

## Policy Dilemmas for Controlling Child Labor

*Kaushik Basu*

### THE DIMENSIONS OF THE PROBLEM

Since the early nineteenth century, when Britain began to experiment with policies to curb child labor, we have learned a lot about policy interventions for controlling child labor. At the same time, the fact that child labor continues to be a major problem suggests that we may not have learned enough. The purpose of this essay is to show that this is one area where seemingly reasonable policy interventions can easily backfire. Hence, policy interventions cannot be left at the level of broad-brush statements but need to be crafted carefully. The general possibility of pathological reactions to policy interventions will be discussed, and one particular pathology will be spelled out in some detail because this is a problem that seems not to have been discussed in the literature and also because it provides a generic illustration of the hazard of using standard instruments for curbing child labor.

Thanks to improved data collection we now have a fair idea of the nature and extent of child labor in the world. According to data recently released by the ILO (2002), in the year 2000, there were 211 million children below the age of fifteen years who were “economically active.” Of these, 73 million were below the age of ten; and the total number goes up to 352 million if we consider children up to the age of seventeen years. The ILO distinguishes “child labor” from “economically active children” by asserting that a child above the age of twelve who does light, part-time work that is not hazardous may be economically active but is not to be counted as a child laborer. By making this adjustment, and treating a child as someone below the age of fifteen, we find that in the year 2000 there were 186 million child laborers the world over.

Evidently, the problem is large. And there are researchers who claim that it is larger than the ILO statistics suggest. For one thing, the ILO finds that boys are more likely than girls to be laborers. This is quite consistent with official data from around the world and from nineteenth-century Britain, but in the few cases where data were collected with special effort to include domestic work, as was done in India (see Cigno and Rosati 2000), it was found out that girls do more work than boys. Hence, it is arguable that the amount of girls' work estimated by the ILO falls short of the true figure. Then there is the problem of "intermittent employment." Analysts have long suspected, and now we have formal statistics from Brazil showing, that children are much more prone to being in and out of work than adults (Levison et al. 2002). Hence, if we try to find out how many children are working simply by tracking their work status during the previous week, as the ILO did, we get an underestimate of the *number* of children who do some work. Admittedly, this does not mean an underestimate of the *amount of work* done by children.

No matter which indicator one uses to describe the magnitude of labor performed by children, it must, by now, be amply clear that the phenomenon of child labor presents us with a staggeringly large policy problem.<sup>1</sup>

### THE POLICY PROBLEM

In crafting policy in the domain of child labor, one has, first of all, to be careful to guard against what is best described as the "fallacy of single-mindedness." While it is undoubtedly bad for a child to have to work, it is easy for us to forget that worse things can happen to a child than having to work. Hunger, serious illness, malnutrition, abandonment by family, and prostitution are all states of being or activities from which a child would readily switch to regular labor. Thus, when we try to eliminate child labor, we must be careful not to achieve this by driving children to these worse alternatives. Policy makers and even academics at times make the mistake of being so single-minded in their aim to control child labor that they do not mind if this is achieved at the expense of the welfare of the very children whom the intervention is intended to help.

Basu and Van (1998) have warned against this risk and have shown that while there may indeed be occasions when a legal ban on child labor is called for, this is not always the case. In most people's minds, an economist's argument that we must not use legislative intervention somehow gets translated into the prescription that we must not use intervention. But that is a fallacy. There are economists and historians who have argued that child labor ought not to (and some believe it cannot) be removed by direct state intervention, and that we will have to wait instead for the benefits of growth to trickle down and eventually eliminate child labor (e.g., Nardinelli 1990). But to resist legal intervention (as I would in certain contexts) is not the same as resisting intervention. Indeed, I would argue that the state has a great re-

sponsibility to improve the quality of schooling, give incentives such as school meals, and improve adult labor market conditions, all of which are known to have a negative impact on the incidence of child labor (see, for instance, Ravallion and Wodon 2000; Bourguignon et al. 2003; Grootaert and Patrinos 1999). When child labor is removed via interventions of this kind, we can generally be sure that this happens while enhancing the welfare of the child. Legal interventions, on the other hand, even when they are properly enforced so that they do diminish child labor, may or may not increase child welfare. This is one of the most important lessons that modern economics has taught us and is something that often eludes the policy maker.

Child labor policy turns out to be intricate because of the somewhat unusual factors that cause child labor in the first place. Child labor is intricately linked to poverty. Of the 186 million child laborers in the world, virtually all are located in poor countries. In the same developing country where lots of children work, one would rarely find the child of a doctor, lawyer, professor, or any middle-class person working. The evidence is overwhelming that poverty is a major cause of child labor (see, for instance, Edmonds 2001).<sup>2</sup>

When this is true, policies can have counterintuitive effects (see, for instance, Basu 2000; Jafarey and Lahiri 2002; Singh 2003). The policy with which I shall illustrate the risk of pathological reaction is one where a firm is fined a certain amount if it is found to be employing children. India's Child Labour (Prohibition and Regulation) Act (1986) has such a clause. Section 14 of this act requires the government to levy a fine between Rs. 10,000 and Rs. 20,000 upon a person or firm found employing children in contravention of the provisions of the act (see Government of India 1986).

At first sight it appears that such a policy must cause child labor to decrease, since firms will now be reluctant to employ children. However, it will be shown in this essay that in certain situations exactly the opposite is true. Imposing a fine for using child labor or raising an existing fine can increase the amount of child labor. What is interesting is that this argument carries over to a larger range of policies. This will be obvious as soon as the intuition behind the result is spelled out. This is done in the next section.

#### NOTES ON POSSIBLE PATHOLOGIES

Is there hard evidence that imposing a fine for employing children can exacerbate the problem of child labor? No. But nevertheless there are two reasons to be interested in this question. First, we do not have evidence of the opposite (that is, the proposition that fines for employing child labor curb child labor) either. What we have is simply a *presumption* that this must be so. And I want to show that a simple analysis, based on straightforward assumptions for which we *do* have empirical evidence, shows that the presumption is faulty. Thus this analysis demonstrates the need for future empirical analysis. The second reason is that there is considerable informal ev-

idence that child labor is a hard problem to solve. Repeated interventions, since 1802 in Britain, have met with resistance and a failure to buck the problem. The evidence, which I briefly discuss below, suggests that policies for controlling child labor may not be as obvious as they seem. The possibility of “pathological” reaction to seemingly obvious interventions cannot, offhand, be ruled out.

Serious attempts to combat child labor began with Robert Peel’s Factories Act of 1802 in Britain. Subsequently, progressively tougher laws were ushered in, but the incidence of child labor remained high, seemingly impervious to the interventions. According to the census of England and Wales, in 1861 the labor participation rate for boys aged ten to fourteen years was 36.9%, and for girls of the same age group it was 20.5%. This is comparable with some of the poorest developing countries today.

In the United States the attempt to legally control child labor began in 1837 in Massachusetts. Yet the incidence of child labor began declining noticeably only after 1880. For the United States, 1880 to 1910 was the period of rapid decline of child labor. This was also the period during which legislation against child labor was enacted with greater intensity. It is therefore easy to presume that child labor declined *because* of the law. But a detailed study by Moehling (1999), which made use of the fact that different states in the United States had laws of differing stringency against child labor,<sup>3</sup> showed that the law had very little effect on the incidence of child labor.

While there is need for formal empirical analysis of the effect of law on child labor, the broad evidence suggests that the effect may not be what people take it to be at face value. Indeed, it can be shown that when it comes to the use of a fine for employing children, the effect can be the opposite of what we may expect.

The reason why imposing a fine on firms for employing children can cause child labor to increase is intimately connected to the fact that poverty is a major cause of child labor. To see the intuition behind this, take the extreme case where a household chooses to send its children to work in order to escape extreme poverty or starvation.<sup>4</sup> When child labor is the product of trying to reach a target (such as a subsistence consumption), any policy that makes child labor a less effective instrument in reaching such a target will result in a more intensive use of this instrument. Now if there is a new law whereby firms are fined whenever they are caught using child labor, clearly this will cause the wage rate for child labor to drop. This is because children are now a less attractive input from the point of view of firms. But this in turn will mean children will have to work even harder to be able to earn the target minimum income that they are after.

The full analysis is a bit more complicated. Note that if the fines are made so big that the firms no longer wish to employ any children, of course child labor will fall (whether this is desirable from a welfare-consequentialist point of view is another matter). The general result that is established here is that

as the fine for using child labor is increased, child labor will first rise and then fall.

The larger policy implications of this result will be discussed after I have established it formally. The result that I am about to prove can be derived under fairly general conditions but, since I wish to prove it without complex algebra, I shall use some strong simplifying assumptions for reasons of expositional convenience. The assumptions that are (more than mere simplifying ones and) central to my analysis are that (1) children are made to work only so as to achieve a certain target minimum consumption for the household and (2) child and adult laborers are substitutes, subject to, possibly, an adult equivalency correction. Even these assumptions are overstated for simplicity. We know, for instance, that when a relatively poor household comes to own more land (and this may be coincident with becoming a little richer), it tends to make its children work more (Bhalotra and Heady 2003). This indicates that while poverty is an important cause of child labor, it is not the sole cause. For instance, the ease with which a child can be employed, which no doubt increases as the household's landownership increases, can influence the incidence of child labor (Basu and Tzannatos 2003). While it is possible to take these complications on board and still derive the result I am about to derive, I shall work with the more extreme assumptions embodied in (1) and (2) in order to get the main argument across simply. Fortunately, there is now plenty of hard evidence supporting assumption (1) (see, for instance, Grootaert and Patrinos 1999; and Edmonds 2001), and though (2) has not been studied much, what little evidence there is, seems to support it (see Levison et al. 1998).

Consider a labor market in which there are several households with each household consisting of one adult and several children. In the labor market, adults and children are perfect substitutes. We could assume that a child can do only a fraction of what an adult does, but this complication would leave the results that this essay is focusing on unchanged and so is unnecessary. I shall assume that the adult always supplies labor perfectly inelastically, whereas children work only to the extent that this is necessary to achieve a subsistence level of consumption for the household. Let  $s$  be the amount of consumption that the household needs to subsist.

From these assumptions it immediately follows that children will work only when the adult wage is below  $s$ . Let  $w$  be the adult wage in the economy. If  $w$  exceeds  $s$ , subsistence consumption is achieved without requiring that the children work. Note next that, given the above assumptions, if the adult wage is  $w$ , the wage rate for a child laborer must also be  $w$ , since children and adults are perfect substitutes. If we allow for the fact that children are less productive than adults, the child wage would be a fraction of  $w$ .

Let us now bring government into the picture. Suppose the government announces that each time a firm is found employing a child, the firm will be fined  $D$  rupees, as under India's Child Labour (Prohibition and Regula-

tion) Act (1986). For every child employed by a firm, let  $p$  be the probability of the firm's being caught. In that case, for every child employed, the firm has an expected punishment cost of  $pD$ . Hence, unless the child wage is less than the adult wage by  $pD$ , it does not make sense for a firm to employ children. It follows that the child wage must now be equal to  $w - pD$ . Or, equivalently, the adult wage is equal to the child wage plus the expected penalty cost of employing a child.

Therefore, the child wage tends to move in tandem with the adult wage. As long as the legal regime remains unchanged (that is,  $p$  and  $D$  are unchanged), any change in the adult wage will always be matched by the same change in the child wage.

Next note that if  $w$  falls short of  $s$ , the household will send the children out to work. Let  $e$  be the number of children sent out to work. Since households send children to work only so as to be able to reach subsistence, it must be the case that  $e$  will be chosen so as to just achieve this target.<sup>3</sup>

It follows from this condition that as the adult wage drops, the household will send more children to work (that is, as  $w$  drops,  $e$  will rise). Of course, this cannot go on endlessly, since after some time the household will run out of children. From then on, as  $w$  drops, there will be no further increase in supply of child labor, since all children are already working. But the general point is now amply clear—there will be a segment of the supply curve that is backward-bending.

Many of the peculiarities of the child labor market with which the literature has been concerned, such as the possibility of multiple equilibria (Basu and Van 1998; Basu 2002; Swinnerton and Rogers 1999; Bardhan and Udry 1999; Lopez-Calva 2003), can easily be constructed by using this kind of supply characterization. But that is not the direction I wish to pursue here. To stay away from that, let me consider the case where (the demand curve is sufficiently elastic so that) there is only one equilibrium, and at this equilibrium there is some child labor.

My concern here is with policy interventions and to show how there can be an adverse reaction to certain seemingly reasonable interventions. Consider the case where the government, starting from the equilibrium where there is some child labor, decides to raise the fine for employing children. (We could also think of a switch from no fines [that is,  $D = 0$ ] to some positive fine.) This will mean that employing children will be more expensive for the firms, because with each child employed there is the risk of being caught and having to pay the larger fine to the government. Hence, as the penalty for employing children rises, the market will make sure that the child wage will drop. Otherwise, no firm will demand children. But once the child wage drops, each household will be forced to send more children to work to meet the subsistence consumption target. And herein lies the essence of the pathology: an increased fine for employing children could raise the level of child labor. Indeed, this result obtains so naturally that it is not clear that it should be thought of as pathology at all.

If, however, the government continues to raise the penalty for employing children ( $D$ ) and/or the probability ( $p$ ) of catching firms that employ children, the above result will cease to hold. To see this, suppose a government keeps raising  $D$ . This will cause the child wage to fall. In the extreme, the child wage will drop to zero. That is, child employment is so risky for the firm that a firm will agree to employ a child only if it does not have to pay a wage. But when this happens, raising the child labor supply will not fetch the household any extra income. Thus the child labor supply will drop to zero. In other words, there will be no child labor in the economy.

To sum up, a small punishment for child labor may have quite the opposite effect of a large punishment, because the relation between the size of the penalty for employing children and the amount of child labor may be an inverted U. A small penalty raises child labor but a large one puts an end to it. It will indeed be interesting to check this result out empirically.

It is worth emphasizing that here I have not evaluated policy from the point of view of child *welfare* but have simply studied its effect on the *incidence* of child labor. And, as I have cautioned above and elsewhere in my writings, a decline in child labor need not always coincide with a rise in child welfare.

Before moving on, I must attend to one seeming difficulty with the above analysis. Since, as we have just shown, in some cases the child labor problem is made worse by the imposition of a fine for employing children, it seems natural to wonder if the problem of child labor can be mitigated by subsidizing firms for employing children. The answer is no. A subsidy does not work like the reverse of a tax or a penalty. Thus it would clearly be wrong policy to reward firms for employing children.

To see this, we must understand something that was handled above by not talking about it. Suppose that a firm decides to use  $C$  units of child labor. Clearly it can do this by employing different numbers of children. It can, for instance, employ  $2C$  children with each child doing half-time work or  $C$  children with each child working full-time, and so on. In most models of economics, it does not matter how the total is broken up, and it is implicitly assumed that firms make each worker do full-time work, so that for  $C$  units of labor it uses  $C$  laborers. In the above model, with a penalty for every child that is found working in the firm, a firm will have a clear preference for employing as few children as possible, since each child brings with him or her a possible penalty.

The trouble with a subsidy for employing children is that this implicit assumption (which is valid when there is a *fine* associated with child labor) breaks down. In the presence of a *subsidy* for each child employed, it will be in the interest of the firms to get the same volume of labor from many children, then take these children to the local government office as proof of child labor and collect the subsidy. In other words, announcing a subsidy would cause a fiscal crisis, with firms making notional use of child labor and collecting money.

### CONCLUDING REMARKS

There has been a lot of discussion in the literature on what should be the right agency for controlling child labor. Should it be the national government or should it be some global body, such as the WTO or the ILO? Or should it be ordinary consumers who discourage child labor by boycotting products made with child labor? There are indeed a number of complex issues involved in answering these questions, many of them mired in intricate matters of political economy and international law (see, for instance, Fung et al. 2001). Economists such as Bhagwati (1995) have rightly worried about empowering agencies such as the WTO, to which poor countries have inadequate access and which can quickly be converted to an instrument of northern protectionism. Likewise, I would hesitate to turn this matter over to consumers in industrialized nations to exercise control through product boycotts, since this can also be an instrument of protection and because we know—and Arthur Miller has immortalized this in drama—how witch hunts come easily, with a little egging on by interested lobbies (Basu 2001).

But even apart from these larger questions of political economy, we need to contend with narrow questions concerning the kinds of instruments (whoever implements them) that ought to be used. Should we try to control child labor by offering free meals to children who go to school? Or should we control child labor by, instead, creating better schools?<sup>6</sup> Should we try to curb child labor by punishing those who employ children or parents who allow their children to work? And if we decide to do either, what should the punishment be? Policy makers, governments, and international organizations often pay no attention to these details in exhorting us to act. What this essay has tried to show is that such exhortations, without closer analysis of exactly *how* we should act, may not be of much value and can even be counterproductive.

**ACKNOWLEDGMENTS** Some of the ideas expressed here were part of a lecture given at the third MULTI conference in Bergen, Norway, on May 24, 2002. The essay has benefited from the comments of Abhijit Banerjee, Hyejin Ku, Per Bolt of Maurseth, and Dilip Mookherjee. I am also grateful to the Centre for Studies in Social Sciences, Kolkata, where a part of this work was done.

### NOTES

1. In Basu (1999) I have discussed how the magnitude of child labor in today's world compares with the situation in nineteenth-century Britain. For detailed analyses of the historical evidence, see Moehling (1999) and Humphries (2003).
2. It must be clarified that to say that poverty causes child labor is not to deny that child labor can have other causes, such as greater opportunity for child work, lack of schooling opportunity, or parental illiteracy (see, for instance, Emerson and Souza 2002; Bhalotra and Heady 2003), just as a fire being caused by a carelessly discarded cigarette stub does not preclude the spilled kerosene on the floor from being a cause.