

The Impact of International Child Labor Standards on Children's Welfare

Senior Honors Capstone

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Abstract:

Despite growing concern over the millions of child laborers worldwide who work long hours for little or no pay in conditions approaching slavery, the question of whether international child labor standards can address this problem has not been answered. Even as neoclassical economists argue that labor standards are endogenous to individual economies and that banning child labor will only force children into worse poverty, other economists suggest that global coordination of standards may correct existing distortions in labor markets and shift countries toward the high-road path to development. International Labor Organization (ILO) Conventions Nos. 138 and 182 are justified on such grounds. My research examines whether ratification of these two conventions helps to raise the level of children’s welfare. My results support the hypothesis that ratification fosters the national framework necessary for a government to improve conditions on the ground for children.

Introduction:

Around the world today, child laborers face long hours, dangerous and unhealthy conditions, and little or no pay. Denied a normal childhood and a chance for an education, some are confined and beaten, reduced to slavery. These children, society's most vulnerable members, are exposed to lasting physical, mental, and psychological harm. Simultaneously, on the broader societal level, their employment perpetuates poverty by retarding the growth of human capital.

A simple story may help to convey what generalizations cannot:

“Dark skinned, under-fed, Agati, a citizen of Benin Republic was brought to Lagos to work as a house-girl....Agati's daily schedule begins with sweeping the floors, washing the dishes, washing up Mrs. X's new baby's clothes and other chores. From 6 a.m. when Agati begins work, she does not stop working until about 10 p.m. One day, she got it wrong. She failed to understand what madam ordered her to do. Madam turned round and hit Agati with the sharp end of the table knife with which she was cutting meat. Agati shouted, almost immediately blood gushed out from her fingers. [Across town], the middle man who brought her from Benin to Lagos smiles to the bank with the token Agati earns as a house-girl” (Vanguard 2006).

Millions of children face a situation similar to Agati's. Others are exposed to even worse conditions, whether as child soldiers, commercial sex workers, or street hawkers. Off the northeast coast of Sumatra, for example, thousands of children are trapped on small fishing rigs about two and a half miles or more from shore where they work for long hours with poor food and pay, insufficient sleep, and no opportunity for schooling or leisure. They are lured into this employment with promises of good food and high pay, often without the knowledge of their parents. It is assumed that the owners of these rigs have contacts in high places; the practice

continues in spite of various campaigns to bring it to an end (White and Tjandraningsih 1998).

Another example of the horrors of child labor is found in Harare, in Zimbabwe, where street children are heavily involved in prostitution. With rare exception, girls cannot survive on the streets without the support of men or boys, and this support is given in exchange for sex (Rurevo and Bourdillon 2003). Many children find places to sleep by befriending underpaid security guards, who serve as their pimps. Some guards even supplement their wages by selling the sexual services of the children in their care, who find it hard to reject the comforts of a bath, a warm meal, and a bed in exchange for sex with rich businesspeople.

The rising global outcry against the economic exploitation of millions of children has brought the attention of government policy makers (Harkin 2006), international organizations, consumers and firms (Greenhouse 1997) to child labor. “Child labor” is a broad term that covers diverse activities in which children participate. I define child labor as children’s participation in work likely to be hazardous to their health, safety, or morals. This mirrors the ILO’s definition of work that “is mentally, physically, socially or morally dangerous and harmful to children; and interferes with their schooling by: depriving them of the opportunity to attend school; obliging them to leave school prematurely; or requiring them to attempt to combine school attendance with excessively long and heavy work” (2006).

Not all children who work are chained in factories or forced into prostitution. For children who help out at home, assisting in the family business or farm and performing domestic work, working and earning may be a positive experience in their growing up. Moreover, if children’s participation in the labor market increases the amount spent on their education, a small increase in child labor may enhance children’s welfare (Fan 2004). I define children’s welfare as the ability of children to enjoy the civil, political, economic, social and cultural rights articulated

in the UN Convention on the Rights of the Child (CRC), a set of non-negotiable standards and obligations built on varied legal systems and cultural traditions. The CRC, which has 193 state signatories and 140 ratifying members, is based on four core principles: “non-discrimination; devotion to the best interests of the child, the right to life, survival and development; and respect for the views of the child” (1989). Its fifty-four articles and two optional protocols spell out the basic entitlements and freedoms that children everywhere have: “the right to survival; to develop to the fullest; to protection from harmful influences, abuse and exploitation; and to participate fully in family, cultural and social life.”

In 2004, approximately 191 million children under the age of 15 were working (ILO 2006). Of these, over 74 million were engaged in forms of work likely to be hazardous to their health, safety, or morals. Eight million were involved in “unconditional worst forms” of child labor, which are classified as all forms of slavery and compulsory labor, including the recruitment of children for armed conflict; the use of children in prostitution or pornography; and the use of children for illicit activities, such as drug trafficking. Such labor is spread throughout the world. While the incidence of children’s work is highest in Sub-Saharan Africa, the largest number of child workers is found in the Asian-Pacific region (Hagemann et al. 2006). Most working children in rural areas are found in agriculture; urban children work in trade and services, with fewer in manufacturing and construction. Many children also work as domestics.

Conditions of work likely to be hazardous to children’s “physical, mental, spiritual, moral or social development” (UN 1989) have been widely condemned, and most countries have laws on the minimum age for employment. Nevertheless, efforts at the domestic level to protect children from prematurely entering the labor force have so far proved inadequate (Kern 2000). Reducing child labor – whether through preventative, second chance, or direct action programs –

requires political commitment. I assert that harmonization of child labor standards at the international level can help to foster this commitment, and then discuss why ratification of the International Labor Organization (ILO) Conventions most relevant to child labor (Nos. 138 and 182) may increase children's welfare. Finally, I show that, despite noisy data, ratifying countries have better outcomes.

Literature Review:

Harmonization: The Case Against It:

The main policy divide in addressing child labor is between legal interventions that prohibit children from starting work too soon and government programs that alter economic incentives such that parents of their own accord prefer to withdraw the children from the labor force. The question of whether international child labor standards are necessary is part of the larger issue of whether trade liberalization agreements such as the World Trade Organization (WTO) should extend beyond direct, trade-related policies (Bhagwati and Hude 1996). The neo-liberal response is to point out that the case for free trade is fundamentally a unilateral one. Demands for trade reciprocity or for the harmonization of labor standards are essentially "wrong-headed" because they are "mercantilist" in character (Krugman 1997).

These theorists believe that labor standards are endogenous to individual economies. Given its level of development, resource endowments, institutions, and societal preferences, each economy will arrive at its own optimum equilibrium point (Brown, Deardorff and Stern 2001). There is "very little evidence," for example, that compulsory school regulations have much of an impact on the age at which children leave school and begin working (Brown, Deardorff, and Stern 2002). Srinivasan's extension of the first welfare theorem of economics shows that the creation of minimum labor standards within a country can properly address internal market

failures but that there is no justification for externally imposed standards (1996). Srinivasan's framework is a small open economy faces a given relative price of two traded goods. With perfectly competitive markets, the economy's choices of production, consumption and the labor standard are Pareto optimal.

Labor standards will diverge across countries whenever preferences and resource endowments are heterogeneous. Some developed country standards are simply not feasible for developing countries. In fact, they may be a form of "hidden protection" that gives unfair advantage to industrialized country workers by taking away the comparative advantage of low-skilled workers in developing countries. Busse (2002) provides some evidence that weak labor standards boost competitiveness. He finds a positive relationship between the manufacture of unskilled, labor-intensive goods for export and the incidence of forced and child labor. A lower unionization rate also increases a country's comparative advantage, while discrimination against females, basic trade union rights, and ratifications of the eight ILO conventions on core labor standards have an ambiguous effect. Mah (1997), who also investigates the role of labor standards on export performance, finds a negative association between the ratification of certain "core" ILO conventions and performance. Similarly, Rodrik (1996) finds that the number of conventions ratified is statistically significant in explaining manufacturing labor costs.

Abe and Zhao (2005) argue that the creation of a universal set of standards results in a sub-optimal solution for at least one country by depressing total global profits and welfare. They believe that both importing and exporting countries can obtain higher levels of welfare from technology transfers than from binding international labor standards. Srinivasan (1996) provides theoretical support for Abe and Zhao's conclusion by extending the second welfare theorem of economics to labor standards. As Srinivasan shows, even without balanced trade, any world

Pareto optimum of production, consumption, and labor standards (possibly different for each country) can be supported as a competitive, free trade equilibrium.

A second argument advanced against international labor standards is that notions of what constitutes fair labor market conditions are culture-specific. Many developing countries are highly resistant to demands on the part of industrialized countries for banning child labor. They maintain that the developed countries themselves relied extensively on child labor when they were at a similar stage of economic development. As Bhagwati argues, “universally condemned practices (such as slavery) are rare ... Indeed, the reality is that diversity of labour practices and standards is widespread in practice and reflects...diversity of cultural values, economic conditions, and analytical beliefs and theories...(1994).” In the absence of consensus, imposing labor standards that evolved in the West would violate national sovereignty and constitute cultural imperialism.

Voluntary Initiatives:

Rather than support international labor standards, neo-liberalists support voluntary, market-based practices whereby private producers adopt codes of conduct that prohibit the use of child labor. These voluntary practices are exemplified by private labeling schemes, such as Rugmark in the carpet industry. By allowing producers to internalize consumers’ willingness to pay for such products, Rugmark is supposed to increase public awareness of child labor, improve children’s welfare, and prevent allegations of unfair trade practices.

Voluntary codes are an important tool for galvanizing public opinion, but they are not sufficient for ending child labor. Firstly, there are elements of externality involved in the private preferences for improving labor conditions, since the consumers who do not purchase labeled products benefit from the positive externalities generated by those who pay more for labeled

products. This free rider problem (Rodrik 1996) implies that private demand for ‘child-labor free products’ will be sub-optimal. In addition, the authenticity of these labels is highly questionable (Palley 2000). Especially in cases of decentralized production, the information on which labels is based may be inaccurate or biased, making them vulnerable to manipulation by protectionist interests. Furthermore, because their impact is selective, they may push child out of export industries into more harmful employment.

Basu, Chau, and Grote (2006) show that while social labeling benefits consumers and Southern producers, it harms child workers and Northern producers. The circumstances under which social labeling raises Southern welfare are limited to when child labor causes significant external diseconomies and crowds out adult employment opportunities. Similarly, consumer boycotts against products made by child laborers may have the paradoxical effect of raising child labor. Under Basu and Zarghamee’s (2005) plausible assumptions that the supply curve of child labor is downward sloping and that the demand for child labor is elastic, a boycott makes child labor a less attractive input. Since products made by children will command a lower price than those certified to be child labor free, children’s wages will fall. This will penalize those forced to work so as to avert extreme poverty, causing child labor to rise, not fall.

Harmonization: The Case For It

Despite the claims of neo-liberal theory, there may be a case for seeking some policy harmonization on child labor standards on the basis of second-best arguments when ideal conditions are not met.

Parental Selfishness:

Ever since the seminal work of Schultz (1960), economics typically consider child labor

in the context of the family's welfare optimization problem. Decisions about how to allocate child time are made by a parent. When children have no bargaining power, this gives rise to an agency problem; parents who value children strictly in terms of their value as household assets will make decisions without regard for the child. Along this line, parents who have more children may be less likely to invest in quality schooling (Becker and Lewis 1973). Alternately, parents may have more children in order to diversify risk, educating some and putting others to work. Empirical data on the quality-quantity tradeoff and the diversification hypothesis is mixed. Patrinos and Psacharopoulos (1997) find that on average, children in larger families in both developed and developing countries receive less schooling, score lower on intelligence tests, and are less well nourished. However, Montgomery, Kouamé and Oliver (1995) find contradictory evidence for Ghana and Cote d'Ivoire, and Chernichovsky's study of schooling choice in rural Botswana (1985) actually finds that family size raises educational attainment.

Models of parental selfishness lend support for policies that limit the choices that parents are allowed to make for their children. Certainly, if there is evidence that parents make household allocation decisions based only on their own interests or fail to account for the positive externalities generated by education for the general population (Grootaert and Kanbur 1995), banning child labor and requiring parents to send their children to school may be justified on efficiency grounds. Evidence to support a view of selfish parents is provided by Burra (1995).

Parental Altruism and Multiple Equilibria in the Labor Market:

More commonly, however, parents are assumed to be altruistic, leading to a second set of models that focus on the labor market conditions that give rise to child labor. They conclude that while child labor stems from and is perpetuated by a multitude of forces, poverty is the

overriding factor (Langan 2002). Accordingly, voluntaristic practices alone will not eliminate child labor because child labor is not a stand-alone problem; it is a problem of under-development (Palley 2004). While it is indeed disturbing that young children are forced to toil under harsh conditions for low pay, the earnings of these children may be important to their families' – and their own – survival.

Baland and Robinson (2000) formalize the link between poverty and child labor. Their starting point is that all families make decisions to maximize the present discounted value of the household's income. In deciding whether to send their child to school, parents weigh the present discounted value of an educated child's future income against the income they forego when the child is not working. Child labor is only chosen if the return to education is insufficient to compensate families for the lost incomes of their children. Implicit in this analysis is that child labor is a device for transferring income from the future into the present. If children typically leave the household after receiving an education, as Parsons and Goldin (1989) find, it is difficult for parents to internalize the benefits of investing in their children. Instead, they will put their child work today at the expense of his or her future productivity.

Inadequate wages force parents to depend upon their children to contribute to the family's income (Krug 1998); as family incomes rise, child labor declines. Assuming that child labor is more prevalent in countries when the other members of society gain from its use, Shelburne (2001) presents theory and evidence that as an economy becomes more open to trade and increases in size, the gains from child labor diminish and even turn negative. Similarly, World Bank economists Neumayer and De Soysa (2005) argue that countries that are more open to trade or have a higher stock of foreign direct investment (FDI) also have a lower incidence of child labor. Their data show that the labor force participation rate of children aged 10-14 hovers

between 30-60 percent in countries with a per capita income below US\$500, then drops to 10-30 percent in countries with incomes between US\$500 and US\$1,000 (Betcherman 2004). This negative correlation becomes less marked at higher incomes, possibly due to the relationship between child labor and the distribution of income. In higher-productivity countries, a more equal wage distribution reduces child labor (Rogers and Swinnerton 2000) (in lower-productivity countries, it has the opposite effect).

Poor local institutions such as low-quality or expensive schools leave children with few options besides work. Thus, improving the incentive for households to send children to school can reduce child labor. A number of countries have adopted educational subsidy programs, including PETI and Bolsa Escola in Brazil, the Mid-day meals program in India, and the Progresa program in Mexico (Edmonds and Pavcnik 2005). In the absence of such programs, low quality education, credit constraints, and economic uncertainty leave poor families with few choices (Jafarey and Lahiri 2001). Difficulty in transferring income over time due to financial market imperfections increase the number of children forced into employment (Edmonds and Pavcnik 2005). Baland and Robin (2000) theorize that if households could borrow against future earnings, child labor could be much reduced. In fact, problems over access to credit may be one of the most important causes of bonded labor; of the 20 million people around the world held in debt-bondage, nearly 30 percent are children (ILO 2002).

The steep negative correlation between GDP per capita and the employment rate of 10-14 year olds (Krueger 1996) suggests that economic development is the cure for child labor. However, historical growth rates suggest that reducing child labor through improvements in living standards alone will take time. Moreover, by increasing the pool of workers and depressing wages, child labor may be self-reinforcing.

Neo-liberalists often point out that attempts to compel poor parents to deviate from their optimizing choices may force children into worse situations, such as starvation (Nardinelli 1990). For example, a strict standard in a formal sector may consign them to even more degrading and less remunerative work in the informal sector. Basu and Van's model of multiple equilibria (1998) eliminates this dilemma. Basu and Van point out that if a child's labor is assumed to be equivalent to some fraction of an adult's, the supply and demand curves in the labor market may cross at more than one point. Thus, a ban on child labor could tip an economy caught in one equilibrium in which children work to another equilibrium in which no children work. From this point on, market forces will work with, rather than against, the policy. In this case, the abolition of child labor is self-reinforcing; a decrease in the labor supply that raises adult wages will allow households to withdraw their children from the labor market.

Basu and Van recognize the role of markets as well as the need for government intervention. For example, the effect of an adult minimum wage law is ambiguous (Basu 1999c). The increase in wages reduces child labor, but its implementation through a minimum wage law causes adult unemployment, forcing households to send their children to work. This ties back to the previously mentioned stage-of-development dimension of child labor, suggesting that policy actions must take into account the productivity level of the economy. A child labor ban will only be welfare-enhancing in countries that are prosperous enough to be able to support all of their children without sending any to work.

Concern Over a "Race to the Bottom":

Another second best argument for the harmonization of labor standards is the fear that in the absence of cooperative international action, a race to the bottom in standards may result. In terms of the logic of the prisoner's dilemma, two countries face a choice whether to raise or

lower standards. The socially optimal equilibrium is for both to choose high standards that increase productivity and quality, but each country acting in its own self-interest has an incentive to lower standards to gain a competitive advantage. Consequently, both end up lowering standards and exploiting all possible margins. Since neither nation can raise standards alone without suffering capital flight (Grimsrud and Stokke 1997, Palley 2004), the only way to sustain the socially optimal equilibrium is to use global standards as an instrument of collusion to simultaneously raise standards.

Though international labor standards are sometimes perceived as hindering economic development, many studies find no economic cost to the adoption of higher standards. According to Brown (2001), low standards in developing countries are not the primary cause of the wage stagnancy faced by low-skilled workers in recent decades in industrialized nations. The OECD's 1996 attempt to relate aggregate and labor intensive exports to the ratification of ILO conventions finds no evidence that the imposition of core labor standards reduces a country's export and growth performance, where trade performance is defined as the share of the country's export in world trade. Martin and Maskus (2001) show that some violations of core labor standards, such as discrimination against particular workers in export industries or employer abuse of market power, actually reduce competitiveness. When product markets are competitive, freedom of association and collective bargaining association rights may even increase competitiveness by raising productivity and output.

Several studies on the relationship between labor standards and foreign direct investment (FDI) find that improvements in productivity often accompany compliance with ILO standards. Suppression of freedom of association and collective bargaining rights does not attract more FDI (OECD 1996). Rodrik's (1996) cross-country data also show that countries with low standards

do not receive more FDI from U.S. investors and that the stringency of labor standards does not affect comparative advantage in labor-intensive goods. Rodrik measures labor-intensive goods by the fraction of textiles and clothing exports in total exports (omitting fuels). His proxies for labor standards are the total number of ILO conventions ratified, the number of ratified conventions pertaining to core worker rights, a democracy measure from Freedom House, and an index of child labor derived from textual ILO and U.S. State Department reports. He also includes work hours, regulations on annual leave, and the unionization rate. All three of these measures significantly reduce the sample size, however. Interestingly, Van Beers (1998) finds that higher standards for working time, employment contracts, minimum wages, and unionization rights tend to reduce the export of labor- and capital-intensive goods produced with skilled labor. This seems counter-intuitive, given that higher labor standards should primarily reduce the exports of goods produced with unskilled labor. Since Van Beer's data are restricted to OECD countries, it is doubtful that his results generally hold at the global level.

Correction of Existing Distortions in Labor Markets:

Over the past several decades, an increasing number of countries have dismantled trade barriers and adopted the basic tenets of a liberalized economy, all in the name of deriving maximum benefits from globalization. As brought out in the UN Conference on Trade and Development's recent report on international trade and poverty reduction (UNCTAD 2004), however, many developing countries have still fared badly, partly on account of dependence on a single cash crop, insufficient donor support, and the intervention of wars and coups. Even when exports have risen, in economies with widespread poverty and major financial gaps, expansion has tended to generate exclusionary rather than socially equitable economic growth.

When all countries seek to run surpluses and grow on the backs of their neighbors'

markets, the result is a shortage of demand and global deflation. For developing countries, this manifests in ever-declining terms of trade, first identified by Singer and Prebisch in the 1950s in connection with commodity prices (Palley 2002). As prices decline, countries must export more to pay their foreign debts, which drives down prices further. The only long run solution to this financial instability is to retard the growth supply on international markets by having developing countries consume a greater portion of what they produce. For this to happen, they must accelerate their accumulation of human capital and reduce income inequality, which is why labor standards are so critical.

By fostering the development of robust domestic markets, core labor standards help countries escape the “dynastic child labor trap” (Basu and Tzannatos 2003). The result is better allocation of scarce resources that raises output and economic welfare. This in turn allows wages to grow, giving rise to a virtuous circle in which rising wages and market development reinforce each other. Rodrik (1999) provides evidence that democracies pay higher wages. Palley (2000) shows that improved rights of free association correlate with faster growth in the five-year period after the improvements are made. In addition, income distribution is likely to be more equal and wages are likely to be higher in these countries. Regression analyses by Cigno, Roati, and Guarcello (2002) conclude that developing countries with better educated workforces (a higher percentage of completed primary education) increase the wage rate and lower the child labor rate more rapidly as compared to other developing countries with less educated workforces.

A statistical analysis on a sample of government repression between 1976 and 1999 by Hafner-Burton and Tsutsui (2003) provides support for benefits of treaty ratification. Ratification brings greater salience to human rights concepts, as the media attention proceeding and incident to ratification spreads the concept of rights guarantees to individuals who have not

previously conceptualized abuses committed against them in these terms. Ratification also improves states' practices by strengthening anti-child labor coalitions and by providing them with the political resources for demanding improved conditions.

Consensus is emerging that ratification of the ILO conventions most relevant to child labor does not hinder potential economic growth. This is because the ILO child labor standards are universalistic in aspiration and process- rather than outcome-oriented (Palley 2002). No. 138, adopted in 1979, concerns the Minimum Age for Admission to Employment and Work; No. 182, adopted in 1999, concerns the "worst forms" of child labor. The latter highlights the urgency of action to address the most hazardous and exploitative types of work without losing the long-term goal of the effective elimination of all child labor. The ILO classifies both Conventions as fundamental conventions; even member states that have not yet ratified them are obliged to respect, promote, and realize their principles.

In their review of the determinants of labor standards over time, Stern and Brown (2007) conclude that efforts to improve standards must be specific to the economic and social conditions prevailing in a country at a specific time. The ILO child labor standards meet Stern and Brown's criteria. They do not set minimum wage levels or maximum hours of work, both of which are market interventions contingent on a country's level of development (Palley 2002).

Constitutive of Development Itself:

According to Nobel prize-winning economist Amartya Sen (1999), the goals of development may be considered in universalistic terms where individual well-being entails certain basic freedoms: freedom to engage in political criticism and association, freedom to engage in market transactions, and freedom from illiteracy, lack of basic education, preventable or curable diseases, and extreme poverty. These freedoms have both intrinsic and practical value

and are irrespective of cultural context. Thus, child labor standards are not a luxury good to be purchased with the gains from development, nor for their externalities that contribute to development, but because they are constitutive of development itself (Nussbaum 1995).

Economic Model:

The economic model relating children's welfare to the adoption of international child labor standards takes the form of a production function, $y = f(x_1, x_2, \dots, x_n)$, where y = level of children's welfare and $x = 1, \dots, n$ are the inputs into the process of maximizing children's welfare.

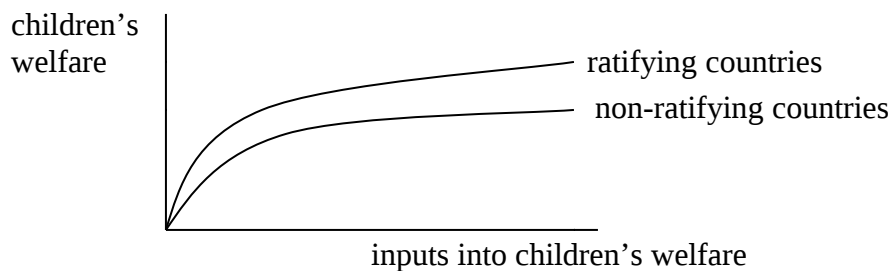


Figure I: Children's Welfare Economic Model

I assert that the adoption of international labor standards reflects a political commitment on the part of the state to utilize inputs into the production function more efficiently, thus raising the level of children's welfare. By ratifying ILO Conventions Nos. 138 and 182, the state indicates its intention to amend and create laws and policies to reduce child labor. Governments may use several types of policies to positive effect. Preventive policies to change the "equilibrium" or long run level of child labor and school enrolment include providing access to safe drinking water, expanding immunization coverage, and supporting adult literacy. "Second chance" policies to target children already working include offering vocational training or flexible school schedules. Though likely less significant in resource terms, second chance policies are critical to preventing children from entering the adult labor market in a disadvantaged position and at great risk of falling into unemployment and poverty. Also needed

are direct action policies to rescue children engaged in slavery, prostitution, and other forms of labor that violate fundamental human rights.

Implementation of the two Conventions may involve the creation of a comprehensive national agenda, a rise in coordination and evaluation of activities throughout all sectors of government, the introduction of child impact assessments, an improvement in data collected on child labor, an increase in funding for education and second chance policies, and the involvement of civil society in awareness-raising efforts. These actions are expected to have a positive impact on child welfare, which shifts the production function upwards.

Support for the ILO child labor standards as “rules governing bargaining transactions” (Atkinson 1997) has grown in recent years. According to the UN, there is now “universal consensus” that all countries are obliged “to respect, promote, and realize” the standards (2007). Membership of the ILO, which implies acceptance of the principles enshrined in the Constitution, is near universal, and rejection of the most inhumane forms of child labor is widespread in the public rhetoric of the international arena. For example, at the 2003 G8 Meeting in France, leaders of the industrialized world urged businesses to implement the ILO core standards (UN 2007).

Convention No. 182, adopted in 1999, has seen one of the fastest rates of ratifications in ILO history. Nearly 87 percent of member states have ratified the convention; these states include 77 percent of the world child population (ILO 2006). For Convention No. 138, the frequency of ratification is low over the first two decades and then jumps from the second half of the 1990s onwards. Between 1997 and 2001, forty-six countries ratified the convention, as compared to the fifty-nine countries that ratified it in all its previous twenty years of existence (Chau and Kanbur 2002). This surge in ratification may be due to the ILO campaign launched

after the 1995 World Summit on Social Development and to the 1996 WTO Ministerial Conference Declaration, which underscored the importance of international labor standards, and declared the ILO as the “competent body to set and deal with these standards” (WTO 1996).

Some scholars believe that the “important locus of compliance politics in the human rights area is domestic, not international” (Simmons 2006). How important are international labor standards in addressing the child labor problem? ILO conventions are not self-executing and thus cannot be enforced until nations adopt domestic laws to support them (Schachter 1991). The ILO’s 2006 attempt to determine to what extent ratification translates into concrete state action showed mixed results. Since 1999, 51.2 percent of countries that have ratified Convention No. 182 have reported adopting plans of action to tackle one or more categories of child labor. In addition, many have adopted legislation against human trafficking, particularly of children (35.4 percent), on the involvement of children in prostitution and the production of pornography (29.3 percent), and on the prohibition of hazardous work for all children under 18 (37.8 percent). While these are encouraging signs that ratification has a positive impact on a country’s ability to combat child labor, there are also areas where ratifying states have reported very little action. For example, since 1999, only 13.4 percent have improved legislation against the use of children in illicit activities, such as in the production and trafficking of drugs. These types of gaps in domestic legislation hamper the overall effort to eliminate the worst forms of child labor as a matter of urgency.

Treaty Enforcement:

Economic theory on the ratification of international treaties falls within the literature on bargaining power and strategic behavior. A number of studies (Barrett 2000, Carraro and Siniscalco 1998, Finus and Rundshagen 2001) have dealt with the incentives for countries to

enter treaties, using game-theoretic models of coalitions. In most cases, states are assumed to be unitary actors. The chances of treaty negotiation and of subsequent ratification in industrialized countries often depend on internal political factors, such as the power of left-wing parties. For developing countries, the economic costs of ratification are also significant (Bookmann 2001). Chau and Kanbur (2002) find that the probability of ratification, on average, is not affected by real per capita GDP, openness to trade, the skill composition of the population, political freedom, or the degree of urbanization. The one factor they found to be significant was the legal system: socialist countries are much more likely to adopt ILO conventions.

Other scholars argue that the sources of international treaty enforcement instead reside in the international arena. This second theoretical approach focuses not on strategic bargaining but on the constraints that ratification places on negotiations between countries, as well as on the relative marginal costs of non-enforcement. Two hypothesized enforcement mechanisms are particularly common: reputational costs and norm development. “Shame” influences are a powerful motivator (Weisband 2000). Since a bad reputation may hinder future attempts at cooperation, stymie cooperation in other areas, and compromise a country’s ability to benefit from the resources of international organizations, countries may comply with regime obligations even when doing so is not in their immediate interest (Von Stein 2004). Other scholars, particularly those in the constructivist tradition, maintain that the real power of international treaties lies in their ability to articulate norms (Risse, Ropp, and Sikkink 1999). Even if states are not in compliance with the treaty when they commit to it, government leaders may come to internalize these norms over time.

Though Weisband (2000) finds some regional variations and reoccurring patterns of deviance by “global pariahs,” conformity with ILO obligations appears widespread.

Nevertheless, what is repeatedly stressed in the literature is that punishments for non-compliance are rare (Chau and Kanbur 2001). Most enforcement is limited to the monitoring, reporting, and publicizing of violations (Langan 2002); if a complaint is made, the ILO provides guidance and technical advice while seeking a cooperative solution. As hardly any country is free from abuses, countries usually have little incentive to confront each other. Moreover, in countries that forbid union complaints or are late in complying with reporting requirements, violations may go undetected. Despite the ILO's long existence, Elliott and Freeman claim that the institution is largely irrelevant: "most reasonably informed people have little idea what the letters I-L-O stand for" (2003).

The ILO is not the only international body that has been critiqued for its 'lack of teeth.' Many international legal scholars and international relations scholars have struggled to explain why despite a rise in ratifications of international human rights treaties, there has not been any substantial decrease in human rights violations (Hafner-Burton and Tsutsui 2005). According to Hathaway (2003), noncompliance with treaty obligations is common, but the human rights practices of ratifying countries are better than those of non-ratifying countries. Troublingly, after controlling for other factors that affect practices, treaty ratification is not infrequently linked to worse practices than otherwise expected. Hathaway explains these paradoxical findings, which contradict both rational actor and normative models of treaty compliance, by the dual role of treaties. Treaties help some countries more effectively channel political will into domestic policy but allow other countries to signal a commitment to human rights while continuing to commit substantial abuses. Since ratification is virtually costless, these countries may ratify human rights treaties as "a matter of window-dressing" (Hafner-Burton and Tsutsui 2005), hoping to be rewarded by facing reduced political pressure.

According to Simmons (2006), the evidence of treaty compliance is much better than Hathaway finds. It is startling to suggest that the labeling, monitoring, and reporting of abuses actually increases human rights violations. One of several weaknesses that Goodman and Jinks (2002) identify in Hathaway's work is the use of reported human rights violations as a dependent variable. As many human rights statisticians have explained, improvements in human rights conditions often increase access to information on the extent of violations. According to the UN (Heyns and Wiljoen 2001), "[t]he most common reason for non-ratification is that the treaties threaten the status quo." Hence, for many governments, the decision to ratify suggests a willingness to increase dialogue about domestic human rights practices. Hathaway's model cannot distinguish between states in which human rights abuses increase post-ratification and those in which abuses decline post-ratification but appear to increase because liberalization makes documenting and reporting abuses easier.

Enforcement Through the WTO:

The ILO's weak enforcement powers, the globalization of business, and the link between labor and the production of goods for export has galvanized a movement to make child labor illegal in the realm of WTO trade law (Langan 2002). In fact, some activists blame child labor and the accentuation of poverty on international trade itself. An award-winning article (Bullard 2001) asserts that "globalization could offer children an escape from lives of toil and drudgery, but instead, it draws more children into servitude."¹ There are several different channels through which labor standards might enter the WTO. Poorly protected standards might constitute dumping under GATT 1994 Article VI, be interpreted as a subsidy under GATT 1994 Article XVI, or be added to the list of general exceptions in Article XX (Brown, Deardorff, and Stern 2002). Bagwell and Staiger (2001) suggest that labor standards be dealt with under the

Nullification and Impairment clause; countries that raise standards would be entitled to raise import tariffs to offset the impact on trade volumes, and countries that loosen standards would have to grant offsetting tariff reductions to foreign suppliers.

Nevertheless, punitive sanctions linked to WTO agreements are “too blunt an instrument” (Gibb 2003) for expressing humanitarian concerns. This is due both to likely protectionism (Srinivasan 1996) and harm to affected workers. By only penalizing that use of child labor in export industries, such as carpets, garments, and soccer balls, they fail to take account that most parents who send their children to work do not do so out of sloth and meanness, but to escape extreme poverty (Basu and Van 1998). In such cases, pushing children out of export industries may deteriorate North-South trade flows (Flasbarth and Lips 2006) and cause the children to fall into worse situations. Between 5,000 and 7,000 young girls from the carpet industry were driven to prostitution in anticipation of trade sanctions (Basu 1999b).

Moreover, to the extent that foreign trade increases household incomes, it may lessen the economy’s reliance on child labor. Cross-country evidence shows that foreign trade exposure has no effect on child labor rates after income differences are controlled for (Cigno, Rosati, and Guarcello 2002). Edmonds and Pavcnik (2005) find that liberalization of the Vietnamese rice sector may have moved one million children out of child labor in the rice sector by increasing family incomes. The decline in child labor was greatest for secondary school-aged girls, who were consequently more likely to attend school.

Empirical Model:

My economic model predicts that ratification of Conventions Nos. 138 and 182 causes an increase in children’s welfare. This leads to a more productive society, increasing capital and labor and causing the production function to shift upwards. I used a basic regression model with

error term ε_i to test this hypothesis.

$$childwelfare_i = \alpha + \beta_1 ratification_i + \beta_2 input_i + \beta_3 control_i + \varepsilon_i$$

Data:

There are substantial difficulties in measuring variables as qualitative and complex as “children’s welfare” and “inputs into the production of children’s welfare.” As Basu (1999a) points out for the case of child labor, even if the definitions of “child” and “labor” are sorted out, official data is likely to be deficient due to the likelihood of underreporting. Since most countries place legal restrictions on child labor, parents and employers have an incentive to deny knowledge of “illegal” work by children. The 1983 Indian census for the state of Tamilnadu reported that 13 percent of children ages 5-14 were child laborers; if children who perform unpaid, non-market work are included, the figure jumps to 33 percent (Jayaraj and Subramanian 1997).

Similar problems are likely to be encountered with other proxies. In addition, data quality is likely to be further reduced for countries that have recently suffered from human or natural disasters (UNICEF 2007), especially if basic infrastructure has been fragmented or major populations have been displaced. The result of all this noisiness in the data is that regressions run under only one specification will not be very robust. In order to compensate for this, I chose multiple proxies for each x and y variable. Descriptions of my fifteen proxies for children’s welfare (UNICEF 2007) are displayed in table 1. School attendance is an especially useful proxy because it imposes limits on the hours and the nature of children’s work. Full-time school attendance is largely incompatible with the worst forms of child labor; in many countries, the establishment of universal schooling until age 14 has signaled the effective demise of child labor (Weiner 1991). The child labor rate, infant and under-5 mortality rates, life expectancy at birth,

and several measures of the physical effects of malnourishment complete the list of proxies.

Proxies for Children's Welfare	Description	Collecting Agency
Child labor (5-14 years)	A child is considered to be involved in child labor under one of two conditions: those ages 5-11 who did at least one hour of economic activity or at least 28 hours of domestic work during the week preceding the survey, and those ages 12-14 who did at least 14 hours of economic activity or at least 28 hours of domestic work during the week preceding the survey.	Multiple Indicator Cluster Surveys (MICS) and Demographic and Health Surveys (DHS)
Life expectancy at birth (years)	Measured as the number of years on average a new-born baby is expected to live, given current age-specific mortality risks. It is one of the most favored indicators of social development, and is used as one of the components in the UN Human Development Index. Beyond its obvious relevance to policy making for healthy children, life expectancy at birth is sensitive indicator of availability, utilization and quality of health care. Moreover, given its association with GNP per capita, family income, family size, mothers' education, and nutrition, it is also a good indicator of overall socio-economic development of a community.	UN Population Division (UNPD)
Infant mortality rate (under 1)	Measured as the number of children who die between birth and one year of age per 1,000 live births. Beyond its obvious relevance to policy making for healthy children, the infant mortality rate is sensitive indicator of the availability, utilization and quality of health care, particularly prenatal care. There are occasionally problems in collecting this data in less developed where civil registration of deaths is incomplete; many infants who die during the first weeks of life are never registered as having been born.	UNICEF, World Health Organization (WHO), UNPD, and UN Statistics Division (UNSD)
Under-5 mortality rate	Measured as the number of children who die between birth and five years of age per 1,000 live births.	
Average annual rate of reduction (%) in under-5 mortality rate	This indicator provides an assessment of progress towards the UN Millennium Declaration goal of a 67 per cent reduction in under-5 mortality rate from 1990 to 2015.	UNICEF, WHO, UNPD, and UNSD
Primary school attendance ratio, net: male	Measured as the percent of the total number of children of official primary school age who attend school. A low net attendance ratio signals inadequacies in the availability and utilization of schools, due to either the lack of school places or to other factors that prevent children from attending. The relevance of this indicator in many developed countries is limited, as primary and secondary school are compulsory with an attendance ratio of usually 100 percent.	UNESCO Institute for Statistics (UIS), MICS, and DHS
Primary school attendance ratio, net: female		
Percent of primary school entrants reaching grade 5, administrative data	Children who reach grade 5 of primary education are said to have acquired basic literacy. Indirectly, this indicator also reflects the quality and performance of schools. The general target is 100 percent, implying zero dropout. If there are problems of grade repetition and dropout as well as bottlenecks with regard to retention, children may not acquire the skills they need for a productive and meaningful life. This indicator is usually derived using the reconstructed cohort student flow method, similar to that used in demographics to determine survival rates from one age to the next. A key assumption of this method is that the dropout rate is independent of the age at which students enter school. If this condition does not hold, it may no longer be possible to isolate the original cohort of students entering grade 1 and the method will produce inaccurate	2000-2004, UIS.
Percent of primary school entrants reaching grade 5, survey data		1997-2005, MICS and DHS.

results.

Secondary school attendance ratio, net: male	Measured as the percent of the total number of children of official secondary or tertiary school age who attend school.	1996-2005, UIS, MICS and DHS, UNICEF.
Secondary school attendance ratio, net: female		
Percent of under-fives suffering from stunting: moderate & severe	Measured as the percent of children below minus two standard deviations from median height for their age for the reference population.	1996-2005, DHS, MICS, and WHO.
Percent of under-fives suffering from wasting: moderate & severe	Measured as the percent of children below minus two standard deviations from the median weight for their height for the reference population.	
Percent of under-fives suffering from underweight: moderate & severe	Measured as the percent of children below minus two standard deviations from the median weight for their age for the reference population.	
Percent of under-fives suffering from underweight: severe	Measured as the percent of children below minus three standard deviations from the median weight for their age for the reference population.	

Table 1: Description of Proxies for Children's Welfare

Table 2 presents the summary statistics for the proxies for children's welfare (UNICEF 2007). Data on the infant mortality rate, life expectancy at birth, under-5 mortality rate, and average annual rate of reduction in the under-5 mortality rate are available for nearly all the countries in my sample. Data on school attendance and child labor are available for less than half the countries. Overall, the statistics suggest that society has far to go before all children realize the rights enshrined in the UN Convention on the Rights of the Child. Moreover, there is considerable variation in many of the proxies, reflecting the diversity of countries considered. For example, the infant mortality rate, expressed as the number of deaths per 1000 live births, ranges from 2 to 165; the percent of children under five suffering from stunting (being too short for their age) ranges from 1 to 57; and the percent of children engaged in child labor ranges from 1 to 67.

Proxies for Children's Welfare	Time Period	Mean	Standard Deviation	Min	Max	Number of Observations
Child labor (5-14 years)	1999-2005	24.158	17.124	1	67	76
Infant mortality rate (under 1)	2005	40.731	40.195	2	165	193

Life expectancy at birth (years)	2005	65.601	12.628	30	82	178
Under-5 mortality rate	2005	59.078	66.430	3	282	193
Average annual rate of reduction (%) in under-5 mortality rate	1990-2005	3.208	1.979	0	10	190
Primary school attendance ratio, net: male	1996-2005	74.537	19.048	13	99	95
Primary school attendance ratio, net: female	1996-2005	72.126	21.756	11	100	95
Percent of primary school entrants reaching grade 5, administrative data	2000-2004	84.295	15.918	31	100	146
Percent of primary school entrants reaching grade 5, survey data	1997-2005	87.315	15.117	9	100	92
Secondary school attendance ratio, net: male	1996-2005	37.442	24.946	1	91	86
Secondary school attendance ratio, net: female	1996-2005	37.349	26.659	0	95	86
Percent of under-fives suffering from stunting: moderate & severe	1996-2005	24.778	14.316	1	57	126
Percent of under-fives suffering from wasting: moderate & severe	1996-2005	6.581	4.585	0	19	124
Percent of under-fives suffering from underweight: moderate & severe	1996-2005	17.740	12.914	1	48	127
Percent of under-fives suffering from underweight: severe	1996-2005	4.649	4.535	0	18	114

Table 2: Summary Statistics for Proxies for Children's Welfare

The children's welfare production function displays the maximum level of child welfare for each specific combination of inputs. In order to increase child welfare, there must be an increase in an input x_i , which will scale y by a factor of x_i . The inputs examined can be classified as education inputs, health inputs, and the input resulting from ratification of ILO Conventions Nos. 138 and 182. Descriptions of my six proxies for education and health inputs (UNICEF 2007) are presented in table 3. The percent of central government expenditure allocated to education indicates a government's overall commitment to education; the adult literacy rate is also important because a highly educated society should place a higher value on educating the next generation than a less educated one. In relation to health inputs, I chose the percent of central government expenditure allocated to health services, the accessibility of safe drinking water and sanitation facilities, and the extent of government-financed immunizations, care for children with suspected pneumonia, and care for children with diarrhea. Safe drinking water lowers the risk and frequency of disease; sanitation facilities contribute to general hygiene and

quality of life. The amount of treatment available to sick children measures to what extent a society has accepted the responsibility to care for its most vulnerable members.

Education Inputs	Description	Collecting Agency
Percent of central government expenditure allocated to education	An advantage this indicator is that inflationary trends and currency fluctuations do not affect the comparability of this ratio between countries. However, there are concerns about the availability and reliability of data covering both public and private expenditure on education; spending by non-government institutions for example, is difficult to capture. It should be noted that this indicator is merely the amount spent; it does not capture the quality or efficiency of schools.	International Monetary Fund (IMF)
Adult literacy rate	Measured as the percent of the population aged 15 years and over who can read and write. A limitation of this indicator is that the concept of literacy is relative; no single measure can separate the literate from the illiterate. While literacy should ideally be determined by measuring the reading, writing, and numeric abilities of each person within a social context, it would be too costly and time-consuming to collect such measurements during national population censuses. Therefore, literacy status is usually based on self-declaration or declaration of the head of household, giving rise to concerns about data reliability and comparability, especially for females in developing countries.	UIS
Health Inputs	Description	Collecting Agency
Percent of central government expenditure allocated to health	An advantage this indicator is that inflationary trends and currency fluctuations do not affect the comparability of this ratio between countries. A limitation of this indicator is that it does not capture the quality or efficiency of health services provided.	IMF
Percent of routine EPI vaccines financed by government	Measured as the percent of vaccines routinely administered to protect children and financed by the national government (including loans). Immunizations included in the Expanded Programme on Immunization (EPI) are those against tuberculosis, diphtheria, whooping cough and tetanus, and polio and measles. In addition, it includes the vaccination of pregnant women to protect babies against neonatal tetanus. In some countries, other vaccines, such as those against hepatitis B or yellow fever, may be included in the EPI.	UNICEF and WHO
Percent under-fives with suspected pneumonia taken to health-care provider	Measured as the percent of children ages 0-4 with cough and fast or difficult breathing, which are the key symptoms of pneumonia, in the past two weeks who receive care.	MICS and DHS
Percent under-fives with diarrhea receiving oral rehydration and continued feeding	Measured as the percent of children ages 0-4 who received oral rehydration solutions, recommended home-made fluids, or increased fluids and continued feeding.	MICS and DHS
Percent of population using improved drinking water sources	Access to drinking water means that the source is less than 1 kilometer away and that it is possible to reliably obtain at least 20 liters per day for each member of a household. Drinking water is considered safe if it meets WHO guidelines or national standards on drinking water quality.	UNICEF, WHO, MICS, and DHS
Percent of population using adequate sanitation facilities	Measured as the percent of the population with access to basic sanitation facilities, including safety and privacy in the use of these services.	

Table 3: Description of Proxies for Health Inputs and Education Inputs into the Production

of Children's Welfare

Table 4 presents the summary statistics for the proxies for health inputs and education inputs (UNICEF 2007). The overall picture is that countries could do much more to invest in their citizens' health and education. While the situation in some countries is excellent, with an adult literacy of 100 percent and 100 percent of the population having access to safe drinking water and adequate sanitation, in other countries the situation is dismal. For example, the adult literacy rate in Mali is only 19 percent. There is also variation in government funding for health and education. Of the 146 countries for which data is available, four (China, the Democratic Republic of the Congo, Switzerland, and the Republic of Korea) devote less than 1 percent of their central government budget to health. In other countries, however, government spending on health exceeds 20 percent of the central government budget.

Education Inputs	Time Period	Mean	Standard Deviation	Min	Max	Number of Observations
Percent of central government expenditure allocated to education	1994-2004	12.582	6.846	0	31	146
Adult literacy rate	2000-2004	79.232	20.680	19	100	112

Health Inputs	Time Period	Mean	Standard Deviation	Min	Max	Number of Observations
Percent of central government expenditure allocated to health	1994-2004	8.123	5.553	0	26	146
Percent of routine EPI vaccines financed by government	2005	72.441	38.480	0	100	177
Percent of under-fives with suspected pneumonia taken to health-care provider	1999-2005	52.340	19.595	12	99	97
Percent of under-fives with diarrhea receiving oral re-hydration and continued feeding	1998-2005	39.086	13.523	7	80	81
Percent of population using improved drinking water sources	2004	82.178	18.561	22	100	174
Percent of population using adequate sanitation facilities	2004	66.902	27.787	9	100	164

Table 4: Summary Statistics for Health Inputs and Education Inputs into the Production of Children's Welfare

The children's welfare production function is based on the assumption that each combination of inputs is utilized as efficiently as possible subject to exogenous constraints. In

an attempt to control for a country's level of economic development, the extent of corruption within the government, and the ability of the population to exercise its political rights, I chose five proxies, which are presented in table 5. Though I initially presumed that GNI per capita and the GDP per capita average annual growth rate would be roughly equivalent measures of a country's economy, they were not strongly correlated, so I used them both. The percent of the population living in urban areas is a rough indicator of an economy's structure and composition. The level of perceived government corruption and the extent of political rights are proxies for the degree of accountability faced by rulers. I included them based on the consideration that a state may have interests of its own apart from the maximization of children's welfare. For example, recent research has shown that a government's decision to commit to Convention No. 138 depends in large part on its expectation of domestic enforcement (Von Stein 2004).

Controls	Description	Collecting Agency
GNI per capita (US\$)	Gross national income (GNI) is the sum of value added by all producers, plus product taxes (less subsidies) and net receipts of primary income from abroad. GNI per capita in US dollars is calculated as a country's GNI divided by its midyear population and converted using the World Bank Atlas method. An often-cited limitation of this indicator is that it does not account for the social and environmental costs of production. Another possible limitation is that there may be differences in national accounting and demographic reporting procedures between countries.	World Bank
GDP per capita average annual growth rate (%)	Gross domestic product (GDP) is the sum of value added by all producers plus product taxes (less subsidies). GDP per capita is calculated as a country's GDP divided by its midyear population, and growth is calculated from constant price GDP data in local currency. The limitations of this indicator are similar to those for GNI per capita (US\$).	World Bank
Percent of population urbanized	Measured according to the national definition of urban areas used by each country in its most recent population census.	UNPD
Corruption Perceptions Index score (scale: 1-10)	Transparency International's annual Corruption Percept Index (CPI) ranks countries by their perceived levels of governmental and administrative corruption, as determined by expert assessments and opinion surveys. It defines corruption as the abuse of public office for private gain. The surveys used in compiling the CPI ask questions that relate to the misuse of public power for private benefit, such as bribery of public officials or embezzlement of public funds, as well as questions that probe the strength of anti-corruption policies.	Transparency International

Freedom House measure of political rights (scale: 1-7)	Freedom House's annual Freedom in the World report is a comparative assessment of global political rights and civil liberties. Political rights are defined as the ability "to vote freely for distinct alternatives in legitimate elections, [to] compete for public office, [to] join political parties and organizations, and [to] elect representatives who have a decisive impact on public policies and are accountable to the electorate." The Freedom House survey includes both analytical reports and numerical ratings; a detailed list of questions and guidelines are available on the organization's website.	Freedom House
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Table 5: Description of Controls²

Table 6 presents the summary statistics for the controls. Data are available for all (or nearly all) the countries in my sample. Again, there is considerable cross-country variation. GDP per capita growth rates are clustered around 2.234 percent per year, but range from 0 percent to 17 percent. GNI per capita measured in US dollars rises from a low of 100 to a high of 65,630. On Freedom House's 1-7 scale, with 1 indicating near absolute government repression, the average score on political freedom is 3.332. The average Corruption Perceptions Index score on a scale from 1-10, with 1 indicating an extremely high level of government corruption, is 3.947. Data for the first three controls are available from UNICEF (2007); for the fourth from Transparency International (2007), and for the fifth from Freedom House (2007). Transparency International and Freedom House are non-governmental organizations that publish annual assessments of the administrative and political climates within countries.

Controls	Time Period	Mean	Standard Deviation	Min	Max	Number of Observations
GNI per capita (US\$)	2005	7,964.728	12,886.730	100	65,630	184
GDP per capita average annual growth rate (%)	1990-2005	2.234	1.990	0	17	177
Percent of population urbanized	2005	55.518	23.349	8	100	195
Corruption Perceptions Index score (scale: 1-10)	2007	3.947	2.083	1	9	175
Freedom House measure of political rights (scale: 1-7)	2007	3.332	2.165	1	7	190

Table 6: Summary Statistics for Controls

The inputs I am interested in are whether a country has ratified Conventions No. 138 on

the Minimum Age for Employment and whether it has ratified Convention No. 182 on the Worst Forms of Child Labour. As seen in table 7, 165 countries have ratified No. 138 (ILO 2007a) and 150 have ratified No. 182 (ILO 2007b) as of December 2007. In addition to the two binary ratified/not-ratified variables (*RATIFIED138* and *RATIFIED182*), I also consider the number of years since ratification (*YRS138* and *YRS182*) on the theory that the length of time a convention has been in effect is positively correlated with its effectiveness in improving children's welfare.

Input Variables of Interest	Mean	Standard Deviation	Min	Max	Number of Observations
Ratification of Convention No. 138					150
Ratification of Convention No. 182					165
Years since ratification of ILO Convention No. 138	11.160	9.445	1	36	150
Years since ratification of ILO Convention No. 182	5.950	1.671	0	9	165

Table 7: Summary Statistics for Input Variables of Interest

A preliminary difference of means test supports my hypothesis that international child labor standards lead to improvements in children's welfare. Table 8 presents the average scores on my fifteen children's welfare proxies for four groups of countries: those that have ratified No. 138, those that have not ratified No. 138, those that have ratified No. 182, and those that have not ratified No. 182. Ratifying countries perform better than non-ratifying countries on every proxy for child welfare except one (the percent of primary school entrants reaching grade 5, survey data for Convention No. 138; the percent of primary school entrants reaching grade 5, administrative data, for Convention No. 182). Overall, they have lower child labor rates, lower infant and under-5 mortality rates, and lower percent of children suffering from malnourishment. As well, they have higher school attendance ratios for both primary and secondary school and higher life expectancy at birth.

Proxies for Children's Welfare	<i>RATIFIED138</i>		<i>RATIFIED182</i>	
	yes	no	yes	no
Child labor (5-14 years)	24	28	24	30
Infant mortality rate (under 1)	40	45	40	43
Life expectancy at birth (years)	66	65	66	64

Under-5 mortality rate	58	63	59	60
Average annual rate of reduction (%) in under-5 mortality rate	3.3	2.7	3.2	3
Primary school attendance ratio, net: male	75	73	75	69
Primary school attendance ratio, net: female	73	70	73	66
Percent of primary school entrants reaching grade 5, administrative data	84	83	84	85
Percent of primary school entrants reaching grade 5, survey data	86	91	88	84
Secondary school attendance ratio, net: male	39	33	38	34
Secondary school attendance ratio, net: female	38	35	38	34
Percent of under-fives suffering from stunting: moderate & severe	24	26	24	28
Percent of under-fives suffering from wasting: moderate & severe	6	8	6	9
Percent of under-fives suffering from underweight: moderate & severe	17	21	17	23
Percent of under-fives suffering from underweight: severe	4	6	4	6

Table 8: Children's Welfare in Countries that Have Ratified Conventions Nos. 138 and 182 and in Countries that Have Not

After observing the expected relationship between children's welfare and ratification of the ILO conventions most relevant to child labor, I sought to determine whether this relationship was one of causation or mere correlation. Was ratification or years since ratification causing variation in the y variables, or was this variation due to other factors?

For each of my fifteen proxies for child welfare, I ran twenty-four regressions. Twelve used the binary ratification input variables (*RATIFIED138* and *RATIFIED182*) with each possible combination of the two educational inputs and the six health inputs ($2 \times 6 = 12$). The second twelve used the years since ratification input variables (*YRS138* and *YRS182*) with each possible combination of the two educational inputs and the six health inputs ($2 \times 6 = 12$). This produced a total of 180 regressions, out of which I calculated the percent of the time that my variables of interest were statistically significant. A high percent would indicate that ratification of Conventions Nos. 138 and 182 had an effect on children's welfare under multiple specifications, which would confirm my hypothesis.

Results:

While my results the effectiveness of Conventions Nos. 138 and 182 in improving children's welfare were mixed, there was a surprising amount of evidence in support of No. 138.

Out of 180 total regressions, *RATIFIED182* and *YRS182* achieved statistical significance at the 90 percent confidence level ($P\text{-score} \leq 0.100$) only 8.33 percent of the time. However, *RATIFIED138* and *YRS138* achieved statistical significance 17.78 percent and 27.78 percent of the time, respectively. These two variables had an especially strong effect when the percent of under-fives who were severely underweight and the percent of under-fives who were moderately and severely underweight were used as proxies for children's welfare. *YRS138* also had a large effect on female primary school attendance, the average annual rate of reduction in the under-5 mortality rate, and the percent of primary school entrants reaching grade 5, administrative data.

Percent of regressions (out of 12) in which my variable of interest was statistically significant (zero unless noted otherwise)				
Proxies for Children's Welfare	<i>RATIFIED138</i>	<i>RATIFIED182</i>	<i>YRS138</i>	<i>YRS182</i>
Child labor (5-14 years)				
Infant mortality rate (under 1)	8.33		16.67	
Life expectancy at birth (years)				8.33
Under-5 mortality rate	8.33	8.33		
Average annual rate of reduction (%) in under-5 mortality rate	16.67	8.33	50	41.67
Primary school attendance ratio, net: male	8.33	25	16.67	
Primary school attendance ratio, net: female	8.33	33.33	41.67	
Percent of primary school entrants reaching grade 5, administrative data	25		58.33	8.33
Percent of primary school entrants reaching grade 5, survey data	25		8.33	8.33
Secondary school attendance ratio, net: male	25		8.33	
Secondary school attendance ratio, net: female	25	8.33	8.33	16.67
Percent of under-fives suffering from stunting: moderate & severe	8.33	16.67		
Percent of under-fives suffering from wasting: moderate & severe		16.67	25	41.67
Percent of under-fives suffering from underweight: moderate & severe	66.67	8.33	66.67	
Percent of under-fives suffering from underweight: severe	41.67		41.67	
Overall average	17.78	8.33	22.78	8.33

Table 9: Regression Results

The high level of statistical significance of *YRS138* is consistent with my hypothesis that ratification reflects a political commitment on the part of the state to utilize inputs into the

production function more efficiently, thus raising children's welfare. My results also indicate that the effects of ratification become more and more apparent the longer the convention has been in place. This link between children's welfare and years since ratification, rather between children's welfare and ratification itself, explains why *YRS182* was not very statistically significant. Convention No. 182, which was adopted in 1999, has had 26 fewer years to contribute to the development of a national framework for improving children's welfare than No. 138, which was adopted in 1973.

I next examined the relative size and direction of the effects of *YRS138* on the proxies for children's welfare. All statistically significant correlation coefficients for *YRS138* are presented in table 10. They show that a one-year increase in years since ratification of Convention No. 138 increases the female primary school attendance ratio by 0.677-0.993 percent and increases the corresponding male ratio by 0.531-0.689. It also increases the percent of students who reach grade 5, as measured by both administrative and survey data and decreases the percent of malnourished children under three of four measures. These effects are consistent with my hypothesis.

The correlation coefficients for the other proxies provide evidence neither for nor against my hypothesis. *YRS138* has no statistically significant effect on the child labor rate, the under-5 mortality rate, or the percent of under-fives suffering from stunting. In addition, nothing can be definitively concluded about its effect on life expectancy at birth, the infant mortality rate, or secondary school attendance because there is one coefficient for each of these proxies. The six negative coefficients for the average annual rate of reduction in the under-5 mortality rate might appear to contradict my thesis, but they can be easily explained by the principle of diminishing marginal returns. The average under-5 mortality rate in countries that have ratified Convention

No. 138 is 58 children per 1,000 live births, while the average in non-ratifying countries is 63 children. Thus, it is natural that additional reductions in the under-5 mortality rate in ratifying countries would be more difficult and costly than in non-ratifying countries.

Proxies for Children's Welfare	Correlation coefficient	Robust standard error	t	P > t
Child labor (5-14 years)				
Infant mortality rate (under 1)	-0.420	0.216	-1.95	0.054
Life expectancy at birth (years)	-0.367	0.214	-1.72	0.088
Under-5 mortality rate				
Average annual rate of reduction (%) in under-5 mortality rate	-0.026	0.015	-1.81	0.074
	-0.042	0.015	-2.74	0.007
	-0.044	0.016	-2.72	0.008
	-0.048	0.017	-2.78	0.007
	-0.046	0.017	-2.75	0.008
	-0.065	0.018	-3.54	0.001
Primary school attendance ratio, net: male	0.689	0.398	1.73	0.090
	0.531	0.298	1.78	0.081
Primary school attendance ratio, net: female	0.734	0.376	1.95	0.057
	0.779	0.374	2.08	0.042
	0.677	0.392	1.73	0.090
	0.993	0.437	2.27	0.028
	0.748	0.318	2.35	0.023
Percent of primary school entrants reaching grade 5, administrative data	0.259	0.122	2.12	0.037
	0.264	0.150	1.76	0.082
	0.288	0.148	1.94	0.055
	0.283	0.159	1.78	0.080
	0.509	0.245	2.08	0.044
	0.330	0.172	1.92	0.059
	0.301	0.162	1.86	0.068
Percent of primary school entrants reaching grade 5, survey data	0.417	0.242	1.72	0.092
Secondary school attendance ratio, net: male	-1.018	0.572	-1.78	0.084
Secondary school attendance ratio, net: female	-1.001	0.561	-1.78	0.083
Percent of under-fives suffering from stunting: moderate & severe				
Percent of under-fives suffering from wasting: moderate & severe	-0.097	0.046	-2.12	0.038
	-0.163	0.074	-2.19	0.034
	-0.082	0.043	-1.90	0.062
Percent of under-fives suffering from underweight: moderate & severe	-0.270	0.096	-2.81	0.006
	-0.317	0.092	-3.46	0.001
	-0.301	0.176	-1.71	0.095
	-0.314	0.097	-3.24	0.002
	-0.188	0.092	-2.03	0.046
	-0.195	0.084	-2.32	0.024
	-0.172	0.087	-1.98	0.052
	-0.208	0.089	-2.33	0.023
Percent of under-fives suffering from underweight: severe	-0.104	0.041	-2.55	0.013
	-0.119	0.046	-2.62	0.011
	-0.149	0.078	-1.91	0.062
	-0.204	0.086	-2.36	0.023

	-0.101	0.044	-2.29	0.026
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Table 9: Effect on Children's Welfare of Years Since Ratification of Convention No. 138

Conclusion:

In the ILO's Declaration of Philadelphia of 1944, the international community recognized that "labour is not a commodity." In short, economic development is not undertaken for its own sake but to improve the lives of human beings, especially children; international child labor standards exist to ensure that it remains focused on improving children's welfare. While ILO Conventions Nos. 138 and 182 recognize that policy actions must take into account a country's level of economic development, lowering labor standards may merely encourage the spread of low-wage, low-skill, and high-turnover industries and prevent a country from developing its economy upwards.

The elimination of child labor through the placement of child workers into school is a high-yielding global investment. Even if schooling does not directly cause children to exit the labor market, the resulting increase in educated workers creates a skill premium relative to other developing countries that increases wage rates, decreasing child labor. The first integrated study of economic costs and benefits (ILO 2004) finds that the global elimination of child labor and its replacement by universal education has a 6.7 to 1 ratio of benefits over costs. The total cost is estimated as just over \$760 billion over a 20-year period, which pales in comparison with other expenditures, especially debt servicing and military spending. The conclusions of the ILO study are in line with research conducted by the World Bank on the returns to education, and have been borne out in results from Viet Nam, where a relatively high percentage of the workforce has completed primary education (Cigno, Roati, and Guarcello 2002). The ILO study also reveals the economic character of eliminating child labor as a generational investment: after twenty years it would provide nothing but benefits derived from improved education and health, with no

further costs.

If there is any matter upon which countries seem to have agreed, it is of the danger and harm of premature and excessive child labor. Prior to my research, however, there was little empirical evidence on the importance of international child labor standards in addressing the problem. While activists pushed for universal ratification of the ILO conventions most relevant to child labor, some scholars argued that that ratification would do little to change conditions on the ground because standards are endogenous to individual economies (Srinivasen 1996, Brown, Deardorff and Stern 1996) and the conventions are not self-enforcing (Schachter 1991, Elliott and Freeman 2003).

Other scholars (Palley 2002, Nusbaum 1995) believe that a fair set of qualitative standards on child labor has the potential to reduce underlying labor market dysfunctions. By blocking off the low development path associated with the race to the bottom, they compel economies to shift to an alternative high development path that is more inclusive and deeper owing to its reliance on domestic markets. I assert that child labor standards, in addition to their positive impact on economic growth, also help to provide the impetus necessary for improvements in children's welfare. They accomplish this by fostering a political, legal, and institutional environment that is supportive of the rights of children laid out in UNICEF's CRC. If child labor standards are combined with better access to credit, improved education quality, empowerment of the poor with basic economic, social, and cultural rights, and some degree of legislation, such as compulsory schooling and banning the worst forms of child labor (Jafarey and Lahiri 2001), their effects may be substantial.

My empirical results provide some degree of support for this hypothesis. Convention No. 182, which has been in existence for less than ten years, had only a small impact on children's

welfare. However, ratification of Convention No. 138, which has been in existence twenty-six years longer than No. 182, was statistically significant 17.78 percent of the time, and years since ratification of No. 138 was significant 22.78 percent of the time. An increase in the number of years since a country's ratification of No. 138 increases male and female primary school attendance, increases the percent of students who reach grade 5, as measured by both administrative and survey data, and decreases the percent of malnourished children under three of four measures.

There are at least two reasons why the impact of international labor standards on children's welfare may even be greater than my results show. The considerable overlap in ratification of Conventions Nos. 138 and 182, as presented in table 10, may have diminished the statistical significance of either convention by itself. In addition, while the large number of proxies I chose for children's welfare and for inputs into the production of children's welfare may have helped to overcome some of the data noisiness, a significant amount probably remained. Either or both of these considerations could have caused a downward bias in my results, leading me to understate the importance of international labor standards in improving children's welfare.

		<i>RATIFIED18</i>	
		2	
		no	yes
<i>RATIFIED13</i>	no	29	18
	yes	3	147

Table 10: Number of Countries that Have Ratified Conventions Nos. 138 and 182

Considering the defenseless nature of children, their lack of political clout, and their mental, emotional, and developmental vulnerabilities, it is imperative that efforts to improve children's welfare are effective. There is thus a critical need for further research on the significance of the correlation between children's welfare and ratification of the ILO conventions most relevant to child labor. If there is no causative link, activists ought to direct their efforts

elsewhere, perhaps by providing services directly to affected children. However, if there is a causative link, as my results suggest, all countries must be guided toward ratification. At issue is nothing less than the welfare of some 191 million children.

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Footnotes:

¹ Interestingly, neither Bullard's article nor her source for the assertion (Senser 1995) has figures demonstrating that an increase in child labor has occurred, irrespective of the cause.

² Other controls that I considered include Official Development Assistance (ODA) inflow as a percent of recipient GNI, ODA inflow in millions, percent of the population below \$1 a day, percent of the population under age 5, percent of the population under age 18, the total fertility rate, the average annual rate of reduction (%) in fertility rate, birth registration, the population annual growth rate, Freedom House's measure of a country's civil liberties, Freedom House's measure of a country's freedom status, and the average annual growth rate of urban population (%). However, strong correlation between these controls led me to drop them from my model.