



REVIEW ARTICLE

# Tackling Child Labor: Can Better Schools Prevent Children from Working?

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**Purpose:** The purpose of this study was to investigate the conventional belief on the impact of child labor regulation and to identify related economic problems. Ultimately, the paper aimed to evaluate the successfulness of the United States' Millennium Development Goals with particular focus on the issues of child labor, and provide policy suggestions for the development and implementation of the Sustainable Development Goals. **Methods:** Published articles on child labor were reviewed to identify the conventional logic of economics for child labor regulation as well as its problems. In addition, child labor regulations and failures were studied to address the important features of successful child labor regulations. **Results:** Whereas the conventional economic logic argues for stricter child labor regulation, studies revealed the risk of law enforcements that take place without considering the social and economic factors driving child labor participation. Considering primary education as an effective substitute of child labor, schools with better quality could serve as an alternate solution to child labor problems. However, whereas the nominal achievements of the Millennium Development Goals might be positive, thorough reviews on the quality issues of primary education are rather negative. **Conclusion:** The paper has shown the importance of primary education and its effectiveness in tackling child labor. However, as the Sustainable Development Goals proceed until 2030, the importance of the quality of education, as well as the quantity of schooling, should be well acknowledged.

**Key words:** Child labor, Law Enforcement, Schools, Social Control

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## Introduction

Children are classified as child laborers when they are either too young to be in the labor force or are involved in dangerous activities with potential risks of physical, mental, or social harms [1]. Unsurprisingly, number of studies have reported the negative correlation between children's working status and development, health, human capital accumulation, and economic growth. For instance, child prostitution affects nearly 10 million children, mostly in Asia. Majority of the children (69%) work in agriculture sector with dangerous working conditions, causing critical long-term health problems [2].

As an effort to reduce child labor, International Labor Organization Convention 138 set 14 as a minimum age for employment, and currently trying to push the age up to 18 with an internationally binding treaty [3]. The reasoning behind such movement is that strict regulation on child labor can induce additional cost on production, decreasing the demand for child labor. From this perspective, if increasing the minimum age effectively reduces child labor and encourages schooling, United Nations and its participants can play a potentially crucial role by campaigning the ratification of the Convention on child labor. According to studies, however, the same form of child labor regulations has varying outcomes.

Taking into consideration the complicated results of child labor laws, the purpose of the paper is to analyze the potential risk the child labor regulation has on impoverished children and households; furthermore, the paper will emphasize the role of education in fighting both the poverty and child labor, taking into account that poverty is one of the most important determinant of child labor. Countries with high child labor participation rate should focus not only on pushing children out of the labor force but also on pulling them into education sector. Therefore, improving the quality of education in developing countries can facilitate human capital accumulation and discourage working by providing an incentive to substitute schooling for labor. At the same time, the paper will analyze how

United Nation's Millennium Development Goal achieved and fell short of its goals on education and suggest what changes can be made to suffering educational sectors in developing countries.

## Methods

The paper reviewed published articles on child labor in order to identify the conventional logic of economics for child labor regulation as well as its problems (Table 1). In addition, examples of successful child labor regulation and failures were analyzed and compared to establish a solid ground on which the United States' Millennium Development Goals can be evaluated in terms of tackling child labor and to provide advanced policy suggestions.

## Results

### Conventional argument for child labor regulation

Child labor is an economically frustrating problem for a country, since it hinders proper human capital accumulation in the long run; it is not surprising that child labor is prevalent in underdeveloped countries, where schooling rates are correspondingly low. According to statistics, an estimated 150 million children worldwide are engaged in some form of child labor, and increasing the average years of schooling of these children could increase the annual Gross Domestic Product growth by up to one percent [4].

Since child labor has substantial on the country's long-run growth, it is important to evaluate the effectiveness of previous trials to fight child labor in developing countries. From this perspective, Heymann, Raub, and Cassola [5] hypothesized that if child labor regulations are effective, setting a strict regulation would lead to higher education attainment and lower child labor participation rate. In order to test for the hypothesis, the study finds an association between minimum age regulation and secondary school enrollment from datasets of 185 states. In order to control for possible variables other than

Table 1. List of Reviewed Articles

Author (Year)	Scope of Data	Journal	Title
Heymann (2013)	Child labor laws for 185 states in 2008 and 2012	Int J Educ Res	Does prohibiting child labor increase secondary school enrolment? Insights from a new global dataset
Rahman (1999)	Bangladesh child labor survey from 1995 to 1996	J Econ Issues	Child labor in Bangladesh: A critical appraisal of Harkin's Bill and the MOU-Type schooling program
Fasih (2007)	Pakistan Integrated Household Survey 1991	World Bank Publications	Analyzing the impact of legislation on child labor in Pakistan
Boockmann (2010)	ILO data on participation rates in the age group 10 - 14 of $\geq$ 100 developing countries	World Dev	The effect of ILO minimum age conventions on child labor and school attendance: Evidence from aggregate and individual-level data

ILO=International labor organization

minimum age regulation that can affect school enrollment rate, they collect data on national economic wealth and urbanization rate [5].

According to the multivariate regression models, Heymann concludes that legislated minimum age to work is correlated with significantly higher school enrollments; setting the legal employment age at 14, the minimum standard demanded by the ILO Convention 138, was correlated with 9.2 percent higher secondary education enrollment rate. For average low-income countries, their model predicts that having a minimum age is associated with an increase in average secondary school enrollment rates from 38 percent to 47 percent. Considering that low-income countries have lower school enrollment rate compared to developed countries, this represents a fairly significant difference [5].

### Criticism: Varying outcomes of child labor regulation due to different factors and economic situations

Based on the findings, it is tempting to conclude that universal regulation of child labor is likely to have positive effect on reducing the number of working children. However, one limitation of Heymann's conclusion is that it fails to identify upon which occupations and regions the regulation had most effect on. International Labor Organization estimates that about 60% of all child laborers

working in underdeveloped countries are engaged in agriculture, fishing, hunting, and forestry, and most are concentrated around sub-Saharan Africa regions [4]. About half the children engaged in agriculture worldwide work in family business and are likely to be less poor than children working in manufacturing sector [6]. At the same time, one in three children working in Africa engages in household labor, and over 90% of female child laborers in Southeast Asia are not officially counted as child laborers, since their work takes place within households [7]; labor regulation seldom helps these children. Therefore, when it comes to testing the true impact of child labor regulations, one should be cautious of generalizing the effect; positive correlation does not imply that all children were equally helped.

In fact, a fair number of studies suggest that there is no single regulation that can cover the entire range of child labor [8-10]. Not every society has the same factors of child labor, and quite often, child labor is an ultimate result of numerous negative economic features such as poverty, mal-functioning labor market, market discrimination, etc. Therefore, studies have tried to approach the problem from the bottom, uncovering and tackling the root of child labor. Some potential factors that have been spotlighted are social and cultural attitude and acceptance toward child labor or social norms, parents' education attainment, number of

siblings within a household, and parent's health status [6,11]. Among many factors of child labor, however, influential studies have been primarily pointing poverty as the main cause of child labor [8,12-14]

Basu insists that universal child labor regulation has two possible outcomes: if an economy is primarily stuck at a "bad equilibrium" in which child laborers are preferred due to their lower-than-adult wage, market intervention, such as child labor regulation, can possibly shift the equilibrium into a better one where children are less discriminated and can have similar wage as adults [15]. Therefore, once children's wage equalizes with adult's wage, child laborers will naturally be substituted with more mature and skilled adult laborers. If more parents find it easier to get a job due to increased demand for adult laborers, more children will go to school. Number of scholars have supported that education increases with income, which makes the scenario more plausible [13,16]

On the other hand, for severely impoverished countries where overall economy's productivity is low and demand for laborers is small regardless of wage rate, banning children from work might backfire, hurting the impoverished households and already-malfunctioning economy as a whole [8]. More problematically, if legal restrictions are effective only in some sectors, it might endanger more child laborers by displacing them into legally unprotected and hazardous occupations [9,15]

### Examples of failure and success: Tom Harkin Bill and employment of Children Act

For instance, the Child Labor Deterrence Act of 1993, or namely the Tom Harkin Bill, demonstrates how harmful child labor ban can be. The Bill proposed a complete ban on imports to the United States from countries that use child labor at any stage of production. It concentrated on prohibition rather than on regulation, and it failed to take into account the situation of acute poverty. Strikingly, the Bill targeted only the garment industry, compelling them to remove all underage workers from factories; however, it

mentioned nothing about eliminating and rehabilitating the children in other industries. Unlike what the Bill aimed for, an estimated 50,000 children were immediately dismissed from their occupations due to international prohibition of child labor, and approximately 75 percent of all child laborers were forced to more hazardous occupations such as stone-crushing, street hustling or prostitutions [9]. Such example demonstrates the potential risk of well-meaning but poorly designed regulations: the law narrowly targeted a certain group of child laborers and did not account for possible negative spillover effects in other areas, failing to create adequate demand for schooling. As a result, the Bill ended up worsening the market friction, pushing the economy from a "bad equilibrium" toward a "worse equilibrium" [15].

On the other hand, as Heymann's study implies, a well-implemented legal measure combined with certain conditions, such as blooming economy, broad coverage, and prompt and appropriate enforcements, can be a potential cure for child labor. For instance, in Pakistan where one in three children are engaged in child labor, the Employment of Children Act of 1999 had a substantial impact: the law was founded on the ILO convention 138 and demanded that no child under the age of 14 be employed in hazardous occupations, making the employment of children punishable by fine and imprisonment. By using the regression discontinuity combined with difference-in-difference estimator to control for the effect of legislation from other influential factors on child labor, the study concludes that the probability of working for children between age 13 and 14 decreased by approximately 14.6% with the introduction of ECA [10].

Unfortunately, however, even though ratification of the ILO Convention 138 took place around the globe, it had little effect in countries such as Bolivia, Egypt, Nepal, and Tanzania, which has similar child labor statistics and features as Pakistan—about 33% of children are working, and approximately 70% are engaged in agriculture sector. By using the difference-in-difference method for children under age 13 before and after the ratification, another study

finds that the ratification of ILO convention 138 decreased child labor by less than 5% in African regions, and the effects were statistically insignificant [3].

Even within Pakistan, the law had differing effects on different groups. According to the data, Pakistan's ECA had substantially different impacts in rural and urban labor markets, as well as on females and males [10]. The law was most effective upon boys working in rural agriculture sectors and least effective for girls in urban manufacturing sector. Even though only about 9% of overall child laborers are engaged in manufacturing, the Government of Pakistan reported that approximately 90% of laborers in carpet weaving, one of the most child labor-intensive and high-risk manufacturing industry, are children, many of whom began working before age 10 [10]. Therefore, as Basu hypothesized, it is likely that Pakistan's manufacturing sector has low productivity as well as low demand for laborers. At the same time, the ECA's effect was more concentrated on boys, since girls are more likely to engage in household production.

### A new approach: Primary education

So far, evidences support that universal child labor regulation has mixed effects, and its success depends heavily on factors such as types of labor, gender, economy, governance [9,10,15]. Dealing with child labor problems from the top seems to have uncertain effects in reality. Rather, more recent studies have been shifting its focus toward education, a substitute that can possibly pull children voluntarily out of labor force.

It is very difficult to draw a strict line between child labor and education and treat each as an independent problem. Since countries with higher school enrollment rate generally has lower child labor participation rate, it is likely that the two are close substitutes [5]. Furthermore, as Sasmal and Guillen stressed, poverty, child labor, and educational failure are closely related to one another, all reinforcing and worsening each other; children from impoverished households grow as unskilled adult laborers

due to lack of education, remaining poor in the next generation, again forced to send their children into the labor [14]. According to their regression model, a percent increase in poverty is correlated to 5 percent increase in child labor rate, and the percentage of child labor is negatively related with literacy rate. Thus, persistent poverty over generations creates a child labor trap, a vicious cycle in which poor households become more and more deprived of early education and human capital [17]. Therefore, without tackling educational failure, it is difficult to break the child labor trap.

Moreover, attracting child laborers toward education has positive lateral effects; it can indirectly facilitate other policies targeting child labor. For instance, even though poverty is one of the most important factor, Basu argues that simple transfer payments to impoverished households are mostly ineffective unless for the marginal households because poor people tend to save or pay out debts, taking into account for potential future earnings change; thus, poor parents are less likely to react to welfare program, especially when school completion and academic achievement is largely uncertain [8]. Similarly, as returns to schooling become more certain and substantial, parents will respond more to policies that aim to reduce child labor, spending heavier proportion of their transfer payments in education. Therefore, even though better education might not immediately affect child laborers, it allows for other policies such as transfer payments to have greater effects, providing parents with an attractive option to replace child labor [13].

## Discussion

### Evaluating the Millennium Development Goals

#### Nominal achievements

From this perspective, United Nation's recent effort to promote primary schooling of children around the world, founded on the Millennium Development Goals (MDG), is a desirable start. United Nations report that the primary

school enrollment rate in underdeveloped countries has reached 91% in 2015, up from 83%, and the number of out-of-school children of primary school age 5 to 14 has almost halved, down from 100 million in 2000 to 57 million [4]. However, some scholars have pointed out that the MDG's primary focus on enrollment often forced countries to reach the goal at the expense of educational quality and achievement levels.

### **Criticism: When better quantity does not imply better quality**

Waage argues that the MDG is a clear example universal targets being met without achieving their full intent [18]. Even though the measurable target of net enrollment ratio has been consistently increasing, the increase does not entail regular attendance, participation in learning opportunities, or positive learning outcomes. School attendance is a frustrating issue; Waage reports that in almost 50% of all states in India, less than 80% of the enrolled students are regular attendees, and further found that in poorer regions of India, less than 60% regularly attend school. Similar phenomena were observed in sub-Saharan regions as well, which has had the best record of improvement in primary education enrollment [18].

Moreover, school quality in developing countries seems to have been in a stalemate. According to the statistics, qualities of education in poor countries are damaged due to lack of effective teaching practices and little attention to accountability for learning among teachers and staffs. For instance, a study has estimated that in sub-Saharan Africa alone, 1.6 million new teachers need to be hired in a decade just to keep the pace with current level of enrollment rate [19]. At the same time, whether children succeeds in their first years of schooling seems to be an important determinant of their education completion, since student dropout rates in developing countries are highest in the first three grades of primary school; higher level of education seems to lower the incidences of child labor once the child completes primary education and participates in some level of secondary education [7]. This data coincides

with the argument that children must cross some level of educational threshold to reap higher future income [20].

Educational returns are even smaller for women in developing countries, the populations most unprotected by child labor regulation law [7,21]. Also, despite policy declarations that stress the importance of gender and race equality, studies have reported that South African schools are often the sites of gender discrimination, manifesting the norms associated with male dominance and female subordination [22]. Some reports have identified frequent practices of gender-based violence in schools as well [23]. Thus, rather than providing with opportunities for equal improvement, schools could be feeding children with thoughts and ideologies that further justifies female child labor.

At the same time, more focus should be placed on children with working experiences. In reality, child labor and education are rarely complete substitutes, though they are very close; instead, children are often partly engaged in both work and education [24]. Child labor not only prevents children from schooling but also hinders child's learning capacity in the long run. Studies found that being exposed to labor at an early age substantially lowers the probability of a child's educational success, even after for the same years of education [25]. Moreover, studies suggest that labor conditions, such as the number of weekly hours dedicated to work or the presence of work scheduled particularly in the morning, negatively affect the academic performance of child laborers [26]. Also, child laborers are academically falling behind due to exhaustion or diversion of interest away from academic concerns as well [27]. Therefore, working children from impoverished households not only lack the opportunity of schooling but also more likely to experience academic failure even with the chance of schooling. If this is the case, it becomes much more difficult to affect child labor through education, since there is no incentive to invest in the likely-to-fail schooling. Considering that the labor markets in developing countries are more welcoming child laborers, children must bear high opportunity costs for schooling if their chances of academic success are small.

## Policy suggestions

### Child labor regulations

Economists seem to agree that coercive measures still have their places, but they need to be used more carefully. For instance, hazardous labors such as trafficking or prostitution should be banned out-right, although this may cause economic hardships to some very poor households in the short run. However, it seems true that there is no single policy measure to eradicate child labor.

### Multi-dimensional approaches for tackling child labor

At the same time, education sector is suffering in many developing countries. Therefore, policies should approach the problem from multiple aspects, tackling both the poverty and educational failure [14]. Improving the adult labor market conditions is a desirable resolution, but often infeasible particularly in the short run [15]. Labor market in developing countries is particularly vulnerable to world economy; most adult laborers are engaged in labor-intensive manufacturing or agriculture, which can easily be substituted by child laborers with lower wage. Therefore, in macro level, it is important that government provide appropriate protections when economy is unstable. Providing job information and vocational training for parents with volatile seasonal career is a desirable policy. In order to directly affect children's education, it is also a sound idea to guarantee certain level of minimum wage or transfer payments for workers whose children are officially enrolled in school; at the same time, it is important to make sure that children are actually attending school on a regular basis and completing the education.

In educational level, schools should improve in terms of quality and accessibility; governments should make more investments in attracting productive teachers and provide proper incentives and trainings so that they stay in their career. However, these goals are difficult to achieve in the short run and expensive as well. From this perspective, it is a good signal that the post-MDG agenda, also known as the Sustainable Development Goals (SDGs), includes

ensuring inclusive and equitable quality education, demanding not only that students attend schools, but also that all girls and boys to complete primary and secondary schooling by year 2030 [4]. United Nations can play a critical role in designing and guiding long-run educational investment plans for developing countries. The SDG could also demand developed countries to recruit and provide volunteering teachers, as well as developing and transferring their teacher training programs. However, when it comes to developing such training program, it should properly reflect the demands of the developing country, making sure that teachers are trained to teach what is most useful within the country.

In a macro level, additional policies that reflect local demands and increase reward for schooling can compete with the demand and reward for child labor [6]; most direct and influential measures are rewarding children who go to school instead of working, for instance, by providing what attracts them the most, whether it be the scholarships, free mid-day meals, or school uniforms. Lack of transportation is surprisingly often the reason for low schooling in rural areas, especially in agrarian countries; therefore, local-based commuting services can positively influence those who lack access to schools.

Most importantly, policies should reflect the varying features of child labor under different situations. In extremely poor economies where child laboring is necessary for survival, helping children align their work with education could be helpful, assuming that some level of education is better than none. Working children are more likely to suffer in terms of academic achievement, and thus, should be supported and helped through supplementary classes, academic advising or tutoring. Furthermore, calendaring school events according to laboring schedules can be an effective policy, given the importance of seasonal labor demands for children in farming families. What matters the most is, however, that child labor takes various forms under different economies; therefore, overly simplistic models of child labor, which would often lead to myopic policies that do not consider local needs, might

inadvertently have negative effects on children and economy as a whole.

## Conclusion

The paper conducted a comprehensive review on the conventional beliefs on the child labor regulation, as well as the underlying risks and varying impacts. It is important to note that one should be cautious of generalizing the effect of child labor regulation, for positive correlation between the strictness of the law and the number of working does not imply that all children were equally helped by the law. One possible alternative for child labor regulation is improving the primary education achievements. However, despite the nominal achievements of the Millennium Development Goals, the quality of education in general should be reevaluated. Most importantly, taking child labor requires a multi-dimensional approach, including both the macro-level economic policies and educational sector.

## Conflicts of Interest

The authors declared no conflict of interest.

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