Child Labour: Theory, Policy and Evidence[*]

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ABSTRACT

The purpose of this paper is to pull together the emerging theoretical and empirical literature on the economics of child labour, and to draw out the underlying commonalities between various contributions in this field. In doing so, we also identify various policy options and their relative merits.

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1. Introduction

Child labour is an emotive subject, the discussion of which is often charged with passion. People sometimes think about it with their hearts rather than with their heads.

What is a child labourer? Following the lead given by the International Labour Organisation (ILO), a person of age less than 15 years is taken to be a "child". A child is a "labourer" if he or she is "economically active" regardless of his/her occupational status (wage-earners, own account workers, unpaid family workers, etc). Household work performed in parental homes is not counted as child labour. Even with this definition, it is quite difficult to estimate the extent of child labour.[1] There are now, however, fairly reliable estimates, and according to recent studies by the ILO (ILO (1996), Asgharie (1993)), there are about 120 million children in the world who work full-time and the number goes up to 250 million if one also counts part-time workers.

About three quarters of the world's child labourers live in Asia and about one-fifth in Africa. The high figure for Asia reflects its very high share in the world's population. The picture is different in terms of participation rates: in Asia, about 10 percent of children in the 10-14 age-group are economically active, while the corresponding figure for Africa is about 25 percent. The problem is thus more severe in Africa than in Asia. On the positive side, these figures have been falling over the last fifty years. In 1950, the corresponding figures were 36 percent for Asia and 38.5 percent for Africa. Again, the decline has been slower in Africa than in Asia.

The problem of child labour is not a new one. Although child labour is virtually non-existent in the United Kingdom these days, it has not been so long since children worked in large numbers and for long hours. In 1861, when the per-capita income of the UK (in 1979 prices) was US$695, about 30 percent of British children in the 10-14 age group worked. In comparison, in 1979, when the per-capita income was merely US$200 (1n 1979 prices), about 21 percent of the Indian children in the 10-14 age group worked. In this sense one may say that the incidence of child labour was a lot more objectionable in the United Kingdom in 1861 than it is in the developing

[1] See Basu (1999) for a detailed discussion.

countries today.

In view of these facts, one may be puzzled by the trend in the concern for child labour: while the incidence of child labour is falling, the concern for it is rising! The globalisation of the world economy could have something to do with this. Because of globalisation, information on child labour across the globe is now readily available to academics and activists. More importantly, goods produced by children in less developed countries are now easily available to consumers in the developed world. This has, as Basu (1999) notes, "brought two different kinds of people on the same platform --- individuals who are genuinely concerned about the plight of children in poor countries and those who comprise forces of protectionism in the developed countries." This was evident on the streets of Seattle and Prague where very diverse groups protested against "globalisation". One can possibly go a step further and say that protectionist forces are in fact hijacking the genuine concerns of altruistic individuals. Some people view this sudden increase in concern for child labour in the developed world as a reaction to the recently concluded Uruguay Round of the GATT (see, for example, Bhagwati (1995), Fields (1994), Maskus and Holman (1996), Rodrik (1996), Srinivasan (1996) and Basu (1999)). It was agreed in the Uruguay Round that existing protection against imports of agricultural goods and textiles into the developed world would be removed. Against this background, it is worth noting that the groups that are preparing league tables of stores and supermarkets involved in "unethical trade" (i.e., importing goods from the less developed countries produced by children) are targeting, wittingly or unwittingly, precisely the products on which protections are to be removed. Also, after intense lobbying from protectionist forces, the US administration is reportedly pushing for the inclusion of "international labour standards" and a "social clause" in the World Trade Organisation charter.

It is to be noted that, according to UNICEF, only 5 percent of child labourers are employed in the tradeable sector. Therefore, trade sanctions against products produced by child labour are unlikely to have a significant effect on the incidence of child labour. There is some evidence to suggest that such measures could even be counter productive. For example, in 1993 under threat of trade sanctions from the US Congress, employers in the garment industry of Bangladesh sacked about 50,000 child labourers -- 75 percent of the total then employed -- from the garment industry.

Researchers subsequently found that very few of the dismissed children had entered education; most had taken up even more hazardous jobs in leatherwork, brick-making etc., with some of the children even having entered prostitution (see UNICEF (1997)). As a result of such findings, many international institutions are now either focusing on the "worst forms" of child labour,[2] or are trying alternative instruments to reduce the incidence of child labour.[3]

Although one needs to be cognizant of the motives behind "concerns" for child labour, the fact that large numbers of children work instead of going to school in developing countries is without any doubt very unfortunate. Everything should be done to rectify this as quickly as is possible.[4] The crucial question, however, is what sort of action should be taken to eliminate, or at least reduce the incidence of, child labour. In order to arrive at the right policy prescriptions, it is vitally important that we understand why children work.

In recent years, there has been a growing effort by economists to study the causes and possible cures for child labour. This is in great part out of concern that, in the absence of proper research and analysis, pressure groups in developed countries might force through policy measures which end up worsening the situation facing children and their families in the developing world. As a result, many studies have come to the fore recently, of which many are theoretical and even more are based on micro-econometric research.[5] The latter has been facilitated by the availability of a large number of data sets from several developing countries.[6]

In this article, we shall review the emerging literature and highlight the policy

[2] The ILO, for example, has recently come up with a new Convention on the worst forms of child labour such as bonded child labour, child soldiers, child prostitutes, child labour in hazardous work as in glass factories etc.
[3] For example, the World Bank has been trying pilot projects in which poor families are given food if they send their children to school.
[4] It is now a policy goal of the Department for International Development in the United Kingdom to eliminate child labour from the world by 2015.
[5] The economic literature on child labour is not entirely new: there is a substantial historical literature on the subject, although the focus of the literature has shifted over the years. For example, the classic study by Cain (1977) for the village of Char Gopalpur in Bangladesh was an attempt to explain high fertility rates among poor families of the village by pointing out, *inter alia*, that children's contributions to family income is an important factor behind high fertility.
[6] One important source of data is the Living Standards Measurement Surveys (LSMS) conducted by the World Bank. Look up http://www.worldbank.org/lsms/ for details.

implications of the contributions made by economists to the field. Much of this literature employs specialist techniques and is therefore inaccessible to a non-academic audience. Also, a variety of modeling strategies and empirical methods have been used, which might obscure the connections which exist between various branches of the literature. Our aim is to represent these contributions in non-technical language and also to draw out the underlying commonalities between them.

2. Why do Children Work? Theory and Evidence:

Economic theories of child labour have, with few exceptions, been based on some shared premises. First, that child labour is socially undesirable and its reduction a worthy goal. Second, that there are other, more desirable, activities in which a child can engage, namely school attendance and leisure. Third, that the child labour decision is the prerogative not of the child but of a parent. However, the parent is motivated not by narrow self-interest but by a benevolent and rational outlook which takes into account the welfare of the whole household, including that of the child. In this context, the parent shares in the undesirable consequences of child labour, through the introduction of a psychological cost of children working upon the parent.

If parents dislike child labour, then the decision to impose it upon their children must be based on the economic conditions facing the household. It is fair to say that a single factor has been emphasised in all economic explanations of child labour: abject poverty.[7] But in precisely what fashion does poverty influence child labour? This is where differences arise.

2.1. Child labour and adult labour:

One strand of the literature has focused on the interactions between the adult and child labour markets. In a seminal paper, Basu and Van (1998) show that the link between child labour and parental poverty can be mutually reinforcing. They construct a model

[7] It should however be pointed out that poverty is not the only factor. As pointed out in UNICEF (1997) there are many other important factors that determine whether a child works or not. Some the

in which children can either work or enjoy leisure. Parents value the latter and not the former. However, child leisure is a "luxury" in that only sufficiently rich households can afford to "buy" it. Also, child workers can substitute for adult workers in the labour market, even though each child may be only fractionally as productive as an adult. This substitutability implies that entry into the workforce by children leads to a fall in wages for adults. These assumptions lead to the possibility of dual labour market outcomes. One outcome is a "good" one in which children do not work. This allows adult wages to be high enough to rationalise each household's purchase of child leisure. The other outcome is a "bad" one in which all households send children to work. Under competition from child workers, adult wages remain low. This reinforces the absence of child leisure.

These possibilities bear several interesting implications. First, individual households have no control over which outcome occurs. Even if individual parents were to withdraw their own children from work, this would raise market wages only slightly; to move the wage sufficiently requires withdrawal of children by a significant proportion of households.

A second implication is that child labour is not uniquely tied to an economy's level of development. If we imagine that as an economy grows, so does the overall level of wages, then it is possible that in a sufficiently advanced economy wages are so high that, even under potential competition from children, adults would earn enough to afford not having children work. In this case, a bad outcome cannot arise. At the other extreme, in an extremely poor economy, adult wages would be low even without competition from children; hence, a good equilibrium could not be sustained. In between these two extremes, there may be economies that, for a given level of development, are capable of producing either outcome. This implies that economic growth may by itself not eliminate child labour in the short to medium run, at least not in a predictable fashion.

Basu and Van (1998) generated a lot of interest at both the theoretical and empirical level. Theoretically, Swinnerton and Rogers (1999) challenged the identification of

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models reviewed here also consider factors such as quality of education which may or may not be related to poverty.

adult income with wage income alone. Noting that adults in at least some households could receive income from both wages and profits (i.e. if they were shareholders in the firms), they went on to show that so long as an economy was sufficiently developed to generate a good outcome, it could never result in an outcome in which profit-earning households sent any child to work. This result is perhaps more realistic than Basu and Van's in capturing the situation prevailing in developing countries -- i.e. not all households send their children to work -- but it does not essentially refute the possibility of dual outcomes in a single labour market.

An empirically testable hypothesis of Basu and Van's (1998) model is that child labour arises if adult household income falls below some benchmark level. A test of this hypothesis was attempted by Ray (2000) for Peru and Pakistan, using each country's "poverty line" as the benchmark income level.[8] For Pakistan, Ray used data from the Pakistan Integrated Household Survey of 1991 (PIHS). He found statistically compelling evidence that when a "Pakistani household falls into poverty ... it significantly and substantially increases its children's involvement in outside, paid employment by about 500 hours annually for each child" (Ray (2000)). For Peru, where the data came from the Peru Living Standards Measurement Survey of 1994 (PLSS), Ray found the evidence to be statistically weak although it too was qualitatively consistent with the luxury axiom. Similar findings have been reported by Addison et al (1997) for Ghana and Pakistan, Bhalotra (1999) for Pakistan, and Ray (1999) for India.

While Basu and Van (1998) focused on the interaction of child and adult labour in the context of paid employment, a different relationship can exist between the two kinds of labour when household incomes arise from running small enterprises such as cottage industries or family farms. For example, Cockburn (2000) has found that in rural Ethiopia, asset ownership by the household can be positively associated with child labour, i.e. after controlling for other possible influences, he found that children from families with some assets tend to work more than children from families with no assets. This is because asset ownership is associated with family-run

[8] The "poverty line" is broadly defined as the minimum level of income needed to keep a household supplied with basic essentials. The precise measure of the poverty line is open to debate and varies from one context to another.

enterprise. Children from the former type of families can work on family-run enterprises, while children from the latter type of families can only work on the child labour market, where wages are low and work conditions severe. Similar findings were also reported by Cain (1977) in his study of Bangladesh.[9] These findings suggest that the *source* of a household's income can influence the relationship between adult income levels and child labour.

2.2. Child labour and credit markets:

A second strand of research has studied the tradeoff between labour and schooling. This overlaps with a large and influential body of research, known as "endogenous growth theory". This theory maintains that long-run, sustainable growth is made possible by continuous increases in an economy's stock of knowledge. Education plays an integral part in this process by disseminating knowledge across the population. There are also spillover effects: in an economy where a large proportion of workers is educated, even the uneducated ones are more productive and receive high wages. A high incidence of child labour obviously interferes with these mechanisms of economic prosperity and growth.

Credit markets can affect the tradeoff between child labour and schooling. It is widely believed that by acquiring at least primary education, children are able to enhance their wage-earning potential later in life. Whether this is true or not is open to question, one that we shall discuss later on. In any case, any increase in wages accrues only after the schooling process is over, which could take five years at the minimum. During this period, the household forgoes the income the child could have earned by working instead.[10] If households could borrow at reasonable terms against the child's higher future earnings, sending children to work might be unnecessary. In the absence of credit, however, the lost income from the child's formative years could very well tilt the balance against schooling.

[9] Cain (1977) found that whereas children from landless families worked only after the age of twelve, when they became employable as wage labourers, those from small land-owning subsistence farming families worked on family plots from a much earlier age.

One interesting feature of this line of reasoning is that it disentangles the child labour decision from the labour market conditions faced by adults. As argued by Ranjan (1999b), if credit markets allow households to borrow against their children's future earnings, child labour will cease to exist so long as the returns to education are high enough. No matter how poorly paid they themselves are, parents will always prefer to send children to school and borrow against their future earnings, rather than send children to work.

Jafarey and Lahiri (2000a) make a similar point via an analysis of the role that the interest rate plays in the child labour decision. In calculating the pecuniary return to education, the head of household discounts the future increase in wages back to the present by applying an appropriate discount rate, and then compares this discounted return with the wages currently lost from the child not working. The higher the rate at which future incomes are discounted, the greater is going to be the tendency to choose labour over schooling. With access to a credit market, the discount rate simply equals the interest rate on borrowing -- the lower is the latter, the lower will be the former. In the absence of any credit, the discount rate comes to depend on factors such as household wealth and parental income, not to mention subjective attitudes towards the future. Low levels of household wealth and low parental incomes can then both conspire to raise the discount rate and discourage school attendance.

The decision framework used by Ranjan (1999b) and Jafarey and Lahiri (2000a) is based on the notion of a mutually altruistic household. It is implicit in this notion that when parents borrow against the future incomes of their children, the repayment of the loan is understood to be shared burden. Baland and Robinson (2000) argue that in the absence of *mutual* altruism, the provision of credit might not be enough to rectify the occurrence of excessive levels of child labour. Prevailing attitudes and laws in most societies do not allow parents to undertake debts which can then be passed on by them as the responsibility of their children. Hence, if a parent borrows in order to support family consumption while children attend school, the latter cannot be compelled to help in repaying the loan when it becomes due later in their lives.

[10] In practice, the distinction between work and schooling is not absolute; evidence suggests that many children do both. The principle, however, remains that every hour spent at school is an hour of lost wages.

Indeed, if children are non-altruistic towards their parents, they will patently refuse to help, leaving the parents to shoulder the entire burden of repayment. Even if parents are altruistic towards their children, this lack of support later in life will discourage them from making use of credit to support the household earlier on (this problem was noted earlier by Parsons and Goldin (1989), who found evidence supporting its contribution to the incidence of child labour in nineteenth century America).

Lack of mutual altruism plays an important role in Baland and Robinson's analysis. It is open to question whether this is a valid assumption, particularly since many developing countries have well-known cultural norms regarding the provision of old-age support to parents. While a large and influential branch of literature in macroeconomics also assumes that parents are alone in having altruistic motives within the household, this is done mainly for convenience, not because the absence of two-sided altruism is necessary for the results of that literature. Baland and Robinson's argument, however, requires a lack of two-sided altruism; it therefore seems fair to question the validity of their assumption. In any case, even if demand for credit will be kept low by intra-household incentive problems, this does not mean that the supply side of the credit market should not be improved. Indeed, if anything, the intra-household problem suggests that the supply of credit should be expanded to directly cover minors.[11]

Returning to an emphasis on the supply, rather than the demand, side, Jacoby and Skoufias (1997) make a slightly different point from the papers discussed so far. In countries with practically non-existent markets either for private or socially provided insurance, poor families are left to their own devices in dealing with fluctuations in their incomes. Such fluctuations are especially pronounced in rural areas, where the bulk of the poor live and where the incidence of child labour is the greatest. Jacoby and Skoufias (1997) argue that, in this situation, households are likely to use children's work as a "buffer" against uncertainty. In good times, children may be sent to school, but in bad ones, they may be obliged to suspend study and supplement the family's income through their own labour. If credit were available, households could borrow on the market whenever they faced a downturn in income, repaying when

[11] The Economist of 16 September 2000 makes exactly this recommendation of the basis of Baland and Robinson's analysis.

income went up again. Hence, children's school attendance would not be subject to the vagaries of parental income.

Empirical investigation of the role of credit markets in child labour has been quite limited. As one exception, Jacoby and Skoufias (1997) tested their own hypothesis using village surveys from rural India.[12] Through a finely crafted analysis, they found evidence that fluctuations in children's school attendance acted as buffers against shocks to household income. Ilahi (1999) found supporting evidence. Using LSMS panel data for Peru for the years 1994 and 1997, he found that external shocks such as sickness of family members or loss of employment by an adult was likely to affect children's school attendance, although the effect was greater on girls than on boys. The sickness of a child in the household forces girls to withdraw from work while the sickness of an adult forces them into child labour. This is broadly consistent with Jacoby and Skoufias'(1997) hypothesis, although with the added twist of a gender dimension.

2.3. Education Quality and Child Labour:

As mentioned in the preceding subsection, credit markets can affect the tradeoff between child labour and schooling. The extent of this tradeoff depends, *inter alia*, upon the returns to education, which in turn depend upon the quality of schools. Most economists assume that the returns to education are high enough so that in the presence of a perfectly functioning credit market, child labour would not exist. This is partly under the influence of the empirical literature on endogenous growth theory, which has found that higher schooling levels in developing countries can have growth-enhancing effects on their economies. However, even if the overall impact of schooling is positive, this does not mean that all schools in a country impart an education of sufficient quality to benefit its recipients.[13]

There is now a large empirical literature on the returns to schooling in developing

[12] The data were obtained from the Village Level Studies survey, conducted by the International Crops Research Institute for the Semi-Arid Tropics (ICRISAT) and reported in Walker and Ryan (1990).
[13] Even if the returns to education are not as high as assumed in some studies, this does not devalue them. Such assumptions allow these studies to focus on other issues, such as inadequacies of the credit market, which constitute separate causes of child labour.

countries. The exact findings of this literature are mixed, varying from country to country and study to study. For example, Psacharopoulos (1994) reports discounted rates of return on the order of 20-40 percent for primary schooling in Asia and sub-Saharan Africa. Such rates of return imply that borrowing for children's education would be profitable even at interest rates of 20 percent per annum or higher.[14] Psacharopoulos's findings are based on a compilation of results from many studies, chosen more for the quality of their analysis than the comparability of their data. So the reported estimates should be treated as representative of country- and region-wide averages.

Studies which have more specifically focused on the education provided to rural areas and to the poor who live in urban areas often present a very different picture. A recent study of India by the PROBE team (1999) was not very optimistic. The team carried out a detailed study on the nature of education in five states in northern India. It found that the state of basic education was appalling and even though parents valued education on its own right, they believed that their children were unlikely to benefit from education in its current state. Drèze and Gandhi-Kingdon (2000) also found that in India the quality of education to a great extent affects the decision on participation in education.[15] UNICEF (1997) cited low quality of schooling as a reason for high drop out rates among primary school students in developing countries: an average of 30 percent, rising in some countries to 60 percent.[16]

In Jafarey and Lahiri (2000, 2000a), child labour can co-exist with child schooling even though credit markets are perfect. This is possible for two reasons: low returns from basic education and the existence of a direct disutility that parents receive if their children work (i.e. if they do not attend school). A low rate of return to basic education makes the discounted value of returns from education negative. This negative pecuniary return, could rule out schooling altogether. But, because of the

[14] Note, however, that the absence of organised credit markets means that even 20 percent interest on borrowing remains outside the reach of most poor people. In many countries, the only source of finance is in the hands of landowners or professional moneylenders, who can charge interest rates of over 100 percent a year.

[15] See also Cohen and House (1994) and Saha and Sarkar (1999) for micro-evidence on the low returns to schooling in developing countries.

[16] A survey of child workers from working-class backgrounds in Karachi found that, of those who had ever enrolled in school, 95 percent had dropped out without completing the primary stage (PILER (1998)).

non-pecuniary benefits the parents receive from seeing their children educated, they do choose a certain amount of schooling as well. On balance, parents choose positive levels of both schooling and labour.

Note that in the rural areas of many developing countries, there are few opportunities for well-off households to provide better quality schooling to their children than that available to poor households. At the same time, working on family-run farms can impart certain skills which prepare a child to operate the enterprise later on in life. Hence, the poor quality of rural education along with the possibilities for skill formation on family enterprises appear to be important background factors in the findings of Cain (1977) and Cockburn (2000).

2.4. Child Labour and Poverty Traps:

While all economic studies touch upon poverty as a causal factor in child labour, one branch of the literature emphasises the reverse, i.e. child labour as a cause of poverty. This literature studies child labour decisions for successive generations of the same family. In any generation, children who work do not go to school and do not acquire the skills needed to earn decent wages as adults.[17] Upon becoming parents themselves, they send their own children to work. Yet another generation misses out on an education and, in its own turn, sends its own children to work. This vicious circle is known as a "poverty trap".

Basu (1999) outlines a rudimentary model of a poverty trap. The main idea is that schooling cannot be undertaken piecemeal. A child either enrolls full-time or not at all. Thus, sending a child to school implies sacrificing a "lump" of income that the child could have earned by working all those hours.[18] Only parents with a minimum skill level of their own earn enough to be able to forsake this lump of income. Such parents bequeath a legacy of education and affluence to their coming generations.

[17] It is possible that child workers gain work experience which also enhances their skills in later life. This literature does not rule that possibility out; however, it assumes that education leads to a greater increase in a child's future skills than work experience.

Parents who are unskilled themselves do not send their children to school. This sets off a legacy of child labour, lack of schooling and poverty down through the generations. Note that credit markets are absent in this analysis; hence, forsaking the low wages of a child worker in exchange for the high wages the child would receive as an educated adult entails a "sacrifice".

Ranjan (1999a) links poverty traps to the distribution of income. Consider two societies which have the same level of aggregate income. One society starts off with its income equally distributed, the other with a distribution that is greatly skewed in favour of the rich. It is possible that in the first society, every parent has the minimum level of income needed to afford needed to put children through school, while in the second society, only a few households will be able to afford the sacrifice of their children's wages. The first society will evolve through time equitably and with universal education for its children, while the second society will polarise into a dynamic, educated class and a stagnant, uneducated underclass.

Dessy (2000) extends the analysis of poverty trap mechanisms to encompass fertility choices. Instead of lumpiness in schooling time, Dessy emphasises the time needed for child care: for each child, a certain portion of the parent's time has to be devoted to child care, i.e. taken out of income-earning activity. The greater the number of children, the less income is earned by the parent and the more the incentive to rely on child labour rather than send children to school. As in the earlier papers, a vicious circle is possible. Parents with low skills (and low wages) have, on the one hand, less to lose by not working and taking care of children instead and, on the other, more to gain by having each child work. Hence, a poverty trap develops with low parental skills, high fertility and child labour reinforcing each other through the generations.[19]

In one empirical test of this branch of the literature, Ranjan (1999b) used cross-country data from a variety of sources and found that the level of income inequality in

[18] Note that schooling also involves costs such as tuition fees, books, and transportation. These contribute to the "lumpiness" of the income sacrifice needed for children to attend school. Hence, the assumption that schooling cannot be taken piecemeal is not crucial.

[19] Of course, at the other end, there is a virtuous circle of high parental skill, low fertility and child schooling. Note that parents are completely altruistic in both types of outcomes. Children, in themselves, are a source of satisfaction. For those caught in a poverty trap, large families compensate

each country, as measured by what is known as the Gini coefficient, did have a significant and positive effect on the incidence of child labour in that country.[20] This was not a direct test of a poverty trap. At the very least, such a test requires testing for the possibility that a parent's lack of education can in itself be a factor behind a child not attending school.

Emerson and de Souza (2000) have explicitly tested for such evidence using survey data from Brazil.[21] They found strong evidence of intergenrational persistence in child labour: if the parents had joined the workforce at an early age, this increased the likelihood of the child joining at an early age. Higher parental educational attainment lowers the probability of child labour. Grandparents' education also lowers the probability of child labour, but only insofar as it lowers the probability of the parent having been a child labourer.

Evidence that lack of parental education contributes to child labour is also provided by Ray (1999) for India and Grootaert (1998) for the Ivory Coast. Certain aspects of each of these papers are worthy of separate mention. Ray, for example, also finds that households with a large number of siblings are more likely to send children to work than to school. This is consistent with one of the predictions of Dessy's (2000) model.[22]

Grootaert (1998) finds one circumstance in which parental education can *encourage* child labour, i.e. he finds that an increase in a mother's education can positively affect the labour supply of daughters. This result may be explained by appeal to another of his findings, namely the existence of a bias against female education. Girls who do

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(only partly) for the poverty that each generation finds itself in. Those who escape this trap, on the other hand, derive most of their pleasure from high levels of consumption per family member.

[20] The Gini coefficient is one measure of income inequality in an economy. It varies between a hypothetical value of 0, which reflects the case when all households have the same income, and that of unity, which reflects the case where the richest household (or collection of households) monopolise all the income and no one else has any.

[21] The data were from *Pesquisa Nacional por Amostragem a Domicilio* (PNAD) survey of 1996, covering approximately 85,000 households and providing economic characteristics for two generations within each family, as well as information on the educational attainment of grandparents.

[22] The empirical papers discussed here have explicitly connected schooling decisions to child labour. In addition, there is a very large literature which has focused purely on the determinants of school enrollment in developing countries. This literature is too large to be cited here, but is in general agreement with the findings of the papers discussed above.

not engage in paid work are not sent to school in the first place; they are obliged to help their mother do housework. As a mother's labour market prospects improve with her own education, she does less housework and releases the girls into paid labour. As in Ilahi (1999), it appears that gender bias is an important part of the child labour story.

Apart from studying how parental education affects child labour, Emerson and de Souza (2000) also studied whether child labour in turn perpetuates poverty. They divided the effect of child labour on lifetime wages into two components: a direct one, which (essentially) gives the change in lifetime wages due to having worked instead of having played, and an indirect one, which gives the change in lifetime wages due to having worked instead of having gone to school. They found both effects to be negative. These findings are closely paralleled by Ilahi and Sedlacek (2000) who, using the same survey as Emerson and de Souza, report that the indirect effect on future wages of missing out on education is at least three times larger than the direct effect from early entry into the workforce. The latter effect, however, remains negative as in Emerson and de Souza. These studies together point to a very disturbing conclusion: children who work will earn less as adults than children who just stayed home and played -- the benefits of gaining work experience are outweighed by the losses to physical and emotional well being for child workers.

3. Policy Options:

Having discussed various reasons for the existence of child labour, we now turn to their policy implications for reducing or eliminating it.

In the context of their dual-outcome framework, Basu and Van (1998)) suggest that a ban on child labour can, by coordinating the removal of children across the economy, rule out the bad outcome. Indeed, by leading to a high-wage outcome in which parents are quite happy not to send children to work, such a ban can be self-implementing.

Dessy (2000) advocates a similar policy with a slightly different twist: instead of a ban on children working, he suggests that making education compulsory can prevent

an economy from settling into a poverty trap with a high fertility rates and high incidence of child labour. Unlike Basu and Van's framework, however, Dessy's argument does not depend on the possibility of multiple outcomes for households of a given income class. Forcing poor households to send their children to school is not going to imminently produce a "good" outcome in which they are content with that choice. While a good outcome will be reached by later generations, the immediate impact of compulsory education would make existing generations of a poor dynasty worse off. Dessy, therefore, advocates temporary safeguards for poor families in the initial stages after the policy is implemented.

There are also practical differences between a ban on child labour and a policy of compulsory education. Assuming they are both perfectly effective, a ban on child labour cannot guarantee that children will enrol in schools, while compelling children to attend schools will not ensure that children will not work. This is because in practice labour and schooling are not the only activities open to children; there is some slack in their time, taken up by leisure and household chores. Ravallion and Wodon **(**2000**)**, for example, have found that policies that have increased school enrollment in Bangladesh have not had much impact on reducing the incidence of child labour.

Should compulsive measures be used in practice? In the case of a ban on children working, one problem would be the time lag between children stopping to work and an increase in adult wages to the required level. In the intervening time, there could be a significant loss of income for those affected, implying that temporary safeguards for poor families might be in order here as well. Further, while the logic of dual labour market outcomes supports the use of a ban, if child labour exists not because of a dual outcome, but simply because the economy is poor, a ban will not raise parents' wages by enough to reconcile them to its absence.[23] In this case, and assuming that a ban cannot be enforced outside sectors of the economy which fall within the government's

[23] While adult wages would rise following the withdrawal of children from work, this would have to be balanced against the income loss due to children stopping work. In a poor economy, even if overall household income rose on balance, the rise would not be sufficient to make parents happy with not sending children to work. Of course, there is the possibility that, on balance, overall household income falls. This would simply add to the burden of poverty.

purview in the first place, parents might move their children into informal sector jobs where working conditions might, if anything, be worse.[24]

The argument in favour of compulsory education is somewhat more persuasive. Unlike a simple ban on children working, this policy explicitly attempts to channel children into pursuing an alternative activity which at least promises them a better future. Compulsory education will not automatically end child labour, given that children can combine work and study by cutting down on leisure time. This could very well be one of its attractions. For example, based on his study of household income patterns in the Ivory Coast, Grootaert (1998) recommends that a gradualist approach which allows children to combine school attendance with some paid work might be preferable to a cold-turkey ban on child labour. Compulsory school attendance for a certain number of hours a day could represent such a gradualist policy.[25] Note that a policy of compulsory education presupposes that education quality is sufficiently high; otherwise, at least those children who gain skills through informal apprenticeships or by working on family enterprises might be better off being altogether exempt from formal education.

Returning to the implications of Basu and Van (1998), one might conjecture that as an alternative to physically banning child labour, the government could mandate that all adults are paid a minimum wage which exceeds the wage that they would receive in the bad outcome of the labour market. This would rule out that outcome and leave only the outcome in which child labour does not exist. Basu (2000) shows that this reasoning is simplistic and possibly incorrect.

For one thing, if the effective supply of child labour is high enough, an adult minimum wage might make child workers compete away all jobs from adults.[26] The

[24] Recall the case of the garment industry in Bangladesh, where employers initiated a voluntary ban on child labour (UNICEF (1997)).

[25] As an argument against a cold-turkey ban, Grootaert and Kanbur (1995) focus on the possibility that a household is mutually competitive, as opposed to mutually altruistic. If members of a household compete among themselves for shared resources, then each member's "outside options", i.e. the resources he or she could muster if expelled from the household, can be a source of internal bargaining power. Banning child labour could reduce children's outside options, leaving them vulnerable to parental sanction or abuse.

[26] "Effective" child labour is the total number of children multiplied by the skill level of the typical child relative to that of the typical adult worker. Accordingly, if there are 10,000 child workers and each child is 75 percent as productive as a typical adult, effective child labour would be 7500.

latter would be unable to compete back, since they could not undercut the minimum wage in forming their own wage demands. Given mass adult unemployment, all households would be compelled to send children to work in order to survive, completing the vicious circle. Poor countries are especially likely to have a high effective supply of child labour, both if fertility levels are high and if a large proportion of the adult labour force is unskilled and the gap between adult and child skills is small.

A similar, but not as vicious, circle may arise if the minimum wage is set above the "good" market wage for adults. Any wage that exceeds the market-clearing wage creates some unemployment; while those adults who do find work would be quite happy not to send their children to work, those who are left unemployed would receive no income unless they sent their children to work. Hence, child labour would continue to exist, not because the adult wage is too low, but because it is too high and creates unemployment among adults.[27] Basu's conclusion is that minimum wage legislation, considered by many an essential means for ensuring "survival rights" for workers, has the potential to conflict with the goal of eliminating child labour.[28]

In the context of models that focus on credit markets (Ranjan (1999b), Jafarey and Lahiri (2000a, 2000b)), clearly one of the targets of policy intervention should be to improve the functioning of the credit markets. At present, poor households find it very difficult to borrow from the formal banking sector, the recent development of micro-credit institutions notwithstanding (discussed below). This is partly because the poor lack collateral and partly because the formal sector operates largely for the relatively affluent sections of urban areas. Jafarey and Lahiri (2000a) show that the development of unified credit markets which link different classes of households across an economy can help reduce child labour. Such markets can allow the savings of rich households to be channeled as loans to poor households, reducing the latter's

[27] Basu (2000) points to a multiplicative effect in the relationship between adult unemployment and child labour, i.e. when those who are initially left unemployed send their children to work, these children displace an additional set of adults. These "second-round" unemployed adults therefore send *their* children to work, displacing a third round of adults. The process eventually stops, but when it does, adult unemployment is greater than it would have been had a minimum wage been imposed in an economy where child labour was not possible.

[28] If minimum wages were imposed for adult and child workers, some of the more dramatic possibilities raised in Basu (2000) could be ruled out. But a minimum wage for children would violate the spirit of the ultimate goal of ending child labour.

dependence on child labour. Domestic credit markets will further allow risk to be shared, i.e. households which suffer adverse income shocks will be able to borrow from households which receive positive shocks, as implied by Jacoby and Skoufias (1997).[29]

To some extent, the role of credit provision in the development process has already met sufficient recognition to have led to the development of micro-credit institutions in many developing countries. Starting with the Grameen Bank in Bangladesh, micro-credit institutions have sprung up across the developing world, with the express purpose of making credit available at reasonable terms to the poor (especially women), mainly for improving and updating small enterprises.[30] What has not been recognised is that credit may also help reduce child labour; hence even micro-credit institutions do not usually lend for the purposes of education.[31]

However, it is unlikely that even if micro-credit institutions were to recognise the connection between credit and child labour, that they would lend for this purpose. These institutions typically make short-terms loans for projects that are easy to monitor and expected to yield returns relatively quickly. Children's education is both long-term and difficult to monitor. As a result, micro-credit institutions are probably not equipped to provide loans for this purpose. It therefore, seems that public effort is needed to overcome the many obstacles which currently are ruling out the use of credit for schooling purposes by the poor. This is clearly a monumental task. Even in countries with highly developed financial and educational institutions, attempts to widen educational opportunities via provision of loans have been bedevilled by problems such as moral hazard, lack of collateral etc.[32]

[29] In their case, however, there is also an argument for extending the scope of domestic insurance markets to the poor in order to insulate them from the effects of adverse income shocks.
[30] The Grameen Bank project started as a modest enterprise by the economist Mohammad Yumus. What is remarkable is its repayment rate of 98 per cent, achieved with the help of a number of innovative aspects such as peer monitoring. An excellent assessment of the Grameen Bank project is given in Khandker (1996). For an analytical analysis of Grameen Bank see, for example, Besley and Coates (1995).
[31] The Economist (16/09/2000) points out that, in its recent *World Development Report*, the World Bank mentions both the problem of poor families' limited access to financial markets and that of child labour, but does not connect the two.
[32] See Stevens (1999) for the case of vocational training in the United Kingdom.

Of course, given the factors that contribute to the problem, poor school quality being one of them, it is likely that credit provision will have to be complemented by other policies in order to have an impact on child labour. Jafarey and Lahiri (2000a, 2000b) have studied various options for reducing child labour and how their effectiveness changes in conjunction with different credit opportunities. One option is the application of trade sanctions by developed countries, whether unofficially in the form of consumer boycotts or officially through the requirement that imported products be labeled child labour free.[33] Proponents of such measures argue that by reducing the marketability of child products, they hope to discourage the demand for child workers by employers. However, it is widely agreed that such measures will also lower children's wages. This can have ambiguous effects on the *supply* of child workers.

Jafarey and Lahiri (2000a) isolate three distinct effects from a trade sanction: first, less income has to be foregone when a child does not work; second, less income will be earned for each child that *does* work; third, there will be an effect on the family's discount factor, depending on the credit situation. The first effect would encourage schooling by reducing the attractiveness of child labour; the second would increase poverty, thereby discouraging demand for education. The balance of the two effects could by itself suggest the possibility that families might *increase* the number of children sent to work. Further, by reducing the *current* income of child workers, a trade sanction would tend to increase their families' demand for loans. If a perfect credit market exists, parents would simply borrow the extra funds and there would be no increase in their discount rate. When borrowing is not possible, however, the higher demand for funds would translate into a higher discount rate. This would further discourage schooling. Hence, poor credit opportunities would make it even more likely for trade sanctions to increase the incidence of child labour.[34]

While trade sanctions are essentially punitive in that they can lower the income of already poor people, there are other, more benign options which have been suggested as ways to reduce child labour. One of these, being tried by the World Bank, is to subsidise school attendance by children from poor households. For each child that

[33] Ranjan (1999b) also examines this policy option.

attends school, the family receives a certain amount of food as a subsidy. Another policy that has been advocated is to spend on improving the quality and quantity of schools, with the aim of increasing the earnings of students upon graduation. Both these policies are benign in that they, directly or indirectly, add to the incomes of target households.[35] They also both increase, at *given* discount rates, the relative return to schooling, a subsidy by decreasing the foregone income from not working and an improvement in school quality by increasing the wage premium associated with education.

There is, however, the potential impact on discount rates. Jafarey and Lahiri **(**2000b**)** show that this is one respect in which the two policies can have different effects. Food subsidies provide immediate additions to family income, i.e. at the time the child labour decision is made. By contrast, improving school quality leads to higher income only later, i.e. after the completion of the schooling process. A food subsidy reduces the family's need to borrow from outside sources, while an improvement in school quality could actually lead to families wanting to borrow more, in the expectation that the loan will be repaid out of children's higher income.

With perfect access to credit, whether the household wants to borrow more or less is unimportant because the discount rate equals the market interest rate, which is not affected by either policy. Both policies will encourage schooling in this case. With an absence of credit opportunities, however, an increase in school quality will actually raise the discount rate as a consequence of the household's increased demand for credit. This would lower the *discounted* return to schooling and offset **(**partly or completely**)** the beneficial impact upon schooling decisions. Such a possibility does not arise with a food subsidy, since it lowers the demand for credit. The upshot is that with imperfect credit markets, subsidising education directly is a

[34] If the supply of child workers goes up as a result of trade sanctions while the demand for them goes down, the net incidence of child labour could go either way. What will happen for sure, however, is that each employed child will earn a lower wage than before sanctions were employed.

[35] To see this more precisely, consider the immediate impact of a new policy, *before* the household has had the time to adjust its own decisions. In such a situation, a food subsidy would increase present household income for each child that had hitherto been chosen for schooling. An improvement in school quality would increase future income by increasing the future wage of each child that had hitherto been chosen for schooling. A trade sanction would, in contrast, lower household income by lowering the wage of each child that had hitherto been selected for work.

more effective way of reducing child labour than increasing future returns to schooling.[36]

We shall conclude this section by discussing briefly one aspect of the policy issues that, despite not having received much attention in the theoretical part of the literature, has been touched upon in almost all the empirical studies discussed in this paper. This is regarding the gender dimension of child labour. A number of points have been made in this respect and we shall only mention the most prominent ones. First, it has been found that children from households that are headed by women are more likely to work than those from household headed by a man. This is consistent other findings about female-headed households, *i.e.* they tend to be poorer than male-headed ones. But it also reflects the finding of Grootaert (1998) and others, that women who work (as female heads of household are likely to) are also more likely to have their daughters work. Typically, the mother and daughter work at the same place. Second, work patterns of boys and girls are very different: whereas boys tend to work as labourers (both on family farms and as wage labourers), girls tend to do non-market based work, such as housework, fuel-wood collection, looking after cattle population etc. Third, school enrolments are not only generally higher for boys than for girls, girls are also more likely to be pulled out of school and into househowrk or child labour if a family member loses a job or is taken ill. Fourth, a girl is more likely to attend school if her mother also has had a basic education.

It should be recognised however, that a parental bias against female schooling may not be a simple matter of innate preferences. If, in the market for skilled labour, there is discrimination against female workers, then this could result in even innately unbiased parents placing emphasis on male education. Of course, social attitudes do play a role; but the developing countries are not unique in this respect.

[36] Jafarey and Lahiri (2000b) establish this implication formally. Consider a hypothetical social planner who has been endowed with a fixed quantity of resources to allocate between the two policy instruments. The planner decides the allocation in order to minimise the incidence of child labour in the economy. Jafarey and Lahiri (2000b) show that while both policies should be funded, the better the credit market conditions facing poor households in the economy, the greater should be the share of funds devoted to improving school quality.

Some policy implications arise from these findings. First of all, if female education is encouraged now, it will pay an extra dividend by promoting female education in later generations. Second, and more problematically, the encouragement of females at the unskilled end of the labour market into paid employment, while desirable in itself, is likely to have the effect of exposing their daughters to paid labour as well. This suggests another reason for encouraging the *schooling* of female children: so that their own time gets de-coupled from whether or not their mothers go to work.

The specific problem of female poverty is now well recognised by development economists, NGOs and international institutions like the World Bank. The consensus is that policies meant to reduce poverty cannot be "gender-blind"; *i.e.* they need to ensure that women specifically benefit from them. The child labour problem is another area where policy formulation has to take into account the gender dimension of poverty. However, in doing so, one should not get carried away and lose sight of the fact that in absolute terms even the males belonging to poor households in developing countries are receiving a very raw deal.

4. Conclusion:

During the last decade, the issue of child labour taken centre stage in policy debates on development. It has been a thorny issue for many international institutions such as the World Bank, ILO, UNICEF, UNESCO, UNCHR, WTO, etc. Many national development institutions, such as the DFID in the United Kingdom, have also been taking this issue very seriously. Furthermore, there are numerous non-governmental organisations **(**NGOs**)** which deal exclusively with the problem of child labour. The globalisation in the world economy has also been leading to demands for the globalisation of accountability, especially of those who employ child labour.

The recent academic literature on child labour started to surface about three or four years ago. However, this literature has already grown very rapidly on both theoretical and empirical fronts. The main question that it has addressed is: why do children work? Many arguments have been put forward and many empirical studies have tried to test the resulting hypotheses. Empirical studies have also uncovered aspects of the problem which have as yet not received attention in the theoretical literature: the

gender dimension of child labour being one.

In this article, we have attempted to discuss the growing literature in an integrated fashion. As should be clear from the discussion, child labour is a complex issue and it has no simple solution. Among the factors that have been identified as prime causes are poverty, poor quality of education, lack of credit opportunities, high inequality of income, high degree of uncertainty facing the poor, and inequality between the sexes. As for policy options, it is now becoming clear that what is needed a combination of policy measures that attack the causes outline above. Among these are: better credit opportunities, investments in education quality, empowerment of the poor with basic economic, social and cultural rights, and some degree of legal measures such as compulsory schooling and banning of child labour, particularly of the worst kind. What is more or less universally believed is that trade sanctions and unilateral consumer boycotts are likely to make things worse.

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