances as her siblings if living at home. Often child status might improve, contrary to appearances, by moving between households.

The crucial issue is not just *whether* a child is fostered out but *what type* of fostering arrangement she is going to be part of. If a household pursues gender-differentiated strategies, a boy is more likely to be sent to a household where they will take care of his education (cases 1.c and 1.d); whereas a girl will be most likely in a situation like 2.a and 2.b (see Table 1). Existing evidence indicates a gender bias when fostering children over a certain age. In Côte d'Ivoire, Ghana, Sierra Leone and Nigeria girls largely outnumber boys among foster children aged 7-18 performing housechores in better-off households.³⁴ The meaning of fostering as a second-best option for child education appears now more clearly (see model in section 5). Girls are likely to be fostered out without particular provisions for their schooling, because they are not included among the few fortunate children that a mother may decide to send to school.³⁵ The other side of the coin is that, if foster parents prefer girls'

³⁴ Isiugho-Abanihe (1983), Antoine and Guillaume (1986), Bledsoe (1994), Lloyd and Blanc (1996).

³⁵ Differential treatment of boys and girls is not in contradiction with the observed lack of gender fertility preferences in SSA societies. In fact the two elements are connected. Differential treatment enables parents to

services, mothers have fewer reasons to send girls to school. The socially constructed notion that household production is a female task together with the need for child services in higher-status households turn out to be the main elements in inducing mothers to provide girls with a second-best chance of improving their status; and in sustaining gender inequality across generations.

Since the strategies available to parents who want to treat their children differently provide only the context in which discrimination practices take place, not the cause, the task of assessing whether fostering is detrimental or represents a better option than the status quo is a quite difficult task. For it to be carried out, it is important to select an appropriate control group, with very similar characteristics to those of the foster children, at least in terms of the variables mentioned above (age, gender, birth order, health status, etc.).

Concluding comments

This paper has provided a first analysis of the fostering arrangements emerging from the widespread practice in SSA of sending children to live temporarily with other people than natural parents. The understanding of the reasons for fostering, and its implications, requires the analysis of different scenarios in which the position of both natural and foster parents can be analysed. The difficulty of studying fostering is due to its multiple functions and patterns. Not only do fostering arrangements provide roles related to the task of child rearing, but they are also embedded in long-term relationships between natural and foster parents whose functions range from informal insurance to altruistically motivated kinship support. Theoretical analysis can, in these cases, indicate which party is supposed to benefit from these inter-linkages, under what conditions and with what implications. However, the empirical identification of the value of fostering transactions in the presence of such inter-linkages is rather difficult. The point to note is that fostering arrangements cannot be 'explained' without a precise understanding not only of the particular characteristics of the two parties to the arrangement but also of their past history of transfers, favours and exchanges. Unlike standard market exchange, typically represented as a random matching, at any point in time, between buyers and sellers, fostering occurs between relatives who have a long-lasting relationship and quite specific expectations from one another, based on their reciprocal knowledge and past connections.³⁶

The paper examines three basic patterns of fostering in detail, in order to derive the conditions under which exchanges between natural and foster patterns are mutually beneficial. These models show that many standard results on the relationship between women's opportunity cost of time, fertility and production of household goods are changed in the presence of diffused fostering practices. For instance, fertility (and household production more in general) does not need to be lower for higher income women, if the latter can foster out their young children at a price that is lower than their opportunity cost of time.

Another result pertains to the issue of child labour and to the widespread notion that when children consume more than what they produce they are a liability to their household. It is shown instead that, if child and adult work are complementary, the contribution of child work

benefit equally from all their children, even if in distinctive ways, and therefore reduces any incentive to desire boys over girls.

³⁶ It is now become increasingly evident that market exchanges are not always characterised by anonymity, but are embedded in the complex social relations linking the parties to the exchange. An important strand of literature has shown that this is not just a feature of poorly developed market economies but characterise also more economically advanced settings, notably Japan (ref.).

may be greater in some households rather than in others. Moreover, child work indirect contribution, measured in terms of the induced increase in adult productivity, may be such that *overall* child contribution to household production is greater than consumption.

When households have different socio-economic status, the fostering of older children may assume a complementary functions, In the model proposed, parents can make different decisions concerning their own children, jointly with decisions on how much to produce of market and household goods and how much child labour they need. Their final choices depend on the interaction between their preferences and the constraints they face, as defined by their different socio-economic status. The results obtained seem to fit existing evidence. First, children (especially girls) are fostered to households of higher socio-economic status.³⁷ This derives from the fact that fostering is regarded as a second-best option for child's advancement and that opportunities increase with the socio-economic status of the hosting family. (Parents want to foster children only to higher-status households, in the hope that the benefits derivable to the child from the better environment compensates for the fact (s)he might have to work.)

Second, the extent to which parents retain children at home to work for them is a function of the utility attached to residing with own children, of the increases in a child human capital from either schooling or fostering, and of the capability of in-foster children to substitute for own children in household tasks.

Third, households may also foster in and out simultaneously, but more likely if they are in the middle of the socio-economic scale. Higher-status families are more likely to foster in (but not to foster out) whereas low-status families are likely to foster out (but not to foster in).

The second aim of the paper, once the basic framework is built for explaining the reasons why two particular households might send and, respectively, receive a child, is to tackle the question of whether child welfare might be consequently enhanced or reduced. Although this type of assessments should ultimately be decided by means of detailed empirical analysis, it is important to organise systematically our understanding of such issues. One typical problems is the difficulty of ensuring an appropriate 'control group' or of working with counterfactuals, in a context where welfare effects depend precisely on the choice of which children are fostered, something not at all casual but determined by child characteristics (gender, age, birth order, number and characteristics of siblings) as well as by adult ones. In other words, fostering may be just the tip of the iceberg of the systematic discrimination to which children, and often siblings, are subject to by parents and relatives. Attributing the cause of lower child welfare to fostering practices may simply mean taking the symptoms for the causes. Some reflections are therefore provided as a guide into the analysis of the effects of fostering on child welfare.

The instances analysed in this paper leads to one important result on the issue of the effects of household structure and organisation on efficiency. It has been argued that some of the features of the typical household in many SSA societies, e.g. lack of resource pooling and marked separation between spouses' tasks, may be at the source of important inefficiencies in production. For instance, Udry (?) shows that husband's inability to protect credibly women's welfare, together with their unequal access to productive assets, induce both spouses to grow separately the same crops, leading to a significant loss in output compared to the case where

³⁷ In her 1982 survey conducted in Sierra Leone, Bledsoe (1994) found that over half of all foster children under 16 were living in households of higher status than that of their natal families, whereas only 17% of children were found in lower-status homes.

resources were pooled. In this paper we have shown that, since women are often unaided by household members for their multiple tasks, they have to look out to potential helpers within their village and often in other villages. Although in matters related to child fostering women are bound often by conventions stating who should be a foster parent, in many cases fostering provides women with the option of choosing the best parties to the transaction in the specific circumstance. This may prove an efficient enhancing strategy. For instance, in matters related to child training and education, parents can send children to the household where they believe their child could receive the best training. When looking for a carer for a young child, foster parents might be chosen among relatives in the countryside, where pollution is lower and life is safer.

The picture contrasts with that typical of societies, which lack incentive to foster children, because households are more structured and cohesive, resources are pooled and many fundamental exchanges occur within rather than passing across household borders. Where children are reared within the household, efficiency is not attained to the extent to which the qualities and skills valuable to a particular child are not a function of the closeness of blood relations but are dispersed randomly across members of the extended non-residential family.

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APPENDIX

Proof of Proposition 1

By substituting 4 into 3 one obtains:

$$a) \mathbf{I}_6 - \mathbf{I}_3 - (\mathbf{j} - \mathbf{c}')U_\rho = \mathbf{I}_4$$

which yields:

$$b) \mathbf{c}' = \mathbf{j} - \frac{\mathbf{I}_6 - \mathbf{I}_3 - \mathbf{I}_4}{U_\rho}$$

i) From b), $\mathbf{c}' < \mathbf{f}$ implies $\mathbf{I}_6 - \mathbf{I}_3 - \mathbf{I}_4 > 0$ e.g. $\mathbf{I}_6 > 0$. But $\mathbf{I}_6 > 0$ implies $N = q + f^o$ e.g. own children are either sent to school or fostered out, none staying at home to work.

$\mathbf{c}' < \mathbf{f}$ is a sufficient but not necessary condition for own children not working at home. In particular, a positive value for \mathbf{I}_6 is also consistent with $\mathbf{c}' > \mathbf{f}$, which only requires that $\mathbf{I}_6 < \mathbf{I}_3 + \mathbf{I}_4$ (where the multiplier \mathbf{I}_6 can be positive or zero).

ii) If the function $\mathbf{c}(N - f^o)$ is set equal to zero all over its domain, its first derivative disappears from the first order conditions. The expression b) above then becomes:

$$c) \mathbf{I}_6 - \mathbf{I}_3 - \mathbf{I}_4 = \mathbf{j}U_\rho > 0$$

The right hand side of the above equality must be greater than zero (for the assumptions on the parameter \mathbf{f} and on the utility function), and therefore \mathbf{I}_6 must be positive (not only that, it must also be greater than the sum of the values of the other two multipliers). But $\mathbf{I}_6 > 0$ implies $N = q + f^o$ e.g. own children are either sent to school or fostered out, none staying at home to work.

Proof of Corollary 1

Fostering in and out simultaneously implies that both multipliers \mathbf{I}_3 and \mathbf{I}_4 are equal to zero. It follows, from b) in proposition 1, that \mathbf{c}' cannot be greater than \mathbf{f} . It can only be either equal (see first order conditions [17]) or lower (proposition 1, part i)).

Table 1: Classification of fostering functions and transfers

Child age	Transfer from:	Size of the transfer	Motive for fostering	Comment	Effects
1. Young < 7 years	NP ^a	a. $F=F^*$	Efficient distribution of child care tasks across households (section 3)	Full compensation given for child care services	+
	NP	b. $0 \leq F < F^*$	FP are insuring or supporting NP	Compensation for child care is only partial	+
	FP ^b	c. $F > F^*$	NP are insuring or supporting FP	Compensation for child care is in excess: foster parents extract positional rent (empirically rare – but see Lallemand 1976)	+/-
2. Older > 7 years	No transfer	No transfer	a. Complementarity between child and adult work or coexistence of educational and labour reasons for fostering	Mutually beneficial exchange – see sections 4 and 5	+
			b. FP free ride on the costs of child rearing or NP willingly insure/support FP (empirically irrelevant)	The child mainly works and derives little benefits in terms of human capital	-
			c. FP insure/support NP	The child studies mainly and derives positive benefits from fostering	+
	NP	d. $F^* =$ school fees, price of books, etc.	Child education function	Fostering like school boarding service or, if $F < F^*$, FP are insuring or supporting NP	+
	FP	e. $0 < F \leq g'$ (g' = child marginal productivity of labour)	Redistribution of child labour	Foster parents pay, fully or partially, for the labour services received	+/-

^a Natural Parents ^b Foster Parents