

# ABOUT MULTIPLE EQUILIBRIA IN A CHILD LABOR MARKET

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**ABSTRACT.** Basu & Van (1998) argue that there can be multiple equilibria in the labor market, with one equilibrium where children work and another where adult wage is high and children do not work. This possibility is used to argue that in such a situation a child labor ban would be justified. We show that these two equilibria appear only as an artefact of the model – it excludes part-time child labor. With part-time child labor allowed, as it would be in a free market, the multiple equilibria disappear. So, this attempt to justify a child labor ban with economic reasons fails.

Kaushik Basu and Pham Hoang Van (1998) consider a society where “child labor as a mass phenomenon occurs not because of parental selfishness but because of the parents’ concern for the household’s survival”. In such a society, a ban of child labor would have fatal consequences for the affected children – they would have to live with a family income below subsistence level, or start illegal work – thus, should be rejected. Nonetheless, Basu & Van argue that “in some situations there may nevertheless be a more complicated and equilibrium-based reason for declaring child labor illegal”. Namely, there could appear “multiple equilibria in the labor market, with one equilibrium where children work and another where adult wage is high and children do not work”. This is shown based on a simple model of a child labor market. The aim of this paper is to show that the problem does not appear if part-time child labor is possible, thus, would not appear at all in a free market.

The basic assumptions of the model are

**The Luxury Axiom:** that a “family prefers to send the child to work if and only if in the absence of income from the child, each individual’s consumption falls below a certain exogenously fixed subsistence level”.

**The Substitution Axiom:** that “child labor can be substituted by adult labor”.

Now, the possibility of two equilibria follows quite trivially. Basu & Van explain:

“Suppose all children are pulled out from work, say because of a total ban. What effect will this have? Clearly, the first effect of this will be a shortage of labor. And given that child and adult labor are usually substitutes, the wages of adults will rise in response to the excess demand for labor. But as adult wages rise, it is possible, given our above assumption, that parents will not now want to send their children to work.”

In fact, given the wage increase if child labor is banned, there will be always a wage level slightly below the subsistence level where we obtain these two equilibria: All we need is that the adult wage with child labor is below subsistence, but after the wage raise will be above subsistence. If we think about the adult wage raise

as a permanent continuous process on the way from below to above subsistence, then there will be always some transitional period of time where we have these two equilibria.

But does this situation with two equilibria justify a child labor ban? No. Because there is a much simpler solution for this problem, which does not need any prohibition at all, the free market would be sufficient. This is because the two equilibria appear only if there is no possibility of part-time child labor. In the model considered by Basu & Van (1998) this possibility is explicitly excluded: “the child’s work effort  $\ell$  can only take values of 0 and 1”.

With part-time child labor allowed, the problem of several equilibria disappears. The Luxury Axiom would have to be modified in the natural way: The family sends the child to work for full time only if even with child labor the family income is below subsistence. Else, it sends the child to part-time work, for so much time that the family income inclusive the part-time child income reaches subsistence, and not at all if they have even without child labor an income above subsistence.

How this solves the problem with two equilibria? Let’s assume we have a society in a state with child labor in the region with two equilibria. That means, if child labor would be banned, the resulting wage raise would be enough to raise the family income without child labor above subsistence. But that means that the family income with full child labor is even higher – simply because more work is done, thus, more goods are produced. With part-time labor allowed, and the above luxury rule present, the families would reduce the child labor – which would be impossible if the only possibility of reduction would be to quit completely. They would do this already in the original child labor equilibrium, with the parents’ income alone yet below subsistence. With part-time child labor possible, it becomes possible to leave this equilibrium, and they would reduce child labor down to a level where the family income reaches subsistence. This reduces, for the whole society, the child labor supply. This shortage of labor leads to an increase of wages, for adults as well as children. After this market correction, the family income with the remaining child labor is again above subsistence, allowing a further reduction down to subsistence level income, with even less child labor.

This process would end in some other equilibrium. The equilibrium could be one without child labor. In this case, there would be no problem. Else, it would have to be one with some part-time child labor. In this case, the modified luxury axiom tells us that the family income would have to be at subsistence level. But then a ban would move the income below subsistence, simply because without child labor less work is done, thus, less goods are produced. So, if with child labor the income was only at the subsistence level, it would have to be below subsistence without child labor. Thus, if the process ends in an equilibrium with some child labor, no equilibrium without child labor but family income above subsistence exists. Thus, no problem with different equilibria exists.

Note that in a society where part-time child labor is allowed, the reduction of child labor starts much earlier – namely, it starts immediately after the full family income, inclusive child labor, reaches the subsistence level. At that time, a child labor ban would put the whole society below subsistence. And at the moment when the second equilibrium appears, the process of reduction of child labor is already finished.

Given that in a free market society part-time child labor is not forbidden, the free market gives a much better solution of the problem with two equilibria, which would appear only in a society which, for whatever reasons, artificially restricts child labor by not allowing part-time child labor. Or in economic models of a child labor market which, by construction, do not allow part-time child labor.

The political consequence would be that, instead of forbidding child labor, one would better care about supporting shifts toward part-time child labor. A successful example for this was the implementation of school attendance in Europe. At harvesttime, when child labor in agriculture was a necessity, there were long school vacations, which allowed to combine child labor at harvesttime with school attendance when child labor was not necessary in agriculture.

#### REFERENCES

- [1] Kaushik Basu, Pham Hoang Van (1998). The Economics of Child Labor, *Am. Econ. Rev.* 88 (3), 412-427

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