

THE STATE OF CHILD LABOR IN GUATEMALA:
ITS CAUSES AND DEVELOPMENT

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THE STATE OF CHILD LABOR IN GUATEMALA:
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I. INTRODUCTION

National Context

In its recent past Guatemala has been shaken by armed conflict, military regimes, political instability, human rights abuses, ethnic clashes, high levels of inequality of income and consumption distribution and exorbitant crime and poverty rates.

Guatemala's long history of ethnic and social unrest began at the outset of the sixteenth century when indigenous groups were colonized and put under the control of European settlers. With the arrival of the Spanish Guatemala's society became highly-segregated along ethnic lines. The colonized territory was ruled by Spanish settlers (*criollos*), who forced indigenous groups to work on their large landholdings known as *haciendas*.¹ Ethnic intermixing between *criollos* and indigenous people gave birth to persons of mixed-race, who came to be known as *ladinos*.² After gaining independence from Spain in 1821, Guatemala was ruled by a number of authoritarian and military leaders, who welcomed economic reforms and foreign direct investment in order to boost the country's economy. Foreign corporations, such as the United Fruit Company, were soon found among the largest landowners in Guatemala.

¹ Susanne Jonas, *The Battle for Guatemala: Rebels, Death Squads and U.S. Power* (Boulder, CO: Westview Press, 1991), 15.

² *Ibid.*, 16.

When the second democratically-elected president of the republic, Jacobo Arbenz, pushed for agricultural reform in the early 1950s, oligarchs and foreign companies alike expressed their disapproval. In order to maintain economic power of US firms in Guatemala and to fight the emergence of leftist ideologies, the Central Intelligence Agency (CIA) backed a coup, which forced Arbenz out of office in 1954. Political turmoil and tensions soon escalated and led to the 36 year internal armed conflict, in which an estimated 200,000 indigenous people were killed and disappeared.³

While struggling to deal with its internal problems linked to its past, Guatemala has also had to redefine its role as a peripheral and developing country in an increasingly interconnected global economy. After the failure of a regional economic development model and in midst of Latin America's debt crisis in the 1980s, the World Bank and the International Monetary Fund (IMF) offered their financial assistance. Debt alleviation was subject to various conditions such as the implementation of neoliberal reforms.⁴ Structural adjustment policies included resettlement of rural dwellers to export processing zones found near urban centers, restricted public spending on basic services and privatization of state-owned companies and resources.⁵ So far the results of neoliberal policies have been both promising and disappointing for Guatemala. In recent years overall poverty levels have declined and most social indicators have improved. Despite these positive developments, Guatemala's social indicators are extremely low compared

³ Amnesty International, "Annual Report 2011: Guatemala," <https://www.amnesty.org/en/region/guatemala/report-2011> (accessed October 8, 2012).

⁴ Liliana R. Goldin, "Rural Guatemala in Economic and Social Transition," in *Globalization and the Rural Poor in Latin America*, ed. William M. Loker (Boulder, CO: Lynne Rienner Publishers, 1998), 95-96.

⁵ Ibid., 96.

to other lower middle-income countries. In addition, foreign companies in the extractive and hydroelectric industries have exploited natural resources and harmed the environment. Guatemala has also suffered from a severe food crisis and is highly dependent on imports to feed its people.

In a country, in which levels of poverty and inequality are exacerbating and governmental regulations are rarely and/or slowly enforced, children comprise a notable part of the labor force. Child labor has been present in Guatemala for centuries and is highly embedded in the cultural and socioeconomic context of the country. Up to this day child labor continues to pose a serious risk on Guatemala's socioeconomic development. In Latin America, 14.1 million children are engaged in child labor, which ranks it third among the regions with the highest incidence of child labor.⁶ Within this region Bolivia, Ecuador and Guatemala are the countries with the highest rates of child labor.⁷ In 2006 approximately 18 percent of children between ages 7 and 14 (528,000) were involved in some form of labor in Guatemala.⁸ More than half of those children worked in the agricultural sector (64 percent), followed by trade (19 percent), manufacturing (10 percent) and the services sector (6 percent).⁹

⁶ International Labor Organization, *Accelerating Actions against Child Labor: Global Report under the Follow-Up to the ILO-Declaration of Fundamental Principles and Rights at Work* (Geneva: International Labor Organization, 2010b), 9.

⁷ Furio C. Rosati, Fabrizia Mealli, and Stephen Pudney, *Measuring the Economic Vulnerability of Children in Developing Countries: An Application to Guatemala* (Essex: University of Essex, 2006), 17.

⁸ International Labor Organization, *Trends in Children's Employment and Child Labor in the Latin America and Caribbean Region: Country Report for Guatemala* (Geneva: International Labor Organization, 2010a), 4.

⁹ *Ibid.*, 5.

Purpose

Given that child labor is caused by an intricate interplay of socioeconomic, political and cultural factors, the goal of my research is to study the principal determinants of child labor in Guatemala and to trace the development of child labor in the country over time. This thesis compares data on child labor and school enrollment drawn from household surveys from three different time periods (2000, 2006 and 2011). By means of a preliminary bivariate analysis with the data I intend to inform future research about the most highly correlated factors with child labor in Guatemala. In addition, the results provided in the analysis should facilitate the development of anti-child labor policies.

Defining Child Labor and Child Work

In the international debate on child labor two definitions for children's work participation have emerged: child labor and child work. Child labor includes any type of work that is detrimental to a child's development and affects education negatively. Child work, on the other hand, entails work that is not considered harmful to children and does not deprive them of schooling.¹⁰

International efforts have been made to address the problem of child labor and to reach a universally acceptable consensus on the rights of children. The most important international conventions addressing the rights of children and child labor in particular are *The Convention on the Rights of the Child*, *The Minimum Age Convention No. 138* and *The Worst Forms of Child Labor Convention No. 182*. The most comprehensive international treaty on children's rights is the United Nations *Convention on the Rights of*

¹⁰ International Labor Organization, "What is Child Labor," <http://www.ilo.org/ipec/facts/lang--en/index.htm> (accessed September 23, 2012).

the Child. This agreement identifies universal social, economic, cultural and political rights of children. In terms of child labor and education, it includes “the right to be protected from economic exploitation and from performing any work that is likely to be hazardous or to interfere with the child’s education, or to be harmful to the child’s health or physical, mental, spiritual, moral or social development” and “the right to education”.¹¹ The treaty has been ratified by 193 countries, including Guatemala.¹²

The Minimum Age Convention No. 138 specifies that the minimum age for children’s employment “shall not be less than the age of completion of compulsory schooling and, in any case, shall not be less than 15 years”.¹³ For countries in economic and educational development and for children undergoing an apprenticeship the minimum age is adjusted to 14. The exception to this rule constitutes work under potentially hazardous circumstances, for which the minimum age is restricted to 18. As a developing country Guatemala has set the minimum age for children’s employment at 14. As of September 2012, 161 countries had signed on to this convention; Guatemala being one of them.¹⁴

The Worst Forms of Child Labor Convention No. 182 defines the most hazardous types of child labor and provides a framework for the eradication of such work. The most

¹¹ United Nations, “Convention on the Rights of the Child,” <http://www2.ohchr.org/english/law/crc.htm#art32> (accessed September 23, 2012).

¹² United Nations, “Status as at 23-09-2012. Convention on the Rights of the Child,” http://treaties.un.org/Pages/ViewDetails.aspx?src=TREATY&mtdsg_no=IV-11&chapter=4&lang=en (accessed September 23, 2012).

¹³ International Labor Organization, “Convention 138: Minimum Age Convention,” <http://www2.ohchr.org/english/law/ageconvention.htm> (accessed September 23, 2012).

¹⁴ International Labor Organization, “Ratifications of the Fundamental Human Rights: Conventions by Country,” <http://www.ilo.org/ilolex/english/docs/declworld.htm> (accessed September 23, 2012).

hazardous forms include slavery (child trafficking, forced labor, armed recruitment and debt bondage), prostitution and any type of work harming a child's physical, mental or moral development.¹⁵ As of September 2012, 174 countries had signed on to this treaty, including Guatemala.¹⁶

¹⁵ International Labor Organization, "Convention 182: Convention Concerning the Prohibition and Immediate Action for the Elimination of the Worst Forms of Child Labor," <http://www.ilo.org/public/english/standards/relm/ilc/ilc87/com-chic.htm> (accessed September 23, 2012).

¹⁶ International Labor Organization, "Ratifications of the Fundamental Human Rights: Conventions by Country," <http://www.ilo.org/ilolex/english/docs/declworld.htm> (accessed September 23, 2012).

II. DETERMINANTS OF CHILD LABOR

Poverty

Poverty is known as one of the principal causes and effects of child labor.¹⁷

Average gross income per capita (GNI) and gross domestic product per capita (GDP) are the most commonly used measurement variables in poverty research. Both of them have been strongly related to incidences of child labor worldwide.¹⁸ Cross-country studies have shown that children are less likely to work in high-income than in low-income countries.¹⁹ Higher extreme poverty rates, lack of or low-quality education, cultural and social acceptance of child labor, and economies reliant on low-productivity tasks are some of the reasons making child labor more common in low-income countries.²⁰

¹⁷ Faraaz Siddiqi and Harry A. Patrinos, *Child Labor: Issues, Causes and Interventions* (Washington D.C.: World Bank, 1995), 5.

Drusilla K. Brown, "Child Labor in Latin America: Policy and Evidence," *World Economy* 24, no. 6 (2001): 4.

Richard Anker, "The Economics of Child Labor: A Framework for Measurement," *International Labor Review* 139, no. 3 (2000): 262.

¹⁸ Muriel Alectus et al., *Child Labor* (Geneva: International Labor Office, 2004), 83.

¹⁹ Kaushik Basu, "Child Labor: Cause, Consequence, and Cure, with Remarks on International Labor Standards," *Journal of Economic Literature* 37, no. 3 (1999): 1086-87.

Jean Fares and Dhushyanth Raju, *Child Labor across the Developing World: Patterns and Correlations* (Washington D.C.: World Bank, 2007), 12.

²⁰ Alectus et al., *Child Labor*, 84.

One of the most influential studies on the relationship between child labor and income is Kaushik Basu and Pham Hoang Van's model based on multiple equilibria in the labor market. Basu and Van analyze two different equilibria, one in which adult labor wages are high and child labor is nonexistent, and another one in which adult labor wages are low and child labor is prevalent. Basu and Van assume that child and adult workers are substitutes for one another and that parents are altruistic towards their children.²¹ Their main findings suggest that parents send their children to work out of financial necessity and that they withdraw them once they have reached a certain income level.

A variety of studies have confirmed Basu and Van's findings²² while others have challenged it.²³ In accordance with Basu and Van's theory, Eric V. Edmond's research shows that economic growth in Vietnam in the 1990s can account for up to 80 percent of the reductions in child labor in households located around the poverty line. While GDP per capita grew steadily at rates of almost 9 percent annually, poverty fell by 36 percent and child labor declined by approximately 30 percent.²⁴ Interestingly, increased GDP per capita rates led to a reduction in the incidence of child labor only for households around

²¹ Kaushik Basu and Pham Hoang Van, "The Economics of Child Labor," *American Economic Review*, 88 (1998): 416.

²² Christiaan Grootaert and Ravi Kanbur, "Child Labor: An Economic Perspective," *International Labor Review* 2, no. 134 (1995): 198.

Eric V. Edmonds, "Does Child Labor Decline with Improving Economic Status?" *The Journal of Human Resources* 40, no. 1 (2005): 95.

²³ Uma S. Kambhampati and Raji Rajan, "Economic Growth: A Panacea for Child Labor?" *World Development* 34, no. 3 (2006): 441.

Carol Ann Rogers and Kenneth A. Swinnerton, "Does Child Labor Decrease when Parental Incomes Rise?" *Journal of Political Economy* 112, no. 4 (2004): 945.

²⁴ Eric V. Edmonds and Nina Pavcnik, "Child Labor in the Global Economy," *The Journal of Economic Perspectives* 19, no. 1 (2005): 211.

the poverty line.²⁵ In this case overall economic growth fails to explain the decline in child labor in richer households over the same time period, indicating that factors other than poverty may account for the occurrence of child labor in wealthier households.²⁶

James G. Scoville, and Sonia Bhalotra and Zafiris Tzannatos are among the critics of Basu and Van's model. Scoville questions the theoretical model on the grounds of the adult-child labor substitutability principle. Contrary to Basu and Van's assumption of perfect substitutability, Scoville argues that child labor cannot be entirely replaced by adults.²⁷ Agricultural tasks requiring minimal skills such as handling livestock and collecting firewood and water and illegal service jobs such as child prostitution and slavery are only to some extent and certainly not in all of their characteristics substitutable by adults. Sonia Bhalotra and Zafiris Tzannatos challenge Basu and Van's model based on the idea of altruistic parents. They argue that parents might not necessarily be driven by altruism, but by more selfish interests.²⁸ This could be one of the reasons why child labor also occurs in households above the poverty line and not just in poor families.²⁹

A country's economy has been proven to be critical in facilitating the reduction or growth of child labor. Phases of economic growth have gone hand in hand with decreases in child labor whereas economic crises coupled with the lack of policies to weaken the

²⁵ Edmonds, "Does Child Labor Decline with Improving Economic Status?" 93.

²⁶ Ibid., 95.

²⁷ James G. Scoville, "Segmentation in the Market for Child Labor: The Economics of Child Labor Revisited," *American Journal of Economics and Sociology* 61, no. 3 (2002): 716.

²⁸ Sonia Bhalotra and Zafiris Tzannatos, *Child Labor: What Have We Learned?* (Washington D.C.: World Bank, 2003), 15.

²⁹ Ibid.

impact of economic hardships on the most vulnerable members of society have aggravated child employment.³⁰

In their comparative analysis of distinct socioeconomic regions in India Uma S. Kambhampati and Raji Rajan found that even though economic growth has the potential to reduce child labor in the long run, it can significantly increase it in the short run. Examining the relationship between the demand side of child labor and economic growth reveals that initial phases of economic growth are frequently accompanied by increases in the demand for low-skilled workers in rural underdeveloped areas.³¹ An increase in the number of low-skilled jobs in regions with high levels of extreme poverty open up new job opportunities for children, which were previously unavailable to them. However, the initial increase in the demand for child labor is proven to be reversed in the long term.³² Long-lasting steady economic growth leads to a decrease in unskilled labor opportunities and simultaneously to an increase in skilled labor jobs, ultimately rendering child labor unnecessary.

Along these lines it is important to note that the impact of economic growth can vary substantially in terms of region, sector, ethnicity and gender. Kambhampati and Rajan point out that economic growth is more likely to stimulate the demand for unskilled workers in economically underdeveloped states than in highly developed areas, in which it pushes the increase in skilled jobs.³³ As far as economic sectors are

³⁰ Pablo W. Ramírez et al., *Informe nacional sobre trabajo infantil en Guatemala* (Guatemala City: International Labor Organization, 2000), 31.

³¹ Uma S. Kambhampati and Raji Rajan, "Economic Growth: A Panacea for Child Labor?" *World Development* 34, no. 3 (2006): 428.

³² Ibid.

³³ Ibid., 440.

concerned, states which heavily rely on agriculture display higher rates of child labor than countries in which other economic sectors are dominant.³⁴ Jean Fares and Dhushyanth Raju's research on the relationship between GDP growth and child labor shows that "a 1 percent increase in the share of agriculture in GDP is associated with a 3.2 percent increase in the share of children working".³⁵ In terms of gender, Kambhampati and Rajan discovered that when growth is equally distributed among social classes girls' employment is likely to increase while the boys' work participation is not necessarily affected.³⁶ Among ethnic and religious groups in India, Muslim children are the least likely to work while children from "scheduled castes and tribes" are most likely to be found in employment.³⁷

Even though Guatemala is defined as a lower middle-income country by the World Bank, 40 percent of its population lives in poverty and 13 percent in extreme poverty.³⁸ Poverty rates remained fairly constant while GNI and GDP per capita rates grew considerably in the past decade. GNI per capita steadily grew from \$1,512 in 2000 to \$2,870 in 2011.³⁹ GDP per capita grew on average 0.85 percentage points fluctuating

³⁴ Kambhampati and Rajan, "Economic Growth," 440.

³⁵ Fares and Raju, *Child Labor across the Developing World*, 12.

³⁶ Kambhampati and Rajan, "Economic Growth: A Panacea for Child Labor?" 437.

³⁷ *Ibid.*, 436.

³⁸ Guatemalan National Institute of Statistics, *Resumen: ENCOVI 2011* (Guatemala City: Guatemalan National Institute of Statistics, 2011), 10.

³⁹ The World Bank, "Data: Guatemala," <http://data.worldbank.org/country/guatemala> (accessed September 23, 2012).

between the highest rate of 3.7 percentage points in 2007 and the lowest rate of -1.9 in 2009.⁴⁰

This development points towards the uneven income and consumption distribution in Guatemala. As a matter of fact, Guatemala's unequal socioeconomic development has divided the country in areas of high and low employment and consumption opportunities. Inequalities in income distribution and consumption behavior reflect the country's deeply divided society. Almost 60 percent of total income is earned by 20 percent of the population and 40 percent of consumption is attributed to the wealthiest 10 percent of Guatemalans.⁴¹ Compared to other countries in Latin America, Guatemala has the lowest level of tax revenues and the second lowest level of social expenditure.⁴² Therefore, fighting poverty, inequality and providing basic services and safety nets is an enormous challenge for policy makers. The extent of inequality should be of concern in fighting child labor in Guatemala because research has found that inequities in income distribution can be correlated with child labor. For example, in a study on the role of credit constraints on child labor Priya Ranjan found that unequal income distribution is associated with higher rates of child labor.⁴³

⁴⁰ Economic Commission for Latin America and the Caribbean, *Economic Survey of Latin America and the Caribbean, 2010-2011* (Santiago: United Nations Publication, 2011), 104.

⁴¹ Thomas Klak, "Globalization, Neoliberalism and Economic Change in Central America and the Caribbean," in *Latin America Transformed: Globalization and Modernity*, eds. Robert N. Gwynne and Cristóbal Kay (New York, NY: Oxford University Press, 1999), 102.

⁴² Ricardo Zepeda, *Sowing Seeds: Opportunities and Challenges facing US Assistance for Food Security in Guatemala* (Oxford: Oxfam, 2012), 8.

⁴³ Priya Ranjan, "Credit Constraints and the Phenomenon of Child Labor," *Journal of Development Economics* 64, no. 1 (2001): 83.

Economic growth has unarguably the potential to reduce child labor, but the extent to which it influences children's participation in economic activities depends highly on the distribution of growth in the country.⁴⁴ In a state marked by inequality of income and opportunities such as Guatemala a small elite has historically reaped the benefits of economic growth while the poor have struggled to sustain their families.

Supply-Side Factors

Supply-side factors define the number of available children for work whereas demand-side factors relate to the availability of positions for children. Family-related variables count among the determinants most highly associated with child labor. The parents' income and education, the number of household members, the gender of the household head, and landownership and assets form the supply-side factors of child labor.

Parents' Wages and Education

Parents' wages and education can have a profound impact on the prevalence of child labor.⁴⁵ While increases in both the father's and mother's income generally reduce child labor and promote school attendance, the mother's wage seems to be more relevant. This was observed in a study on child labor in Egypt, in which a 10 percent increase in the mother's income led to a decline of 27 percent in working hours for children

⁴⁴ Sarah L. Bachman, "A New Economics of Child Labor: Searching for Answers behind the Headlines," *Journal of International Affairs* 53, no. 2 (2000): 562.

⁴⁵ Alectus et al., *Child Labor*, 77.

Furio C. Rosati and Zafiris Tzannatos, "Child Labor in Vietnam," *Pacific Economic Review* 11, no. 1 (2006): 20.

aged 6 to 11.⁴⁶ In contrast, the father's income was positively correlated with the incidence of child labor.⁴⁷

The effect of the mother's income itself can also vary considerably in terms of the child's gender. As observed in Kenya, maternal wage raises are positively correlated with boys' school attendance rates while adversely affecting girls' school attendance.⁴⁸ The girls' tendency to replace their mother's role at home when they obtain employment is likely to account for this gender differentiation. When their mothers take on jobs, girls tend to become responsible for household chores and care for their younger siblings; tasks which are time-consuming and can therefore have a negative effect on their school attendance.

The parents' educational level can also influence the probability of a child being sent to either school or work. Evidence from Peru and Pakistan indicates that improving the educational attainment of both the mother and the father can lead to lower rates of child labor and higher rates of school attendance.⁴⁹ The mother's education seems to be again of a more determining nature than the father's with respect to both child labor and school attendance. Research in India reveals that children from mothers who have not completed primary school are more likely to work and less likely to be in school than

⁴⁶ Victor Levy, "Cropping Pattern, Mechanization, Child Labor, and Fertility Behavior in a Farming Economy: Rural Egypt," *Economic Development and Cultural Change* 33, no. 4 (1985): 788.

⁴⁷ *Ibid.*, 786.

⁴⁸ Elena Glinskaya, Marito García, and Michael M. Lokshin, *The Effect of Early Childhood Development Programs on Women's Labor Force Participation and Older Children's Schooling in Kenya* (Washington D.C.: World Bank, 2000), 20.

⁴⁹ Ranjan Ray, "Child Labor, Child Schooling, and their Interaction with Adult Labor: Empirical Evidence for Peru and Pakistan," *The World Bank Economic Review* 14, no. 2 (2000): 361, 365.

children from educated mothers.⁵⁰ The father's educational attainment did not have a measurable effect on the child's likelihood to either go to school or work. Similar results were found in a study on child farm laborers in Pakistan and Ghana. In both countries the mother's secondary education proved to be an indicator of lower incidences of child labor while the role of the father's schooling was only found to be significant for girls in Pakistan, but not in Ghana.⁵¹ Research on child labor in Vietnam also demonstrated that the mother's education has a greater impact than the father's.⁵² The importance of the mother's education over the father's might be linked to the significance of fertility rates for the incidence of child labor. A woman's educational level has been correlated with fertility rates to the degree that higher levels of education are negatively correlated with fertility rates. Women who have fewer children tend to "invest more in their quality, or human capital".⁵³ In other words, they are more likely to enroll their children in school and less likely to have them work. The different findings in this section indicate the need for individual country's case studies on the determinants of child labor in order to observe how variables interact in each country. As pointed out by Bhalotra and Tzannatos, variations in studies can in part also be attributed to differences in research methodologies and data collection.⁵⁴

⁵⁰ Alessandro Cigno, Furio C. Rosati, and Zafiris Tzannatos, *Child Labor, Nutrition and Education in Rural India: An Economic Analysis of Parental Choice and Policy Options* (Washington D.C.: World Bank, 2001), 23.

⁵¹ Sonia Bhalotra and Christopher Heady, *Child Farm Labor: Theory and Evidence* (London: London School of Economics and Political Science, 2000), 35.

⁵² Rosati and Tzannatos, "Child Labor in Vietnam," 20.

⁵³ Bhalotra and Heady. *Child Farm Labor*, 35.

⁵⁴ Bhalotra and Tzannatos, *Child Labor*, 36.

Number of Household Members and Gender of the Household Head

The number of household members and the gender of the household head can contribute to the occurrence of child labor. Several studies have found that children in larger households are more likely to work and less likely to attend school.⁵⁵ As a matter of fact, larger households need more money to cover the expenses of family members than smaller households.⁵⁶ The household's income of poor families might not be sufficient to cover the expenses of basic services for each child. In such cases parents might be prompted to withdraw their children from school and send them to work in order to supplement the household's income.⁵⁷ Within larger families children are commonly appointed certain roles, some may be sent to work while others attend school. The parents' decision of who works and who studies can be influenced by their children's age.⁵⁸ In general, older siblings are the ones who are sent off to work while their younger siblings attend school.⁵⁹ This coincides with the fact that child labor increases with age.⁶⁰ Even though the number of household members can have an impact on child labor and

⁵⁵ Alessandro Maffei, Nikolai Raabe, and Heinrich W. Ursprung, "Political Repression and Child Labor: Theory and Empirical Evidence," *The World Economy* 29, no. 2 (2006): 223.

Harry A. Patrinos and George Psacharopoulos, "Family Size, Schooling and Child Labor in Peru: An Empirical Analysis," *Journal of Population Economics* 10, no. 4 (1997): 396.

⁵⁶ Maffei, Raabe, and Ursprung, "Political Repression and Child Labor," 330.

⁵⁷ Ibid.

⁵⁸ Drusilla Brown, Alan V. Deardorff, and Robert M. Stern, *The Determinants of Child Labor: Theory and Evidence* (Ann Arbor, MI: The University of Michigan, 2002), 6.

⁵⁹ Ibid., 22.

⁶⁰ Ximena V. Del Carpio and Norman V. Loayza, *The Impact of Wealth on the Amount and Quality of Child Labor* (Washington D.C.: World Bank, 2012), 17.

Marcel Fafchamps and Jackline Wahba, *Child Labor, Urban Proximity, and Household Composition* (Bonn: Institute for the Study of Labor, 2006), 23.

school attainment, it does not necessarily have to. In a study on child farm workers in Pakistan and Ghana household size did not significantly affect child labor.⁶¹

The gender of the household head may play a determining role in the incidence of child labor. Research has shown that children in households headed by women are more likely to work and less likely to attend school than children in households under male leadership. Harry A. Patrinos and George Psacharopoulos found that to be true for children in Paraguay.⁶² Sonia Bhalotra and Christopher Heady, and Christiaan Grootaert obtained similar results for rural Pakistan and rural Côte d'Ivoire.⁶³ The gender of the household head can also determine the child's activity as found in a study on child labor and schooling in Nicaragua. In female-headed households children tend to be responsible for household chores whereas in male-headed households they tend to engage in farm work. This seems to correspond with the above-mentioned reality that children, particularly girls, take on housework, when their mothers find employment. Single mothers are likely to work outside of their home in order to sustain their family and are likely to have their children take care of duties within the household.

Landownership and Assets

In contrast to the positive role of parents' education and income, land holdings can have ambivalent effects on a child's development. While landowners have typically more money and resources at their disposal to send their children to school than landless

⁶¹ Bhalotra and Heady, *Child Farm Labor*, 35.

⁶² Harry A. Patrinos and George Psacharopoulos, "Educational Performance and Child Labor in Paraguay," *International Journal of Educational Development*, 15 (1994): 56.

⁶³ Bhalotra and Heady, *Child Farm Labor*, 35.

Christiaan Grootaert, *Child Labor in Côte d'Ivoire: Incidence and Determinants* (Washington D.C.: World Bank, 1998), 53.

parents, they also tend to be more in need of family labor to work their land. Due to the common occurrence of imperfect labor markets in developing countries, families with large land sizes might be unable to hire workers for their land and might therefore be inclined to employ household members.⁶⁴ Given that need, children of rural landowners are more likely to engage in economic activities than children of landless parents.⁶⁵ In addition to the lack of workers, there is a personal factor which induces landowners to employ family members rather than an external labor force. Landowners consider their family members “to be more reliable, honest and disciplined” than strangers.⁶⁶ Family workers are moreover deemed to be more productive and effective because they “have a personal financial stake in the enterprise”.⁶⁷

The relationship between child labor and land holdings is more obvious for girls than for boys. Such gender disparities are reflected in the results of a study on child farm laborers in Pakistan and Ghana.⁶⁸ The findings indicate that larger farm size increases girls’ involvement in economic activities, but does not significantly affect the boys’ labor rates.⁶⁹ The probability of children working on family farms also depends on the size of

⁶⁴ Bhalotra and Heady, *Child Farm Labor*, 1.

⁶⁵ Anker, “The Economics of Child Labor,” 268.

⁶⁶ Brown, Deardorff, and Stern, *The Determinants of Child Labor*, 28.

⁶⁷ Ibid.

⁶⁸ Bhalotra and Heady, *Child Farm Labor*, 27.

⁶⁹ Ibid.

the land. Larger land size will initially give rise to more child labor, but will eventually cause a fall in child labor found around the four acres of land line.⁷⁰

Demand-Side Factors

As any other form of economic activity, child labor is governed by supply and demand. The more children are available to work for prospective employers, the less money they will be paid for their services. On the other hand, the more labor opportunities are available for children, the higher the remuneration for services will be.⁷¹ Families who are in need for additional household income might be constrained from putting their children to work due to demand-side factors which are not in their hands.⁷² Demand-side factors include the country's economic setup and production system and the employers' attitude towards child labor.

Each country's economic setup and production system play a crucial role in the probability of child labor.⁷³ The eradication of child labor in economies in which children are assigned specific jobs suitable to their physical traits (i.e. delicate handwork and tasks requiring basic skills) may lead to overall economic disorder and instability. Countries in which child labor can be easily substituted by adults can make an easier transition to an economic system free of child labor.⁷⁴ In states in which "backwards and labor intense

⁷⁰ Kaushik Basu, Sanghamitra Das, and Bhaskar Dutta, "Child Labor and Household Wealth: Theory and Empirical Evidence of an Inverted-U," *Journal of Development Economics* 91, no. 1 (2010): 8.

⁷¹ Alectus et al., *Child Labor*, 100.

⁷² Brown, Deardorff, and Stern, *The Determinants of Child Labor*, 20.

⁷³ Bachman, "A New Economics of Child Labor," 560.
Grootaert and Kanbur, "Child Labor," 191.

⁷⁴ Alectus et al., *Child Labor*, 100.

production systems” are the rule, the demand for child labor will be higher.⁷⁵

Guatemala’s economy is marked by a high percentage of unskilled laborers and a low percentage of skilled workers. The disproportionate rate of unskilled workers has negative implications for Guatemala’s socioeconomic development. The predominance of an unskilled and low-skilled work force can constrain economic growth.⁷⁶

Historically, the modernization of production systems and technological advances have played an important role in the decline in child labor. Changes in production systems as occurred during the Industrial Revolution and the Green Revolution in India, and technological advances in agriculture in Egypt and in mining in Columbia have contributed to a drop in child labor.⁷⁷ In the majority of those cases the reduction of child labor was accompanied by mandatory schooling laws and the expansion of the education system.⁷⁸

Despite the overall positive effect of technological advances on the incidence of child labor, new types of production facilities (e.g. *maquiladoras*) have de novo created a greater need for an unskilled labor force with attributes typical of children and women (e.g. nimble fingers).⁷⁹ *Maquiladora* workers are exposed to low-paid jobs (average daily

⁷⁵ Brown, Deardorff, and Stern, *The Determinants of Child Labor*, 25.

⁷⁶ Aridane Hernández, *Guatemala: The Perfect Storm; Impact of Climate Change and the Economic Crisis on Children and Adolescents* (Guatemala City: The United Nations Children’s Fund, 2010), 22.

⁷⁷ Grootaert and Kanbur, “Child Labor,” 196.

Victor Levy, “Cropping Pattern, Mechanization, Child Labor, and Fertility Behavior in a Farming Economy: Rural Egypt,” *Economic Development and Cultural Change* 33, no. 4 (1985): 789.

⁷⁸ Edmonds and Pavcnik, “Child Labor in the Global Economy,” 214.

Bachman, “A New Economics of Child Labor,” 547-48.

⁷⁹ Grootaert and Kanbur, “Child Labor,” 196.

wage \$3 in Guatemala),⁸⁰ extended working hours, poor and at times hazardous working conditions and are prohibited from forming labor unions. Having come under international criticism in the past, most of the 216 *maquiladoras* operating in Guatemala now choose to employ women rather than children.⁸¹

The attitude of employers towards child labor also has an impact on the likelihood of children getting hired. In the case of Guatemala, child labor is generally accepted or overlooked. The broad social acceptance of child labor seems to be shared by employers in certain economic sectors such as coffee production. In a study on child labor in Guatemala's coffee sector plantation owners were found to rather accept child labor as a justifiable reality than to condemn it.⁸²

It is generally believed that employers prefer hiring children because of their physical features (i.e. nimble fingers). However, the argument that their physical attributes make children more suitable for certain tasks has been contested. Adults, especially women, are found to be suitable substitutes for children as seen in India's carpet industry and in New England's textile factories.⁸³ In the former case children were actually found to be "less productive and produced lower quality carpets than adults".⁸⁴

⁸⁰ Goldin, "Rural Guatemala in Economic and Social Transition," 99.

⁸¹ Human Rights Watch, "Annual Report 2011: Guatemala," http://www.hrw.org/sites/default/files/related_material/guatemala_0.pdf (accessed September 23, 2012).

⁸² Luisa Quiroz, *Child Labor in the Coffee Sector of Guatemala* (Amsterdam: International Research on Working Children, 2008b), 71.

⁸³ International Labor Organization. *Child Labor: Targeting the Intolerable* (Geneva: International Labor Organization, 1996), 15.

Bachman, "A New Economics of Child Labor," 559.

⁸⁴ Bachman, "A New Economics of Child Labor," 559.

In contrast to the Industrial Revolution practices in Great Britain, in which children were an important labor force in factories, plant owners in New Hampshire and Northern Massachusetts employed mainly young women at the same time.⁸⁵ Those women were considered as suitable for the work as children would have been.⁸⁶ Despite high degrees of substitutability, children cannot be easily replaced by adults in the most hazardous forms of child labor (i.e. drug trafficking, sexual exploitation and mining) because these jobs revolve around the children's physical features.⁸⁷ In Guatemala children's features are found to be relevant in two of the most hazardous forms of child labor: mining and firecracker production.⁸⁸

Availability and Quality of Education

Child labor has been closely related to the availability and quality of education.⁸⁹ In areas where basic education is not available or only available at a cost, children are more likely to engage in labor activities. Increases in child labor have the potential to affect school-related variables such as attendance and attainment adversely.⁹⁰ Research on the effect of child labor on education in Vietnam over two periods (1993 and 1998)

⁸⁵ Brown, Deardorff, and Stern, *The Determinants of Child Labor*, 42.

⁸⁶ Ibid.

⁸⁷ Ibid., 27.
Scoville, "Segmentation in the Market for Child Labor," 716.

⁸⁸ Lorenzo Guarcello, Gabriella Breglia, and Scott Lyon, "Child Labor in Guatemala," in *The World of Child Labor: An Historical and Regional Survey*, ed. Hugh D. Hindma (Armonk, NY: M.E. Sharpe, 2009), 388.

⁸⁹ Alessandro Cigno, Furio C. Rosati, and Zafiris Tzannatos, *Handbook of Child Labor* (Washington D.C.: World Bank, 2002), 37-38.

⁹⁰ Kathleen Beegle, Rajeev H. Dehejia, and Roberta Gatti, "Why Should We Care about Child Labor? The Education, Labor Market, and Health Consequences of Child Labor," *Journal of Human Resources* 44, no. 4 (2009): 883.

ascertains that child labor can have a negative impact on the educational attainment of children. Children who were engaged in economic activities displayed lower educational attainment rates than children who were only in school.⁹¹ Even though it is widely believed that work negatively affects a child's education, research has demonstrated that children who combine work and school do not necessarily score lower on exams as long as working hours are limited to approximately 10 hours a week.⁹²

School attendance and completion do not necessarily guarantee the acquisition of knowledge, particularly in areas of low-quality schooling.⁹³ Parents deciding on their children's time allocation might consider understaffed schools with unqualified teachers as an unappealing option. Offering qualitative education should be a priority for governments in order to ensure that education is an attractive alternative to work for children.⁹⁴

Guatemala's educational system is divided into four levels. After completing six years of primary school, children move on to three years of secondary school, followed by three years of high school, which prepares them for university.⁹⁵ Even though primary school education is offered for free in Guatemala, school related expenses (i.e. school supplies, uniforms, books and transportation costs) have to be covered for the most part by the parents. Education expenditure in Guatemala is fairly low at 3.2 percent of GDP

⁹¹ Beegle, Dehejia, and Gatti, "Why Should We Care about Child Labor?" 883.

⁹² Bachman, "A New Economics of Child Labor," 557.
Anker, "The Economics of Child Labor," 261.

⁹³ Anker, "The Economics of Child Labor," 272.

⁹⁴ Ibid.

⁹⁵ Classbase, "Education System in Guatemala,"
<http://www.classbase.com/Countries/Guatemala/Education-System> (accessed September 23, 2012).

compared to the average rate of 4.4 percent in Latin America. In 2007 public spending on primary education per student was \$400 in Guatemala in comparison to an average of over \$5,000 in developed countries.⁹⁶ Primary school enrollment was reported to be fairly high at 96 percent between 2007 and 2009.⁹⁷ Despite those high levels of primary school enrollment, literacy rates and educational attainment remain extremely low in Guatemala. Up to 30 percent of the total population over 15 years of age is illiterate.⁹⁸ Moreover, drop-out and repetition rates are relatively high among primary school students. While up to 96 percent of children were enrolled in primary school between 2007 and 2009, only 65 percent reached the last grade of primary school.⁹⁹

Social and Cultural Norms

In order to fully understand child labor, social views and perceptions of children's rights in developing countries need to be taken into consideration. The concept of childhood as a phase separate from adulthood in which children "need to be protected, nurtured and educated" has mainly been constructed by Western societies.¹⁰⁰ In the rest of the world the distinction between childhood and adulthood is not as clear-cut and roles

⁹⁶ Jeffrey M. Puryear and Tamara Ortega Goodspeed, "How Can Education Help Latin America Develop?" in *Latin America 2040: Breaking Away from Complacency; An Agenda for Resurgence*, ed. Vinod K. Goel (Thousand Oaks, CA: Sage Publications, 2010), 167.

⁹⁷ Unicef, "At a Glance: Guatemala," http://www.unicef.org/infobycountry/guatemala_statistics.html (accessed October 8, 2012).

⁹⁸ Central Intelligence Agency, "The World Factbook: Guatemala," <https://www.cia.gov/library/publications/the-world-factbook/geos/gt.html> (accessed September 23, 2012).

⁹⁹ Unicef, "At a Glance: Guatemala," http://www.unicef.org/infobycountry/guatemala_statistics.html (accessed October 8, 2012).

¹⁰⁰ Roland Pierik and Mijke Houwerzijl, "Western Policies on Child Labor Abroad," *Ethics and International Affairs* 20, no. 2 (2006): 198-99.

and responsibilities attributed to those stages can overlap. Contrary to popular assumptions in the developed world, child work does not necessarily affect a child's development in a negative way. Working can actually equip children with a sense of responsibility and a set of valuable skills which may not be available by means of education.¹⁰¹ However, in the face of technological advances and globalization those sets of skills are no longer considered as valuable as those acquired through education.¹⁰² Provided that child work is not hazardous to the child's development, it can even be in the child's interest. By contributing to the family's income children can obtain higher levels of decision-making within the household and/or decide more autonomously about their future.¹⁰³

The colonial past of Guatemala is of significance for the incidence of child labor. With the arrival of the colonizers new values and social patterns were introduced. Indigenous groups were coerced into a system with defined roles, in which they served the colonizers submissively.¹⁰⁴ Indigenous children either continued to work in traditionally-defined jobs or accompanied their parents in the newly-created forms of servitude.¹⁰⁵ After gaining independence from Spain, many indigenous workers were employed by powerful oligarchs with large landholdings. Guatemala's colonial past established societal roles, which seem to linger in certain sectors such as coffee

¹⁰¹ Bachman, "A New Economics of Child Labor," 554.
Anker, "The Economics of Child Labor," 259.

¹⁰² Anker, "The Economics of Child Labor," 259.

¹⁰³ Bachman, "A New Economics of Child Labor," 557.

¹⁰⁴ María Cristina Salazar, "La significación social del trabajo infantil y juvenil en América Latina y el Caribe," *Revista Colombiana de Educación*, no. 28 (1994): 45.

¹⁰⁵ Ibid.

production. Many landless indigenous workers offer their labor force on plantations in exchange for accommodation and remuneration. Children become familiar with this type of work by accompanying their parents to the plantations and helping them out.

As mentioned before, child labor is generally accepted and/or overlooked in Guatemala. The high acceptance of child labor in indigenous Mayan communities is rooted in their traditional values.¹⁰⁶ According to their cultural beliefs child labor is considered a form of education through which children are instructed in the work and responsibilities of an adult.¹⁰⁷ These beliefs are echoed by the plantation and quarry workers in Guatemala. Even though the principal reason for sending children to work are of an economic nature on plantation farms, social and cultural beliefs are also of importance.¹⁰⁸ Across the coffee community of Chanchicupe and the families working in quarrying in Pomarrosal, parents share the belief that children should be kept busy because working helps them to become responsible adults.¹⁰⁹

In the eyes of those parents, who are confined to the small town experience, the link between education and better opportunities is not always evident. They see the future of their children on family farms or on plantations and have hardly ever heard of any positive examples of educated individuals moving out of this type of work.¹¹⁰ For

¹⁰⁶ M. Najeeb Shafiq and Harry A. Patrinos, *A Positive Stigma For Child Labor?* (Washington D.C.: World Bank, 2008), 1.

¹⁰⁷ Ramírez et al., *Informe nacional sobre trabajo infantil en Guatemala*, 19.

¹⁰⁸ Quiroz, *Child Labor in the Coffee Sector of Guatemala*, 65.

¹⁰⁹ Ibid.

Luisa Quiroz, *Child Labor and Quarrying in Guatemala* (Amsterdam: International Research on Working Children, 2008a), 50.

¹¹⁰ Quiroz, *Child Labor in the Coffee Sector of Guatemala*, 66.

parents, children can acquire useful skills required for their future jobs by accompanying them to their work and working by their side.¹¹¹ Luisa Quiroz's interviews with migrant workers also reflect a certain level of indifference among adult coffee workers with regard to their children's education. They offer their offspring the choice to attend school, but if they do not want to, they accept it easily and let them work.¹¹²

Fear of idleness is another reason why parents are inclined to send their children to work.¹¹³ As waves of urbanization have swept over developing countries in recent decades, slum settlements have formed rapidly, in which access to basic services (i.e. health, education and sanitation) is scarce. Unemployment and work in the informal economy is high in these underdeveloped areas, leading to high rates of crime. The parents' fear of their children getting involved with gang members coupled with the lack of access to education makes parents opt for work rather than other activities for their children. This was observed in Quiroz's study on child labor in the coffee and quarrying sectors. Parents were convinced that working keeps their children from engaging in illegal activities and mingling with the wrong type of people.¹¹⁴ According to the ENCOVI 2011 data a relatively small number of children (7 percent to be exact) fall in the group of neither working nor going to school in Guatemala. High educational costs,

¹¹¹ Quiroz, *Child Labor in the Coffee Sector of Guatemala*, 70.

¹¹² Ibid., 68.

¹¹³ Emily Delap, "Economic and Cultural Forces in the Child Labor Debate: Evidence from Urban Bangladesh," *The Journal of Development Studies* 37, no. 4 (2001): 15-16.

¹¹⁴ Quiroz, *Child Labor in the Coffee Sector of Guatemala*, 65.
Quiroz, *Child Labor and Quarrying in Guatemala*, 50-51.

insufficient or deficient infrastructure and the absence of employment opportunities might lead to a child's status of idleness.¹¹⁵

Legislative Framework, Enforcement and State Weakness

The government's inability to effectively establish rule of law in the country can also influence child labor.¹¹⁶ In the last three decades Guatemala has signed on to several international conventions which regulate and prohibit certain forms of child labor (*The Convention on the Rights of the Child*, *The Minimum Age Convention No. 138* and *The Worst Forms of Child Labor Convention No. 182*). Moreover, the government entered into an agreement with the International Labor Organization in 1996 to ensure the enforcement of their international commitments.¹¹⁷

In the national legislature the universal rights of children are addressed in the *Constitution* and their involvement in labor is covered in the *Labor Code* and the *Child and Youth Code*. National legislation sets the minimum age for child work at 14. There are several restricted cases in which the government can grant work authorization to children less than 14 years of age. Such permits are limited to situations in which a child either undergoes work training or the family's economic survival depends on the additional income from the child. In such cases work permits might be authorized as long as the work is not hazardous or time-consuming and enables children to attend school.¹¹⁸

¹¹⁵ Rosati, Mealli, and Pudney, *Measuring the Economic Vulnerability of Children in Developing Countries*, 18.

¹¹⁶ Siddiqi and Patrinos, *Child Labor*, 4.

¹¹⁷ Quiroz, *Child Labor in the Coffee Sector of Guatemala*, 14.

¹¹⁸ *Ibid.*, 15.

The international and national commitment to fight child labor does not necessarily translate into measures taken to lower the number of children working because the government lacks the resources to employ sufficient inspectors, enforce regulations, and penalties; and is often shaken by corruption scandals.¹¹⁹ The government's failure to provide public goods such as security, education, health care and infrastructure to the entire population, the existence of weak institutions and high levels of corruption (Transparency International Corruption Index rank 120 for Guatemala),¹²⁰ and the flawed rule of law indicate state weakness.¹²¹ According to Robert I. Rotberg the supply of security is the most basic and important of all public goods.¹²² In the case of Guatemala, the country's security level has drastically deteriorated in recent years as a result of drug trafficking, gang-related violence and high levels of impunity. Guatemala's geographical position lends itself perfectly to drug trafficking from South American producer countries to the biggest consumer state in the Western hemisphere, the United States. Additionally, high levels of impunity have also contributed to the rise in gang and drug-related violence. Shockingly, less than one percent of criminals face legal

¹¹⁹ United States Department of Labor, "Legislation and Enforcement Efforts," <http://www.dol.gov/ilab/media/reports/iclp/sweat5/chap3.htm> (accessed October 8, 2012). Quiroz, *Child Labor in the Coffee Sector of Guatemala*, 15.

¹²⁰ Transparency International, "Corruption Perceptions Index 2011," <http://cpi.transparency.org/cpi2011/results/> (accessed October 15, 2012).

¹²¹ Robert I. Rotberg, "Failed States, Collapsed States, Weak States: Causes and Indicators," in *State Failure and State Weakness in a Time of Terror*, ed. Robert I. Rotberg (Washington D.C.: Brookings Institution Press, 2003), 2.

¹²² *Ibid.*, 3.

prosecution for committing a crime in Guatemala.¹²³ The growing drug trade has already left its marks on the country. By 2011, 60 to 90 percent of South American cocaine was estimated to be transported through Central America, while in 2007 it had only been one percent.¹²⁴ Guatemala's states via which drugs are smuggled are estimated "to have the highest murder rates in the world".¹²⁵ The centralized Guatemalan government lacks control over vast areas of its territory, which facilitates illegal activities. Without strong institutions and effective law enforcement, violence has been rapidly spreading in the Central American state. In 2011 the country had a murder rate of 38.5 per 100,000 population.¹²⁶ In the 2012 *Failed State Index* Guatemala ranked 70th, which is similar to countries such as Honduras, Nicaragua, Tanzania and Senegal.¹²⁷ In conclusion, Guatemala needs to strengthen its enforcement capacity in order to ensure the rule of law in socioeconomic policies such as anti-child labor laws and regulations.

Type of Government

Research has shown that child labor tends to be higher in countries under the control of repressive leaders than in democracies.¹²⁸ This difference in the occurrence of

¹²³ Human Rights Watch, "Annual Report 2011: Guatemala," http://www.hrw.org/sites/default/files/related_material/guatemala_0.pdf (accessed September 23, 2012).

¹²⁴ Elizabeth Dickinson, "Guatemala and Honduras," http://www.foreignpolicy.com/articles/2010/06/21/watch_list (accessed October 15, 2012).

¹²⁵ Amnesty International, "Annual Report 2011: Guatemala," <https://www.amnesty.org/en/region/guatemala/report-2011> (accessed October 8, 2012).

¹²⁶ United Nations Data, "Intentional Homicide, Number and Rate per 100,000 Population," <http://data.un.org/Data.aspx?d=UNODC&f=tableCode%3A1> (accessed October 15, 2012).

¹²⁷ Foreign Policy, "Failed States," http://www.foreignpolicy.com/failed_states_index_2012_interactive (accessed October 14, 2012).

¹²⁸ Maffei, Raabe, and Ursprung, "Political Repression and Child Labor," 226.

child labor can be principally attributed to the distinct economic systems operating in those two types of political systems. Repressive regimes are more likely to have a closed economic system, in which interaction and trade with other countries is limited or nonexistent, than non-repressive governments.¹²⁹ Research has shown that opening up a country's economy can generate wage increases and can thereby reduce child labor.¹³⁰

The repressive military regimes which ruled Guatemala during the 36 year internal armed conflict may have indirectly affected the incidence of child labor in the form of economic stagnation, decline in foreign direct investment, reduction in social services expenditure and the loss of human capital. The conflict is estimated to have caused losses amounting to in between 0.4 and 1.4 percentage points of GDP.¹³¹ The war also left the infrastructure of towns in ruins (i.e. destruction of schools, hospitals and homes). This destruction coupled with the unstable political and economic situation had an adverse effect on foreign direct investment.¹³² In addition, changes in the economy and massive losses of human capital were caused by the recruitment of more than 10 percent of the country's population and by the displacement, disappearance and murder of approximately 200,000 people.¹³³ Moreover, increases in military spending led to a

¹²⁹ Maffei, Raabe, and Ursprung, "Political Repression and Child Labor," 225-26.

¹³⁰ Ibid.
Edmonds and Pavcnik, "Child Labor in the Global Economy," 212.

¹³¹ Juan A. Fuentes, *Violent Conflict and Human Development in Latin America: The Cases of Colombia, El Salvador and Guatemala* (Guatemala: United Nations Development Program, 2005), 8.

¹³² Ibid., 9.

¹³³ Amnesty International, "Annual Report 2011: Guatemala," <https://www.amnesty.org/en/region/guatemala/report-2011> (accessed October 8, 2012).

reduction in social services expenditures such as education and medical care.¹³⁴ For instance, primary school enrollment fell dramatically at the height of the conflict.¹³⁵

Children were directly affected by the conflict through high mortality rates, malnutrition, lack of education and socialization processes, recruitment as soldiers, loss of families and displacement.¹³⁶

Economic, Employment and Harvest Shocks

Economic, employment and harvest shocks can affect child labor significantly. In recent years adults as well as children in developing countries have been severely affected by structural adjustment policies in the absence of proper regulations, basic services and safety nets.¹³⁷ Increases in subsidized foreign agricultural imports have had an impact on subsistence farmers, who struggle to compete with prices of imported goods. Once an economy is fully integrated in the global market, it becomes more vulnerable to abrupt market changes, which in turn can lead to increases in child labor.¹³⁸

Research has also shown that in times of economic and harvest shocks children are more likely to work in order to supplement the household's income.¹³⁹ In rural India

¹³⁴ Fuentes, *Violent Conflict and Human Development in Latin America*, 10-11.

¹³⁵ *Ibid.*, 12.

¹³⁶ María Cristina Salazar, "Violencia, pobreza y conflictos armados en América Latina: Problemas referentes a los niños." *Revista Colombiana de Educación*, no. 24 (1992): 117.

¹³⁷ Joseph Kipkemboi Rono, "The Impact of the Structural Adjustment Programs on Kenyan Society," *Journal of Social Development in Africa* 17, no. 1 (2002): 96-97.

Joe L.P. Lugalla, "The Impact of Structural Adjustment Policies on Women's and Children's Health in Tanzania," *Review of African Political Economy* 22, no. 63 (1995): 51-52.

Sian Williams, "The Effects of Structural Adjustment Programs on the Lives of Children in Jamaica," in *Globalization and Children: Exploring Potentials for Enhancing Opportunities in the Lives of Children and Youth*, eds. Natalie Hevener Kaufman and Irene Rizzini (New York: Kluwer Academic Publisher, 2004), 151.

¹³⁸ Bachman, "A New Economics of Child Labor," 562.

¹³⁹ Brown, Deardorff, and Stern, *The Determinants of Child Labor*, 16-17.

parents decided to take their children out of school at a time in which returns from crop production were unexpectedly lowered.¹⁴⁰ Similar results were obtained in a study on harvest shocks in Tanzania. Parents in Tanzanian farm households tend to put their children to work when crop shocks occur and withdraw them from work once they have recaptured the lost harvest.¹⁴¹ Household income in agriculture is highly dependent on fluctuating market prices and on natural and socioeconomic phenomena.¹⁴² In times of hardships, in which natural disasters or agricultural and socioeconomic crises strike a household, family income can be reduced dramatically and children are more likely to help out at home.¹⁴³

Contrary to those findings, Lisa A. Cameron did not find economic shocks to play a major role in school attendance and child labor during the 1990s economic and financial Indonesian crisis.¹⁴⁴ School attendance dropped slightly in the initial stage of the economic turmoil, but soon recovered and rose to levels higher than prior to the crisis. As school attendance rates increased, children's work involvement fell. Cameron suggests that children were unable to find jobs because the crisis lowered the overall number of employment opportunities. Even though Cameron's study yields interesting results regarding the relationship between economic shocks and education and child

¹⁴⁰ Hanan G. Jacoby and Emmanuel Skoufias, "Risk, Financial Markets, and Human Capital in a Developing Country," *Review of Economic Studies* 64, no. 3 (1997): 330-331.

¹⁴¹ Kathleen Beegle, Rajeev H. Dehejia, and Roberta Gatti, *Child Labor, Crop Shocks, and Credit Constraints* (Washington D.C.: World Bank, 2003), 21.

¹⁴² Hernández, *Guatemala*, 13.

¹⁴³ Alectus et al., *Child Labor*, 94.

¹⁴⁴ Lisa A. Cameron, *The Impact of the Indonesian Financial Crisis on Children: Data from 100 Villages Survey* (Victoria: University of Melbourne, 2002), 17.

labor, her research fails to account for a massive increase in street children in the years of the economic crisis as observed by Chris Manning.¹⁴⁵ As a result of the loss of paid employment opportunities, children were engaged in more hazardous forms of work in the agricultural sector and the informal economy making a living off the streets. Manning attributes the minimal drop in school enrollment to the implementation of a variety of social reforms (i.e. the elimination of tuition fees and the provision of scholarships).¹⁴⁶

Economic shocks generally also have a negative effect on school attendance.¹⁴⁷ A fall in school attendance usually translates into a rise in child labor.¹⁴⁸ Eric V. Edmonds and Carrie Turk found that “trade shocks experienced in countries with a GDP per capita of less than \$5,000 and generally poor social safety nets regularly experience increases in child labor”.¹⁴⁹ In a study on the relationship between economic shocks and education, Emmanuel Skoufias and Susan W. Parker found that shocks reduced the likelihood of children advancing to the next grade level.¹⁵⁰ Similar results were obtained in a study on the role of employment shocks on child labor and school attendance in Brazil. The loss of the father’s job was found to reduce the likelihood of children aged 10 to 15 to move on

¹⁴⁵ Chris Manning, *The Economic Crisis and Child Labor in Indonesia* (Geneva: International Labor Office, 2000), 21.

¹⁴⁶ *Ibid.*, 27.

¹⁴⁷ Caroline Harper et al., *Children in Times of Economic Crisis: Past Lessons, Future Policies* (London: Overseas Development Institute, 2009), 3.

¹⁴⁸ *Ibid.*

¹⁴⁹ *Ibid.*

¹⁵⁰ Emmanuel Skoufias and Susan W. Parker, *Labor Market Shocks and their Impacts on Work and Schooling: Evidence from Urban Mexico* (Washington D.C.: International Food Policy Research Institute, 2001b), 42.

to the next grade level by four percentage points.¹⁵¹ Those children were likely to enter into employment to compensate for the household's lost income.

In Guatemala the economic crisis as well as natural calamities have raised child labor participation rates.¹⁵² The global economic crisis of 2008 has had long-lasting effects on Guatemala's economy. Significant drops in GDP, remittances, export rates and foreign direct investment were identified as a result of the crisis. GDP growth decreased from 3.3 percent in 2008 to 0.6 percent in 2009 and fiscal deficit grew from 1.6 percent of the GDP to 3.2 percent.¹⁵³ According to Aridane Hernández the economic crisis led to

an increase in the number of hungry people, fewer exports, fewer remittances, more violence, increased food insecurity, greater demand for public services and health and education, a lower public budget, more pressure on environmental resources and an increase in illegal businesses.¹⁵⁴

Natural disasters have also negatively affected the development of the country in recent years. The United Nations International Strategy for Disaster Reduction lists Guatemala among the countries most vulnerable to natural disasters.¹⁵⁵ Natural calamities in 2010 left \$1.5 billion in damage.¹⁵⁶

¹⁵¹ Suzanne Duryea, *Children's Advancement through School in Brazil: The Role of Transitory Shocks to Household Income* (Washington D.C.: Inter-American Development Bank, 1998), 32.

¹⁵² Hernández, *Guatemala*, 42.

¹⁵³ *Ibid.*, 17.

¹⁵⁴ *Ibid.*, 20.

¹⁵⁵ United Nations International Strategy for Disaster Reduction Secretariat, *Global Assessment Report on Disaster Risk Reduction 2009* (Geneva: United Nations International Strategy for Disaster Reduction Secretariat, 2009), 56.

¹⁵⁶ The World Bank, "Guatemala: Overview," <http://www.worldbank.org/en/country/guatemala/overview> (accessed September 27, 2012).

Trade

The effect of trade on child labor has been found to be ambiguous. On the one hand, trade can be positively correlated with child labor. Today's trade is mainly based on the principle of comparative advantage according to which one country is able to produce a certain product at a lower cost than other countries. Developing countries have a comparative advantage of cheap labor over more developed countries. Cheap labor is typically unskilled and low-skilled. As trade expands and demands for products are on the rise, the wages of unskilled laborers go up. Such income raises higher the opportunity cost of education and can therefore bring about an increase in child labor.¹⁵⁷ Nevertheless, the impact of trade on child labor is in general relatively low because the number of children employed in the export sector is comparatively small.¹⁵⁸ Sarah L. Bachman found that a mere five percent of the total number of child laborers account for children working in the export sector.¹⁵⁹ The majority of children are employed in agriculture and in the informal economy.

Alessandro Cigno, Furio C. Rosati and Lorenzo Guarcello found that the effect of trade on developing countries with high rates of either unskilled or skilled workers is not straightforward.¹⁶⁰ In countries with a dominant unskilled labor force, trade can, on the one hand, lead to wage increases for unskilled workers, which in turn raises the

¹⁵⁷ Brown, Deardorff, and Stern, *The Determinants of Child Labor*, 45.

¹⁵⁸ Ibid., 46.
Bachman, "A New Economics of Child Labor," 550.

¹⁵⁹ Bachman, "A New Economics of Child Labor," 550.

¹⁶⁰ Alessandro Cigno, Furio C. Rosati, and Lorenzo Guarcello, "Globalization and Child Labor," in *Harnessing Globalization for Children: A Report to UNICEF*, ed. Giovanni Andrea Cornia (Florence: UNICEF, 2001), 3.

opportunity cost of education and can cause child labor to rise.¹⁶¹ On the other hand, higher adult wages can stimulate the demand for schooling and thereby lower the incidence of child labor.¹⁶² Furthermore, wage raises enable families to buy machines and appliances, which can replace the need for child work.¹⁶³ Trade also has a similar ambiguous effect on developing countries with a higher percentage of skilled workers. As the salary of skilled workers increases with global market integration, the demand for education rises. However, the income of unskilled workers decreases, which tends to lead to a fall in the demand for education among unskilled workers and more child labor. Cigno, Rosati and Guarcello estimate that over time child labor will fall more easily in those countries than in the ones categorized by a dominant unskilled labor force.¹⁶⁴

On the other hand, trade can be negatively correlated with child labor through raises in the parents' salary.¹⁶⁵ Evidence from Vietnam's rice market liberalization shows that adult wage increases led to a fall in child labor.¹⁶⁶ According to Eric V. Edmonds and Nina Pavcnik higher rice prices can explain 45 percent of the decrease in children working in Vietnam in the 1990s.¹⁶⁷ However, the effects of the liberalization of commodity markets on child labor can also be negative as observed in Diana Kruger's

¹⁶¹ Alessandro Cigno, Furio C. Rosati, and Lorenzo Guarcello, "Does Globalization Increase Child Labor?" *World Development* 30, no. 9 (2002): 1587.

¹⁶² Edmonds and Pavcnik, "Child Labor in the Global Economy," 200.

¹⁶³ *Ibid.*, 209.

¹⁶⁴ Cigno, Rosati, and Guarcello, "Does Globalization Increase Child Labor?" 1587.

¹⁶⁵ Brown, Deardorff, and Stern, *The Determinants of Child Labor*, 46.

¹⁶⁶ Edmonds and Pavcnik, "Child Labor in the Global Economy," 212.

¹⁶⁷ *Ibid.*, 212-13.

study on the coffee sector boom in Nicaragua at the end of the twentieth century. In a country marked by unequal land and income distribution, increases in wages were not significant enough to counter the simultaneous rise in labor demand.¹⁶⁸ Guatemala's unequal land and income distribution situation resembles Nicaragua's. As of 1996, 4 percent of landowners owned 65 percent of workable land and 10 percent of the population captured 44 percent of total income in Guatemala.¹⁶⁹ Therefore, changes in the commodity market in Guatemala would arguably be more similar to the Nicaraguan than the Vietnamese experience.

Access to Basic Services

The extent of child labor and school attendance can also be affected by the availability of basic services such as water, sanitation and electricity. In general, families with access to such services have fewer children working and more attending school than families lacking those services.¹⁷⁰ Furio C. Rosati, Lorenzo Guarcello and Scott Lyon found that children from households without water access were more likely to engage in full-time employment than children from households with water access (9.6 versus 6.7 percent).¹⁷¹

Access to Credit

Credit constraints have been found to correlate with child labor and school attendance rates. Countries characterized by imperfect credit markets are more likely to

¹⁶⁸ Edmonds and Pavcnik, "Child Labor in the Global Economy," 213.

¹⁶⁹ Ramírez et al., *Informe nacional sobre trabajo infantil en Guatemala*, 15.

¹⁷⁰ Furio C. Rosati, Lorenzo Guarcello, and Scott Lyon, *Child Labor and Access to Basic Services: Evidence from Five Countries* (Rome: Understanding Children's Work Program, 2004), 7.

¹⁷¹ Ibid., 5.

display higher levels of child labor because credit constraints restrict the family's ability to borrow money to afford withdrawing their children from the workforce and sending them to school instead.¹⁷² Jean-Marie Baland and James A. Robinson, and Priya Ranjan, who studied the impact of credit constraints on child labor, found that households under financial constraints were more likely to send their children to work than households with borrowing capacity.¹⁷³ Furthermore, Rajeev H. Dehejia and Roberta Gatti's research revealed that raising the credit share of GDP lowers the incidence of child labor.¹⁷⁴

In order to alleviate the pressure of credit constraints on poor families, conditional cash transfers should be offered to families in need by governmental institutions. Such programs can be very successful tools for increasing school attendance and reducing child labor as seen in Nicaragua, Mexico and Bangladesh. A study on the impact of conditional cash transfers on school attendance and child labor in Nicaragua showed that the implementation of such programs can contribute to reductions in child labor and increases in school attendance. The participating households were given money subject to the condition that they send their children to school and get regular health checks. In an effort to move households from farming to non-farming activities, the program offered microfinance opportunities to selected households in order to start up a new business. Children in households chosen for the conditional cash transfer program worked on average 1.5 hours less than children in households without such financial support.

¹⁷² Edmonds and Pavcnik, "Child Labor in the Global Economy," 209.

¹⁷³ Jean-Marie Baland and James A. Robinson, "Is Child Labor Inefficient?" *Journal of Political Economy* 108, no. 4 (2000): 672.
Ranjan, "Credit Constraints and the Phenomenon of Child Labor," 94.

¹⁷⁴ Rajeev H. Dehejia and Roberta Gatti, "Child Labor: The Role of Financial Development and Income Variability across Countries," *Economic Development and Cultural Change* 53, no. 4 (2005): 924.

Interestingly, children in households that received microcredits were working more hours than children who had only access to the basic funding. This implies that parents use their children's labor to help run the new business. Given the nature of the new business venture, children in selected households moved from low-skill to higher-skill jobs.

The Mexican government introduced a similar program for families in need in 1997. The so-called *Programa Nacional de Educación, Salud y Alimentación* (*PROGRESA*) was granted to families provided that their children would enroll in and attend school on a regular basis, and get routine medical checks.¹⁷⁵ The results of the program are very promising in terms of school attendance and child labor rates. The primary school attendance rate rose by 1.3 percent in the first year of the program and by 1.8 percent in the second year.¹⁷⁶ With regards to child labor, a decrease of 21 percent in the likelihood of children working between the ages 8 and 11 was observed in the first year.¹⁷⁷

A similar plan to increase school attendance and reduce child labor was implemented in Bangladesh. In contrast to the Mexican and Nicaraguan cases, in the Bangladeshi project families whose children attended school were rewarded with in-kind transfers such as food. In a study on the effect of such food subsidy programs a strong positive correlation between the provision of food rations and school attendance was detected.¹⁷⁸ Child labor was also found to be affected by the food-for-education program,

¹⁷⁵ Emmanuel Skoufias and Susan W. Parker, *Conditional Cash Transfers and their Impact on Child Work and Schooling*, (Washington D.C.: International Food Policy Research Institute, 2001a), 1.

¹⁷⁶ *Ibid.*, 36.

¹⁷⁷ *Ibid.*, 34-35.

¹⁷⁸ Martin Ravallion and Quentin Wodon, "Does Child Labor Displace Schooling? Evidence on Behavioral Responses to an Enrollment Subsidy," *Economic Journal*, 110 (2000): 173.

but not to the same extent as school attendance. This indicates that participating parents are more likely to send their children to school, but are less inclined to withdraw their children from work when offered financial assistance.

In the case of Guatemala a similar program has been promoted in recent years. A conditional cash transfer program (*Mi Familia Progres*a) modeled on Mexico's *PROGRESA* program has led to an increase of 0.1 in years of completed schooling.¹⁷⁹ In contrast to the Mexican program, *Mi Familia Progres*a has actually increased child labor indicating that the governmental support is used to increase the productive capacity of the recipient's household. Boys' and girls' work participation has increased by 22.4 and 5 percent respectively.¹⁸⁰

¹⁷⁹ Instituto Nacional de Salud Pública, "Evaluación externa de impacto del programa de transferencias monetarias condicionadas: Efectos en indicadores de educación," http://www.insp.mx/images/stories/Centros/CIEE/Evaluacion_de_Impacto_MIFAPRO_Educacion_FINAL.pdf (accessed September 28, 2012).

¹⁸⁰ Instituto Nacional de Salud Pública, "Evaluación externa de impacto del programa de transferencias monetarias condicionadas: Efectos en indicadores de mercado laboral," http://www.insp.mx/images/stories/Centros/CIEE/Evaluacion_de_Impacto_MIFAPRO_LABORAL_FINAL.pdf (accessed September 28, 2012).

III. ANALYSIS OF DATA

Methodology and Data

The data for my research are drawn from three household surveys on living conditions (Encuesta nacional sobre las condiciones de vida – ENCOVI) conducted by the Guatemalan National Institute of Statistics. The 2000 pilot project of the survey contains a sample of 7,276 households including 38,000 individuals. The samples of the 2006 and 2011 surveys are almost double that number with an average of 13,609 households and 68,620 individuals interviewed. The three surveys apply the Living Standards Measurement Study (LSMS) model, which was developed by the World Bank. Living Standards Measurement Studies collect information on a variety of socioeconomic aspects including health, education, work, household consumption and expenditure, social capital, ethnicity, gender and demography by means of household, community and price questionnaires. The samples for the ENCOVI surveys were selected in a two-stage stratified process. In the initial step samples were chosen based on data from previous surveys (1998 National Survey of Income and Family Expenditures and 2002 Population and Housing Census). In the second step a fixed number of urban and rural households were randomly selected from the primary sampling units. Field workers were then sent to those households to conduct the interviews over a six months period.

To begin with, I will show how child labor and school enrollment has evolved in Guatemala over time by comparing the results of the three ENCOVI surveys. Child labor for my research is defined as any form of unpaid or paid work in the formal and informal economy as well as in family-run businesses and farms. Since household work is not considered as a form of child labor according to the International Labor Organization and is generally not included in the calculation of child labor rates, it will not form part of my analysis. After giving a general overview of child labor and school enrollment, I will analyze gender, ethnic and regional variations in detail. Following, I will compare variables associated with child labor in the literature via bivariate statistical analyses. The variables used in the analysis include poverty, GDP per capita, agricultural share of GDP, trade, social public and education expenditure per capita, number of teachers in primary schools, family size, area, gender, ethnicity, parents' education, landownership and assets, access to basic services and credit, and natural disasters. Most of the variables are drawn from the ENCOVI 2006 and 2011 datasets, except for GDP per capita, agricultural share of GDP, social public and education expenditure per capita and number of teachers in primary schools. The values of these variables were taken from the United Nations Economic Commission for Latin America and the Caribbean annual calculations.¹⁸¹ The operationalization of the variables is explained in detail in the appendix.

¹⁸¹ Economic Commission for Latin America and the Caribbean, "Statistics and Indicators," <http://websie.eclac.cl/infest/ajax/cepalstat.asp?idioma=i> (accessed September 27, 2012).

Economic Commission for Latin America and the Caribbean, *Economic Survey of Latin America and the Caribbean, 2010-2011* (Santiago: United Nations Publication, 2011), 101-134.

Economic Commission for Latin America and the Caribbean, *Economic Survey of Latin America and the Caribbean, 2005-2006* (Santiago: United Nations Publication, 2006), 119-137.

Child Labor Rates in Guatemala over Time

Child labor rates have steadily fallen in Guatemala in recent years. In 2000, 20 percent of children aged 7 to 14 were reported to be working. Surveys such as the 1998 ILO/UNICEF survey and the 1994 population census that suggested a rise in child labor prior to 2002 are of minor importance because they are not easily comparable due to the use of different research methods.¹⁸² By 2006 children's work involvement had fallen to 18 percent. The 2011 data indicate a further reduction in children's labor force participation. The number of children working had dropped to 12 percent. Table 1 shows that children's labor participation rates decreased steadily across all subgroups (rural/urban, non-indigenous/indigenous and male/female).

Table 1 Work Participation by Region, Ethnicity and Gender

	2011	2006	2000
Total	12	18	20
Urban	9	13	14
Rural	14	21	24
Non-indigenous	8	14	15
Indigenous	19	25	25
Male	16	25	26
Female	8	11	13

Analyzing the development of child labor and school enrollment rates over time yields promising results. In the same period in which child labor among children aged 7 to 14 decreased from 20 to 12 percent, school enrollment increased from 79 to 91

¹⁸² Guarcello, Breglia, and Lyon, "Child Labor in Guatemala," 387.

percent. Again, this positive change was observed in urban as well as rural areas, for indigenous as well as non-indigenous children and for boys as well as girls (see Table 2).

Table 2 School Enrollment by Region, Ethnicity and Gender

	2011	2006	2000
Total	91	86	79
Urban	94	91	87
Rural	90	84	73
Non-indigenous	92	88	84
Indigenous	90	84	71
Male	92	88	81
Female	90	84	76

The decline in child labor and the rise in school enrollment indicate a change in children's activity status over time. When asked about their principal daily activity the majority of children (87.6%) named attending school. A small number of respondents mentioned work-related activities such as work itself (4.3%), household chores (4.2%) and job search (1.6%) as their daily priorities. As can be seen in Figure 1, the number of children in school has been steadily growing over the past eleven years, while the number of children combining school and work, working only or neither working nor attending school has been decreasing. The number of children combining school and work and only attending school is significantly higher than the ones only working.

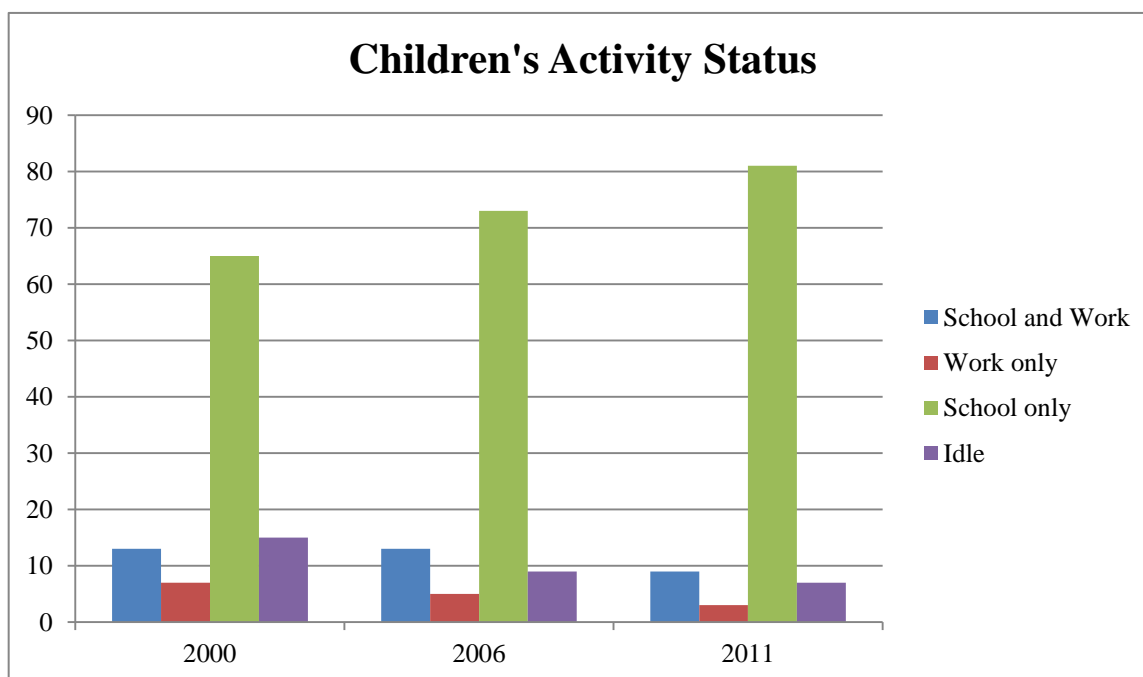


Figure 1 Children's Activity Status

Work is not found to be the principal reason for non-enrollment. Data on reasons for non-enrollment actually reveal that work compared to other variables has a small impact on children not enrolling in school. The most commonly stated reason for not enrolling in school is lack of money. As observed in the literature review, poverty is typically negatively correlated with school attendance and positively correlated with child labor. Children who lack the resources to enroll in school might either work to supplement the household's income or be idle. The high percentage (43.8 percent) of children stating the lack of financial means as the principal reason for non-enrollment suggests that the government should work more extensively on incentives for parents to send their children to school (i.e. cash transfers, scholarships and subsidies in the form of food rations) to ensure the children's right to education. The second most stated reason for not enrolling in school is lack of interest. It is rather alarming that almost 25 percent

of the respondents not enrolled in school gave their lack of interest in education as the main reason. This points towards the need for developing programs that raise awareness of the benefits of education and offering quality education attractive to the populous. Economic participation and household chores rank third among the reasons for non-enrollment. The percentage of this category (11.1 percent) is relatively small compared to others. Nevertheless, the economic reason for non-enrollment is of importance because it may be associated with the most commonly stated reason for non-enrollment, namely the lack of money. As seen in the literature review, children in poor households might be driven out of school and into work.

A range of different factors such as conditional cash transfers, a rural economic development program, an equal opportunities plan for women and a basic health care program may have contributed to the country's positive developments in recent years. The government's conditional cash transfer program (*Mi Familia Progresas*), which was launched in 2008, had reached 917,330 families by 2010.¹⁸³ *The Program for Rural Economic Development* is designed to provide the rural population with higher income opportunities by reforming and investing in productive supply chains and making rural businesses more competitive.¹⁸⁴ *The Policy for the Advancement of Women and Equal Opportunities Plan* aims at improving the situation of women in the country.¹⁸⁵

¹⁸³ United Nations Economic and Social Council, "My Family Progresses," <http://webapps01.un.org/nvp/indpolicy.action?id=2463> (accessed September 27, 2012).

¹⁸⁴ United Nations Economic and Social Council, "Program for Rural Economic Development," <http://webapps01.un.org/nvp/indpolicy.action?id=2464> (accessed September 27, 2012).

¹⁸⁵ United Nations Economic and Social Council, "The Policy for the Advancement of Women and Equal Opportunities Plan, 2001 – 2006," <http://webapps01.un.org/nvp/indpolicy.action?id=2462> (accessed September 27, 2012).

The National Reproductive Health Program, which came into being in 2001, offers medical care to pregnant women and family planning services.¹⁸⁶

Sectoral Variations

The principal sector of employment for children in Guatemala is agriculture. In fact, more than two thirds of child laborers are engaged in economic activities on their family's farm or on a plantation (see Table 3).¹⁸⁷ Children usually help out on small family-run ranches, which grow basic produce (i.e. corn, chile, beans and herbs) for the internal market and for the purpose of auto-consumption, or on big export-oriented farms.¹⁸⁸ Most of the export-oriented farms are located along the southern coast in areas around Mazatenango, Escuintla, Retalhuleu and Quetzaltenango. Those farms depend on a wave of seasonal workers from the states of Quiché, Huehuetenango, Sololá, Chimaltenango, San Marcos and Totonicapán, who migrate to southern states to harvest traditional (coffee, cotton and sugar) as well as non-traditional products (tobacco, snow peas, cardamom, sesame and flowers).¹⁸⁹ Before the coffee crisis hit Central America in the early twenty-first century, between 800,000 and 1,200,000 migrant workers were estimated to abandon their homes in the highlands in order to make a living on the coastal plantations during the harvest season.¹⁹⁰ According to the Guatemalan Ministry of Labor

¹⁸⁶ United Nations Economic and Social Council, "National Reproductive Health Program," <http://webapps01.un.org/nvp/indpolicy.action?id=2466> (accessed September 27, 2012).

¹⁸⁷ International Labor Organization, *Understanding Children's Work in Guatemala* (Geneva: International Labor Organization, 2003), 21.

¹⁸⁸ Ramírez et al., *Informe nacional sobre trabajo infantil en Guatemala*, 46.

¹⁸⁹ *Ibid.*, 46-47.

¹⁹⁰ Ministerio de Trabajo y Previsión Social, *Plan nacional para la prevención y eliminación del trabajo infantil y protección a la adolescencia trabajadora*, (Guatemala City: Ministerio de Trabajo y Previsión Social, 2001), 8.

and Social Welfare an estimated half a million children migrated with their parents to those farms.¹⁹¹ Many of them could not attend school because the harvest season covers most of the school year (January to October).¹⁹² Quiroz argues that this number must have dropped significantly due to the coffee crisis during which many plantations went out of business.¹⁹³

Apart from agriculture, children engage in economic activities in trade (22 percent), mining and construction (3 percent), industry (2 percent) and the services sector (2 percent) (see Table 3). These findings resemble global child labor rates per sector to a certain extent. According to the International Labor Organization, most children work in agriculture (60 percent), followed by 26 percent in services and 7 percent in industry worldwide.¹⁹⁴ The numbers in Guatemala differ in the percentage of child workers in agriculture and the services sector. Agriculture continues to be an important part of Guatemala's economy and the most common employment sector in rural areas. Since the majority of child workers reside in rural areas, where they primarily engage in agricultural activities, the percentage of agricultural labor participation is higher compared to global rates. Children's economic involvement in urban areas, in which the services sector is important, is not as widespread in Guatemala. Gender, ethnic and regional variations are observed in child labor participation sectors in Guatemala.

¹⁹¹ Ministerio de Trabajo y Previsión Social, *Plan nacional para la prevención y eliminación del trabajo infantil y protección a la adolescencia trabajadora*, (Guatemala City: Ministerio de Trabajo y Previsión Social, 2001), 8.

¹⁹² Ramírez et al., *Informe nacional sobre trabajo infantil en Guatemala*, 47.

¹⁹³ Quiroz, *Child Labor in the Coffee Sector of Guatemala*, 13.

¹⁹⁴ International Labor Office, *International Program on the Elimination of Child Labor Action against Child Labor, 2010 – 2011: Progress and Future Priorities* (Geneva: International Labor Office, 2012), 8.

Rural, indigenous and male children are more likely to work in agriculture than urban, non-indigenous and female children (see Table 3 and 4). On the other hand, urban, non-indigenous and female children are more likely to work in the trade, services and industrial sectors. The sectoral distribution has remained fairly stable over time (see Figure 2).

Child labor in the commercial sector entails selling goods for consumption and daily-use such as food, candy and clothes. In manufacturing children are employed in the fireworks and garment production. In the services sector children find work as garbage pickers, shoe cleaners, car washers and domestic workers. The majority of child laborers, however, are engaged in unpaid family work such as farm, household or any other family-related business work, while those working for pay are principally employed in the manufacturing and services sectors.¹⁹⁵ The 2011 survey results show that 77.8 percent of child laborers were unpaid family workers, followed by 10.6 percent hired as day laborers and 9.4 percent working as private or domestic employees.

¹⁹⁵ Ben White, "Globalization and the Child Labor Problem," *Journal of International Development* 8, no. 6 (1996): 832.

Table 3 Sector of Children's Employment by Region, Ethnicity and Gender, 2011

2011	Agriculture	Commerce Trade	Mining and Construction	Industry	Services	Other
Total	71	22	3	2	2	0
Urban	45	41	6	4	4	0
Rural	76	17	3	2	2	0
Non-indigenous	64	25	4	3	4	0
Indigenous	72	22	3	2	1	0
Male	78	14	4	2	2	0
Female	46	45	2	4	3	0

Table 4 Sector of Children's Employment by Region, Ethnicity and Gender, 2006

2006	Agriculture	Commerce Trade	Mining and Construction	Industry	Services	Other
Total	65	27	4	2	2	0
Urban	37	51	6	2	4	0
Rural	75	20	3	1	1	0
Non-indigenous	61	30	5	2	2	0
Indigenous	68	26	3	2	1	0
Male	78	15	5	1	1	0
Female	36	59	0	2	3	0

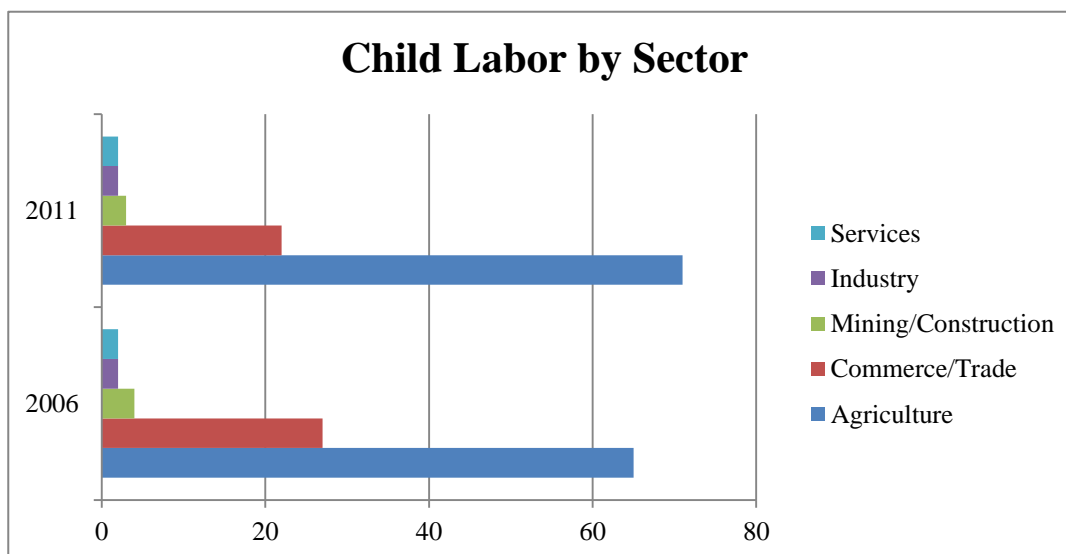


Figure 2 Child Labor by Sector, 2006 and 2011

Ethnic Variations

Despite the overall positive developments in child labor and school enrollment rates, indicators related to indigenous children, particularly regarding children's work participation have not been as encouraging. In the ENCOVI 2011 data 40 percent of children aged 7 to 14 are of indigenous origin and the rest are *ladinos*. The most represented indigenous groups are K'iche (13 percent), Kaqchikel (8.9 percent), Q'eqchi (6.7 percent) and Mam (4.6 percent).

In the states which are primarily inhabited by indigenous communities (Southwest, Northwest and Petén), child labor has either increased over time or has remained fairly high whereas in states with a relatively high proportion of *ladinos* (Metropolitan area, Central states, North- and Southeast) child labor has declined. School enrollment, on the other hand, has been significantly increasing in states with large numbers of indigenous residents. In the South- and Northwestern states and in Petén school enrollment rates increased by more than 10 percent from 2000 to 2011. A rise in

school enrollment for both indigenous and non-indigenous children has been observed over the last decade (see Table 2). In general, non-indigenous children achieve higher overall rates of school enrollment than their indigenous counterparts. Non-indigenous school enrollment rates were at 84.1 percent in 2000, 87.8 percent in 2006 and 92.2 percent in 2011. School enrollment for indigenous children rose by almost 20 percent from 71.3 percent in 2000 to 90 percent in 2011.

In 2000, 15 percent of *ladino* children worked compared to 25 percent of indigenous children (see Table 1). The work participation rate of both groups hardly changed in 2006 (14 percent for *ladinos* and 25 for indigenous children). By 2011 however work participation rates in both groups had fallen significantly. Indigenous children continued to outnumber their non-indigenous peers in work participation rates, this time 2:1 (19 and 8 percent respectively).

Throughout the years indigenous children have been more likely to be employed in agriculture than *ladino* children (see Table 3 and 4). In 2011, 74 percent of indigenous children were engaged in agriculture compared to 64 percent of non-indigenous children. In 2006, 68 percent of indigenous children worked in agriculture in comparison to 61 percent of their non-indigenous counterparts. Non-indigenous children, on the other hand, are more likely to be employed in trade, industry and the services sector. This distribution of child labor in terms of ethnicity is closely linked to regional differences. Indigenous children are more likely to live in rural settings where agricultural work forms the main source of employment whereas non-indigenous children tend to reside in urban settings in which work in trade, industry and the services sector is dominant.

The bivariate correlation analyses of ENCOVI 2006 and 2011 also confirm the indigenous children's tendency to be more likely engaged in economic activities than their non-indigenous counterparts. As can be seen in Table 5 and 6 (see below) a negative correlation ($-.158$ for 2011 and $-.130$ for 2006) between child labor and ethnicity was observed ($p < .001$). Running a chi-square analysis on both datasets reveals that the association between work and child labor is significant. The large values of the chi-square ($\chi^2 = 649.23$ for 2011 and $\chi^2 = 360.03$ for 2006) and the significance level of $p < .001$ demonstrate a strong association between the variables. With respect to the relation between ethnicity and school enrollment, a weak but significant negative correlation was found ($-.036$ for 2011 and $-.057$ for 2006; $p < .001$ for both years). The chi-square test confirms the significance of the correlation [$\chi^2(23) = 65.34$, $p < .000$ for 2011 and $\chi^2(23) = 100.53$, $p < .000$ for 2006].

Regional Variations

Children in rural areas are more likely to work and less likely to attend school than their peers in urban settings (see Table 1 and 2). According to ENCOVI 2011, 75.9 percent of child laborers live in rural areas compared to 24.1 percent in urban centers. This urban-rural differentiation is also reflected in the children's work participation and school enrollment rates across states. As can be seen in Figure 3 children are most likely to work in the Northern, South- and Northwestern states and in Petén (17 percent on average) and least likely to work in the urbanized region of the state capital (6.8 percent). This regional variation in school enrollment and child labor is consistent with the results of a study on urban proximity and child labor in Nepal. Proximity to urban centers was found to reduce the probability of children's work participation and raise the likelihood

of their school attendance.¹⁹⁶ Additionally, the economic sector in which children are working changes by region. While households in rural areas tend to engage in unpaid farming activities, children in urban centers tend to work in paid non-agricultural jobs.¹⁹⁷ This employment stratification is also evident in the case of Guatemala. Three-quarters of children in rural areas are engaged in agricultural activities compared to approximately one-third of urban children (see Table 3). On the other hand, children in urban sectors are more likely to work in the trade and services sector (51 and 4 percent respectively) than rural children (20 and 1 percent).

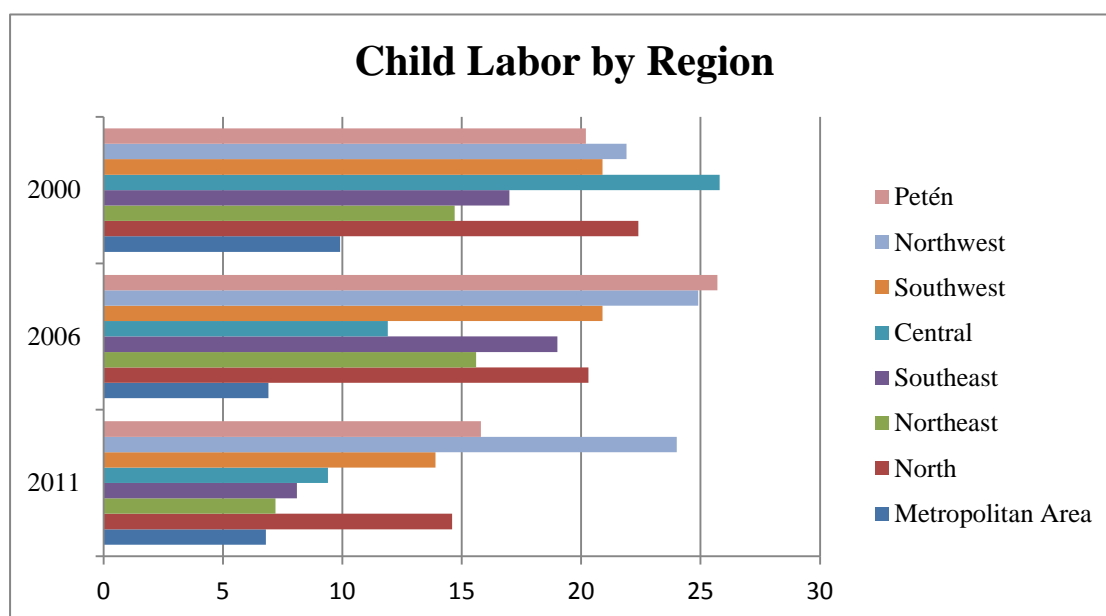


Figure 3 Child Labor by Region, 2000, 2006 and 2011

As child labor declined, school enrollment increased over the years in both urban and rural settings. In urban areas school enrollment was reported to be 87.3 percent for

¹⁹⁶ Fafchamps and Wahba, *Child Labor, Urban Proximity, and Household Composition*, 28.

¹⁹⁷ Ibid.

2000, 90.7 percent for 2006 and 93.5 percent for 2011. Even though overall school enrollment rates were lower in rural settings, they also experienced a substantial increase of almost 20 percent. In rural Guatemala school enrollment was measured at 73.4 percent for 2000, 83.8 percent for 2006 and 90.1 percent for 2011. A promising trend with respect to school enrollment across states can be seen in Figure 4. School enrollment has been on a constant rise across regions from 2000 to 2011. School enrollment among the states with the lowest rates in 2000 (Northwest, North and Petén) has grown by an average of 18 percent.

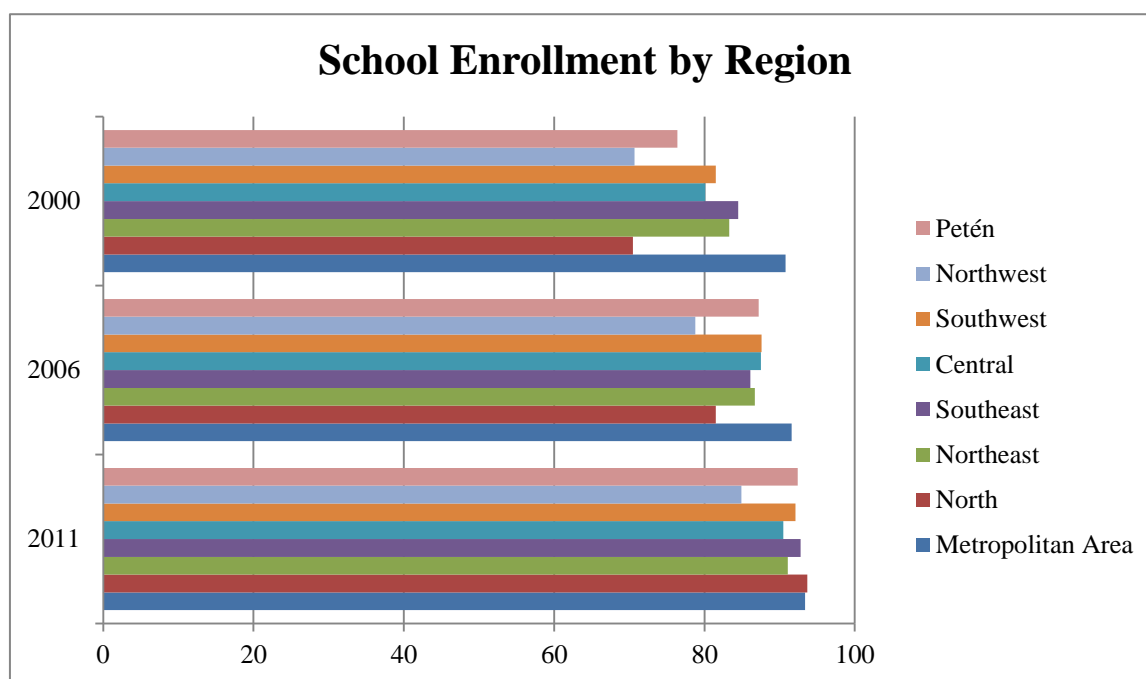


Figure 4 School Enrollment by Region, 2000, 2006 and 2011

The bivariate correlation analyses of the ENCOVI datasets indicate a weak but significant correlation between child labor and area (.078 for 2011 and .090 for 2006; $p < .001$ for both years). The chi-square analysis confirms the association between those two variables [$\chi^2(1) = 89.45$ for 2011 and $\chi^2(1) = 127.28$ for 2006; $p < .000$ for both years].

The same holds true for the correlation between school enrollment and area, which is found to be weak but significant (.057 for 2011 and .095 for 2006; $p < .001$ for both years). The chi-square test shows that the association between them is relevant [$\chi^2(1) = 46.09$ for 2011 and $\chi^2(1) = 140.80$ for 2006; $p < .000$ for both years].

Gender Variations

Child labor has fallen for both boys and girls over the years. The results of the three surveys indicate that boys are generally more likely to engage in economic activities than their female counterparts (see Table 1). Apart from their economic involvement, girls are more likely to be responsible for household chores and look after their siblings than boys. Lorenzo Guarcello, Barbara Henschel, Scott Lyon, Furio C. Rosati, and Cristina A. Valdivia found that “there is a clear pattern of specialization by sex in children’s work in Guatemala, in keeping with traditional gender roles, that sees boys in economic activity and girls in activities relating to the functioning of the household”.¹⁹⁸

In 2000, 26.5 percent of males and 13.4 percent of females were involved in some form of work. By 2006 these numbers had slightly dropped to 25.4 percent for boys and 10.8 percent for girls. The ENCOVI 2011 reported a significant reduction with respect to boys’ and girls’ employment rates. Boys’ and girls’ involvement in economic activities had fallen to 16.3 and 7.5 percent respectively.

In the same time period school enrollment for both boys and girls was steadily on the rise (see Table 2). For girls, school enrollment rates for 2000, 2006 and 2011 were

¹⁹⁸ Guarcello et al., *Child Labor in the Latin America and Caribbean Region*, 85.

reported at 76.1, 84.4 and 90.2 percent. For boys, those rates were fairly higher at 81.2, 88.0 and 92.3 percent.

Sectoral differences are also evident in terms of gender. As seen in Figure 5 boys tend to work foremost in agriculture while girls' work participation is distributed among trade, agriculture and industry.

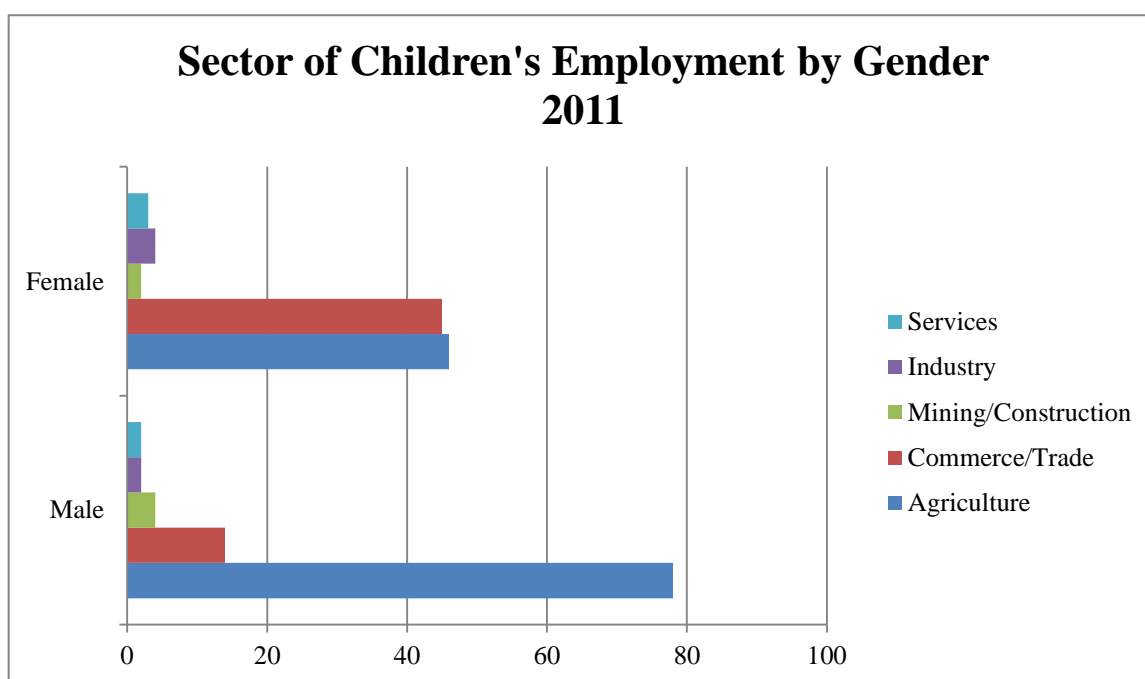


Figure 5 Sector of Children's Employment by Gender, 2011

The bivariate correlation analyses confirm the gender differentiation with regards to work and school enrollment. A negative correlation was found between child labor and gender as shown in Table 5 and 6. The correlation was slightly stronger in 2006 ($-.189$) than in 2011 ($-.136$) and found to be highly significant at $p < .001$ for both years. Chi-squares are relatively high at 268.75 for 2011 and 563.34 for 2006 and the results are significant at $p < .000$ for both years. In terms of school enrollment and gender, a weak but highly significant correlation was observed ($.038$ for 2011 and $.052$ for 2006; $p < .001$ for

both years). The chi-square test confirms the significance of this correlation [for 2011:

$\chi^2(1) = 21.11, p < .000$ and for 2006: $\chi^2(1) = 42.78, p < .000$].

Table 5 Correlation Matrix, 2011

2011	Work	School Enrollm.	Poverty	Area	Gender	Ethnicity	Age	Literacy	Father Educ.	Mother Educ.
Work	1									
School Enrollment	.239***	1								
Poverty	-.028**	-.113***	1							
Area	.078***	.057***	-.283***	1						
Gender	-.136***	.038***	-.010	.010	1					
Ethnicity	-.158***	-.036***	.213***	-.090***	-.015	1				
Age	.255***	.188***	.034***	-.003	.012	.006	1			
Literacy	-.044***	.236***	-.159***	.105***	-.023**	-.054***	-.340***	1		
Father's Education	-.041*	-.066***	.184***	-.177***	-.007	.120***	-.002	-.087***	1	
Mother's Education	-.002	-.088**	.254***	-.182***	.024	.139***	-.036	-.090**	.498***	1

p<.05*

p<.01**

p<.001***

Table 6 Correlation Matrix Nr. 1, 2006

2006	Work	School Enrollm.	Poverty	Area	Gender	Ethnicity	Age	Literacy	Father Educ.	Mother Educ.
Work	1									
School Enrollment	.200***	1								
Poverty	-.098***	-.215***	1							
Area	.090***	.095***	-.296***	1						
Gender	-.189***	.052***	-.001	.002	1					
Ethnicity	-.130***	-.057***	.279***	-.067***	.003	1				
Age	.308***	.148***	.034***	-.020*	.000	.003	1			
Literacy	-.039***	.381***	-.239***	.134***	.006	-.050***	-.340***	1		
Father's Education	-.115***	-.125***	.240***	-.187***	-.010	.241***	-.024	-.077***	1	
Mother's Education	-.090**	-.122***	.172***	-.187***	-.019	.222***	-.009	-.097**	.454***	1

p<.05*

p<.01**

p<.001***

Analysis of Variables Associated with Child Labor and School Enrollment

Poverty

While overall poverty rates fell from 40 percent in 2000 to 36 percent in 2006, they had again reached 40 percent in 2011 (see Figure 6). In contrast, extreme poverty rates remained unchanged in the first two survey years at 15 percent, but had fallen by two percent in the most recent survey year. The global economic crisis and a series of natural disasters striking the country may have contributed to the rise of poverty levels after an initial reduction in 2006.¹⁹⁹ Many households were affected by the rising unemployment rates and the dramatic decline in remittances caused by the economic crisis.²⁰⁰

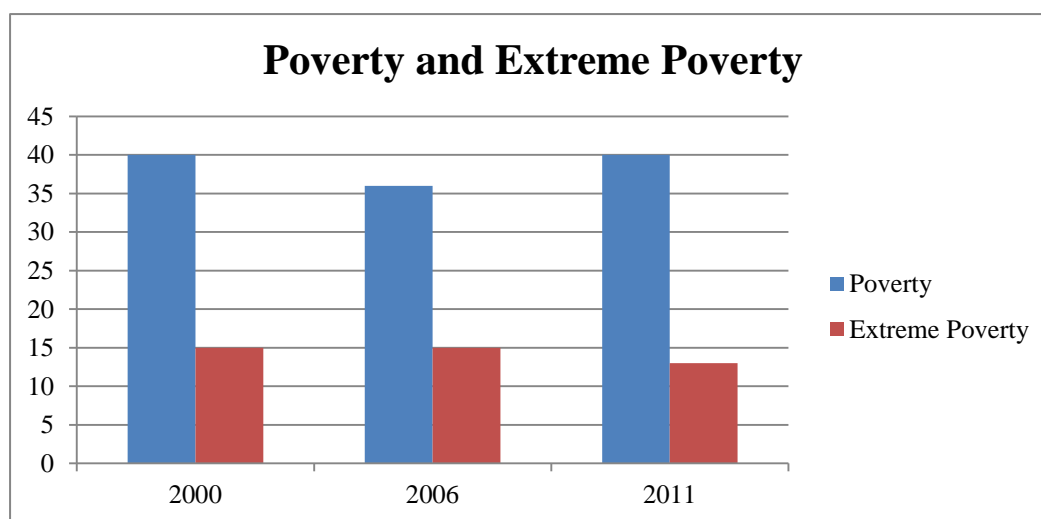


Figure 6 Poverty and Extreme Poverty, 2000, 2006 and 2011

The results of the bivariate correlation analyses confirm that poverty is correlated with both child labor and school enrollment. The correlation between child labor and

¹⁹⁹ Hernández, *Guatemala*, 26.

²⁰⁰ Ibid.

poverty indicates that children in poorer households are more likely to work than children in non-poor households. The correlation is found to be weak ($-.028$ for 2011 and $-.098$ for 2006), but significant at $p < .01$ for 2011 and $p < .001$ for 2006. Moreover, there is an interesting relationship between child labor and poverty and extreme-poverty rates over time. While children in extremely poor households were more likely to be engaged in economic activities than children in poor and non-poor households (23.73 percent, 19.69 percent and 13.57 percent respectively) in 2006, they were surpassed by children in poor households in 2011 (11.41 percent, 13.82 percent and 9.70 percent). The chi-square test shows that the results are significant [for 2011: $\chi^2(2) = 47.01$, $p < .000$ and for 2006: $\chi^2(2) = 154.81$, $p < .000$]. Children in extremely poor households might be in that situation due to the lack of employment opportunities. Children in poor households might have been able to move out of extreme poverty as a result of their employment. They might be inclined to continue working in order not to fall back into extreme poverty.

The correlation between school enrollment and poverty is stronger ($-.113$ for 2011 and $-.215$ for 2006) and also more significant at $p < .001$ than the one between child labor and poverty. This shows that children in poor households are less likely to be enrolled in school than children in non-poor households. With a school enrollment percentage of 73.27 for 2006 and 86.88 for 2011 children in extremely poor households were the least likely to be enrolled in school in those two years. They were followed by children in poor households who displayed enrollment percentages of 85.04 for 2006 and 90.05 for 2011. Children in non-poor households were the most likely to be enrolled in school with a total of 94.15 percent enrolled in 2006 and 95.61 enrolled in 2011. The chi-square test

confirms the significance of the association between these two variables [for 2011: $\chi^2(2)=189.09$, $p<.000$ and for 2006: $\chi^2(2)=732.10$, $p<.000$].

Comparing child labor and poverty rates over time offers interesting insights. Figure 7 shows that in the first years of the twenty-first century child labor and poverty rates were steadily falling. In 2006 however an interesting turn can be observed. While child labor continued to decline, poverty began to grow. The increase in poverty can be attributed to a variety of factors. First, the country was struck by several natural disasters around that time. As observed in the literature review a hurricane swept through the country in 2005. Hurricane Stan, which left an enormous economic damage, affected approximately half a million people, destroying their livelihoods and leaving many in poverty.²⁰¹ In 2008 an estimated 180,000 people were affected by floods.²⁰² Second, as in the rest of the world Guatemala was affected by the global economic crisis in 2008. Unemployment rates soared and remittances from relatives in the United States and other Central American countries froze up,²⁰³ which may have contributed to Guatemalans falling further into poverty. Third, Guatemala might still have felt the aftermath of the coffee crisis that struck the region in 2003 and 2004. Many plantations were shut down and consequently many migrant workers went out of work.²⁰⁴ Fourth, trade liberalization through the Dominican Republic-Central America Free Trade Agreement (DR-CAFTA) might have also influenced the development of poverty. As DR-CAFTA entered into

²⁰¹ Global Facility for Disaster Reduction and Recovery, "Disaster Risk Management: GFDRR Country Notes; Guatemala," http://www.gfdrr.org/gfdrr/sites/gfdrr.org/files/Guatemala_DRM.pdf (accessed October 8, 2012).

²⁰² Ibid.

²⁰³ Hernández, *Guatemala*, 17.

²⁰⁴ Quiroz, *Child Labor in the Coffee Sector of Guatemala*, 13.

force in 2006 highly-subsidized foreign goods previously produced by Guatemalan farmers swept the market leaving many farmers with no other chance than to abandon their work and find employment in different sectors. In addition to the above-mentioned factors, the country's persistent consumption and income inequality coupled with the lack of policies promoting a more equal distribution may have affected the poverty level.

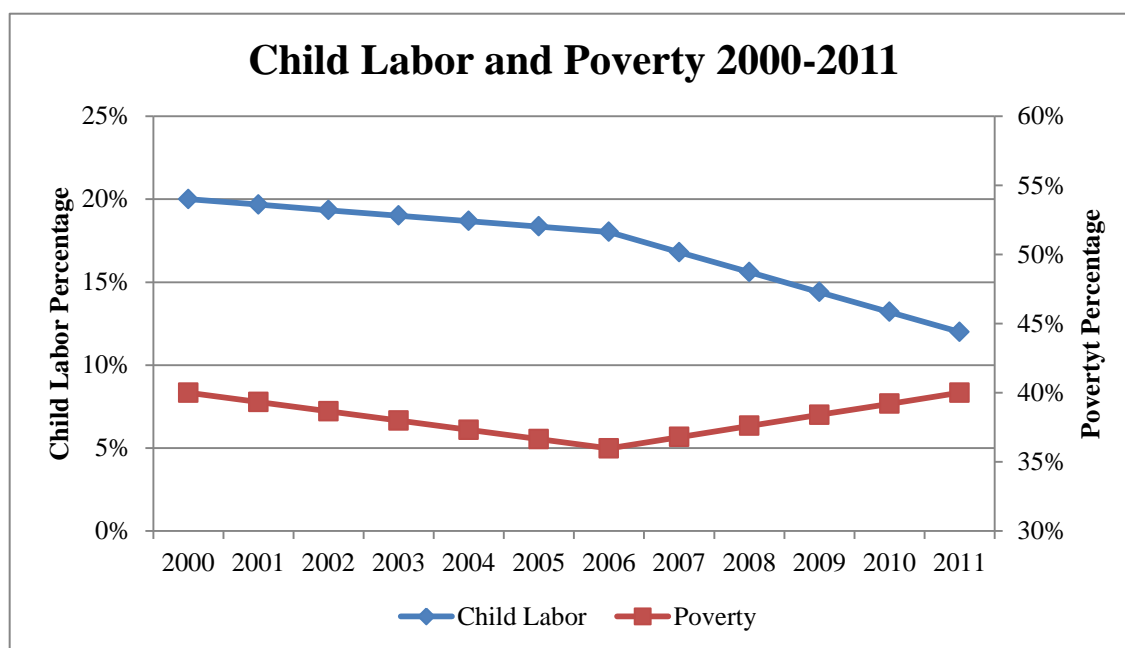


Figure 7 Child Labor and Poverty, 2000 – 2011

Parents' Education

In the case of Guatemala the parents' education does not seem to play a significant role in the probability of child labor. In contrast to the research results described in the literature review it is not the mother's but the father's educational level that affects child labor in Guatemala. The father's education is negatively correlated with child labor as seen in Table 5 and 6. This means that the more educated the father is, the less likely are his children to be engaged in economic activities. The correlation is

stronger and more significant for 2006 ($-.115$ at $p < .001$) than for 2011 ($-.041$ at $p < .05$). The chi-square analysis shows that the correlation is significant for both years [for 2011: $\chi^2(11) = 60.14$, $p < .000$ and for 2006: $\chi^2(10) = 100.30$, $p < .000$].

Despite the insignificance of the mother's education for child labor, the mother's educational level does play a role in the children's school enrollment. The educational level of both parents is positively correlated with school enrollment, indicating that children of educated parents are more likely to be enrolled in school than children of uneducated parents. Again, the chi-square test confirms the relevance of the correlation for both the father's [for 2011: $\chi^2(11) = 43.94$, $p < .000$ and for 2006: $\chi^2(10) = 148.57$, $p < .000$] and the mother's educational level [for 2011: $\chi^2(11) = 36.13$, $p < .000$ and for 2006: $\chi^2(10) = 66.63$, $p < .000$].

Number of Household Members

The number of household members is positively correlated with child labor and negatively correlated with education. The degree of the correlation for both cases is weak, but very significant at $p < .001$. This result is consistent with studies described in the literature review, which found that children in larger households are more likely to work than children in smaller households. Furthermore, roles in large households tend to be strictly defined. This means that some children, particularly older ones, might have to sacrifice their education for their siblings'. The data analyses show that children in larger households are not only more likely to work but also less likely to attend school. Moreover, the number of household members appears to be strongly correlated with poverty ($-.442$ at $p < .001$). Poverty seems to create larger households, which in turn requires more income to provide for an entire family. Children in such households may

be withdrawn from school and sent to work to supplement the household's income. In this case, the number of children might mediate the relationship between poverty and school enrollment.

Landownership and Assets

The relationship between child labor and farmland is similar to the one described in the literature review. The bivariate correlation analyses show that children of agricultural landowners are more likely to work than children of landless parents. The chi-square analysis demonstrates the significance of this association [$\chi^2(1) = 538.89$, $p < .000$]. The fact that labor markets are not fully developed in poor countries seems to apply to Guatemala. Communities in rural Guatemala are oftentimes dispersed over many miles and external labor supply might not be available to landowners at all times. They might therefore be inclined to employ family members to work their land. The same seems to be true for school enrollment and farmland. Even though landowners might have more financial resources at their disposal to send their children to work than landless parents, children of agricultural landowners seem to be less likely enrolled in school. The negative correlation between school enrollment and farmland ($-.150$) is significant at $p < .001$. The chi-square test confirms the relevance of the comparison between the two variables [$\chi^2(1) = 173.03$, $p < .000$]. These relations could have important implications for child labor policies. Developing labor markets, particularly in rural areas, could play a role in reducing child labor and raising school enrollment rates. The data analyses show that the correlations between child labor and farm assets and child labor and school enrollment are non-significant.

Access to Basic Services

As observed in the literature review access to basic services might also play a role in the probability of children working. The data analysis does indeed show that access to basic services can reduce the likelihood of children being engaged in economic activities. Access to basic services for respondents was determined by their answers to questions on the availability of water, sanitation and electricity. The strongest and most significant correlation was observed between child labor and the availability of a drainage system (.151 at $p < .001$). When tested for independence, the association was found to be significant [$\chi^2(1) = 175.87, p < .000$]. The correlation between child labor and access to water was found to be weak (.038) and not as significant as the correlations between child labor and the availability of sanitation and electricity ($p < .01$).

With respect to school enrollment and the availability of basic services, the strongest correlation was found to be between school enrollment and the availability of electricity (.165 at $p < .001$). The chi-square test confirms this correlation [$\chi^2(1) = 209.45, p < .000$]. Again, access to water seems to be the least correlated with school enrollment (.131 at $p < .001$).

As expected, poverty is strongly correlated with access to basic services, indicating that poor households are less likely to have access to basic services than non-poor households. As can be seen in Table 7 the correlations between poverty and the availability of water, sanitation and electricity are very significant at $p < .001$. The chi-square test confirms the significance of these correlations [for water $\chi^2(2) = 300.65, p < .000$, for sanitation $\chi^2(2) = 1076.75, p < .000$, and for electricity $\chi^2(2) = 1073.89, p < .000$].

In conclusion, poor households have less access to basic services and parents in these households are more inclined to make their children work out of necessity as demonstrated in the section on poverty. Children may be in charge of menial tasks related to the lack of basic services such as collecting firewood or carrying buckets of water. The ENCOVI 2006 indeed shows that 15.2 percent of children aged 7 to 14 collected firewood or carried buckets of water. The average time spent on those chores did not exceed one hour and can therefore not be considered child labor as such. Within the group of working children the percentage of children doing such activities rose to 20.6. This arouses concern because it shows that in addition to working, children are also engaged in housework.

Natural Disasters and Access to Credit

The data show that children from families hit by natural disasters might be slightly more likely to work than children from unaffected households. This points towards the need for additional income from children when households go through periods of shocks as observed in the literature review. The correlation between child labor and the effect of natural calamities on households is small ($-.097$), but significant at $p < .001$. Contrary to expectations, the data do not reveal any significant relation between school enrollment and the effect of natural disasters on households. The literature review discussed findings from previous research demonstrating that parents affected by shocks tend to withdraw their children from school to use their labor force to supplement household income. Based on the correlational analyses this does not appear to be the case in Guatemala.

As can be seen in Table 7 the availability of credit does not seem to be significantly correlated with either child labor or school enrollment. Given the proven importance of credit constraints for child labor and school enrollment seen in the literature review this outcome is very surprising. In order to understand this result better, the relation between poverty and credit constraints should be taken into account. There is a weak negative correlation between poverty and the availability of credit ($-.064$ at $p < .001$), indicating that poor households have less access to credit than non-poor households. That being said, the association between the variables is statistically significant [$\chi^2(2) = 30.84, p < .000$]. The poverty analysis revealed that children in poor households are more likely to work and less likely to be in school. If households had access to credit, they would be able to borrow against their children's future income and consequently would be able to send their children to school instead of making them work.

Table 7 Correlation Matrix Nr. 2, 2006

2006	Work	School Enrollm.	Poverty	Area	Natural Disasters	Ethnicity	Nr. of HH Members	Water Access	Drainage System	Electri city	Credit	Land	Assets
Work	1												
School Enrollm.	.200***	1											
Poverty	-.098***	-.215***	1										
Area	.090***	.095***	-.296***	1									
Natural Disasters	-.097***	-.013	.043***	-.127***	1								
Ethnicity	-.130***	-.057***	.279***	-.067***	.051***	1							
Nr. of HH Members	.077***	.078***	-.442***	.170***	-.080***	-.147***	1						
Water Access	.038**	.131***	-.197***	.301***	-.086***	-.049***	.080***	1					
Drainage System	.151***	.160***	-.359***	.597***	-.142***	-.142***	.181***	.341***	1				
Electricity	.073***	.165***	-.368***	.250***	.016	-.132***	.114***	.345***	.295***	1			
Credit	.018	.034**	-.064***	.049***	-.009	-.018	-.007	.033***	.054***	.038** *	1		
Land	-.264***	-.150***	.332***	-.405***	.260***	.304***	-.263***	-.166***	-.402***	-.208** *	-.035***	1	
Assets	.186	-.195	.043	.027	.026	-.066	.218	-.006	-.125	-.021	.113	c	1

p<.05*

p<.01**

p<.001***

c Cannot be computed because at least one of the variables is constant.

Economic Growth

The bivariate analyses of economic and social indicators over the time span of twelve years confirm the negative correlation between child labor and GDP per capita as presented in the literature review. As can be seen in Table 8, the correlation between these two variables appears to be very strong (-.769) and significant at the $p < .01$ level. While child labor has been steadily falling in recent years, GDP per capita has been growing at a fairly constant rate (see Figure 8). The year after the global economic crisis GDP per capita had fallen, but was again on the rise in the following year. As established in the literature review GDP growth can contribute to the improvement of various social indicators such as poverty, child labor, education as long as the growth is distributed fairly equally. The GINI index changes over the last decade indicate that inequality continues to be widespread in Guatemala. According to the World Bank, the GINI index for the Central American country dropped by 2.8 percent from 2000 to 2006.²⁰⁵ Despite this improvement, the GINI index was still very high at 44.8 percent in 2006. Given the unequal income and consumption distribution described in the literature review and the fact that the GINI index has remained high in recent years, fighting inequality and offering equal opportunities to the entire population remains to be an enormous challenge for the government.

²⁰⁵ The World Bank, "Guatemala: Poverty Assessment," <http://siteresources.worldbank.org/INTLACREGTOPPOVANA/Resources/GuatemalaPovertyAssessmentEnglish.pdf> (accessed October 8, 2012).

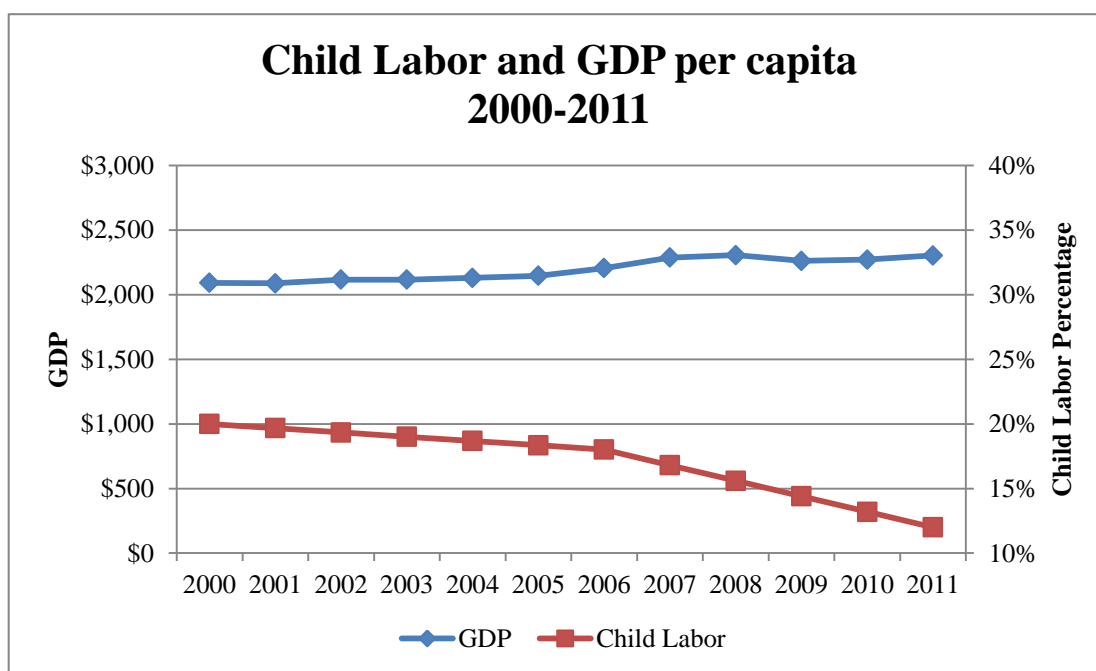


Figure 8 Child Labor and GDP per capita, 2000 – 2011

Even though GDP growth has been more evenly distributed among various sectors in recent years, the agricultural share of GDP remains fairly high at 11 percent.²⁰⁶ Since GDP growth in countries with high agricultural shares does not necessarily translate into reductions of child labor, the persistence of a relatively high percentage of agriculture in GDP should be of concern for policy makers. The bivariate correlation analyses show that there is a strong positive correlation between child labor and the share of agriculture in GDP (.851). This means that the higher the share of agriculture in GDP, the higher the probability of children working. Offering loans for non-agricultural businesses in rural areas and investing in the infrastructure could lead to a more even

²⁰⁶ Economic Commission for Latin America and the Caribbean, *Economic Survey of Latin America and the Caribbean, 2010-2011*, 105.

distribution among sectors in rural areas, in which most residents still heavily rely on agriculture.

GDP per capita also seems to play a role in the observed increases in school enrollment. GDP per capita was found to be positively correlated with school enrollment (.934), indicating that growing GDP per capita rates can have a positive effect on school enrollment. Additionally, GDP per capita growth appeared to be of significance for other school-related indicators. As GDP per capita grows, education expenditure per capita and the number of teachers in primary schools are likely to increase. The correlations of both variables with GDP per capita were observed to be strong (.826 for education expenditure per capita and .890 for number of teachers) and significant at $p < .001$.

Furthermore, GDP per capita rates seem to have an impact on fertility rates to the degree that GDP per capita growth may lead to reductions in fertility rates. The correlation between these two variables is very strong (-.891) and significant at $p < .001$. This relation may indirectly influence child labor and school enrollment. Studies presented in the literature review demonstrated that fertility rates positively affect child labor and negatively affect school enrollment. The more children a family has, the less likely they are to invest in their human capital and the more likely they are to send them off to work. The data analyses establish similar correlations between child labor, school enrollment and fertility rates. A strong positive correlation is observed between child labor and fertility rates (.760) while a strong negative correlation is found between school enrollment and fertility rates (-.921). The correlation between school enrollment and fertility rates is slightly more significant at $p < .001$ than the correlation between child labor and fertility rates at $p < .01$. Offering education on family planning and birth control,

particularly for poor households, may be an effective tool in developing more human capital.

Trade

In an increasingly globalized world, the role of economic globalization on socioeconomic issues such as child labor has been of particular interest in recent years. The literature review established that countries with high levels of economic openness are less likely to have children working than countries with closed economies or low levels of economic openness. The bivariate correlation analyses of the data confirm this association between child labor and trade. A strong negative correlation between these two variables was observed ($-.906$), which was found to be very significant ($p < .001$). Trade has been an integral part of Guatemala's economy for centuries. Over the last decade Guatemala entered into a variety of international and regional economic treaties. In addition to the DR-CAFTA, Guatemala signed free trade agreements with Colombia (2007), Taiwan (2005), Panama (2002), Mexico (2000) and Chile (1999).²⁰⁷ These international treaties appear to have led to higher levels of economic openness.

The degree of economic openness can have an impact on school enrollment. The bivariate analyses indicate that economic openness is positively correlated with school enrollment ($.925$). This strong correlation is found to be very significant at $p < .001$. Therefore, promoting trade might lead to a decline in child labor and an increase in school enrollment. The literature review documented that as a developing country participates in global trade, its initially unskilled and low-skilled labor force will be transformed into a higher-skilled work force over time. As the need for higher-skilled

²⁰⁷ Foreign Trade Information System, "Information on Guatemala," http://www.sice.oas.org/ctyindex/GTM/GTMagreements_e.asp (accessed October 8, 2012).

workers grows, the need for education to develop skills will also be on the rise and the need for lower-skilled workers will fall. Increasing wages will give parents the chance to invest in their children's human capital. As a consequence of the reductions in the number of lower-skilled jobs, the demand for child labor will decline. Economic openness and improvements in the country's production system might play an important role in reducing child labor and raising school enrollment.

As with most socioeconomic developments, GDP growth and expanded economic openness did not occur in isolation. It actually occurred alongside improvements in other socioeconomic indicators. Social public and education expenditure per capita are two such examples. Strong negative correlations between child labor and social public expenditure per capita ($-.616$) and education expenditure per capita ($-.654$) were observed. The correlations between school enrollment and these two variables are positive at $.876$ for social expenditure and $.865$ for education expenditure. These correlations are more significant ($p < .01$) than the ones between child labor and social public and education expenditure per capita ($p < .05$). Table 8 shows that most of the variables displayed share significant correlations with each other. This interconnectedness of variables could mean that tackling one socioeconomic issue may lead to improvements in other areas as well.

Table 8 Correlation Matrix for Economic and Social Indicators, 1998 – 2011

	Work	School Enrollm.	Poverty	GDP per capita	Share of Agricult. GDP	Econ. Open.	Social Public Exp.	Educ. Exp.	Nr. of Teachers	Fertility Rate	Child MR
Work	1										
School Enrollment	-.950***	1									
Poverty	-.113	-.080	1								
GDP per capita	-.769**	.934***	-.375	1							
Share of Agricul. in GDP	.851***	-.959***	.230	-.935***	1						
Economic Openness	-.906***	.925***	-.071	.903***	-.864***	1					
Social Public Expenditure per capita	-.616*	.876**	-.785**	.801**	-.807**	.678*	1				
Education Expenditure per capita	-.654*	.865**	-.552	.826***	-.752**	.739**	.940***	1			
Nr. of Teachers Primary School	-.679*	.985***	-.637*	.890***	-.899***	.802**	.902***	.920***	1		
Fertility Rate	.760**	-.921***	.355	-.891***	.919***	-.870***	-.863***	-.845***	-.934***	1	
Child Mortality Rate	.775**	-.998***	.461	-.948***	.962***	-.875***	-.919***	-.906***	-.982***	.945***	1

p<.05*

p<.01**

p<.001***

IV. CONCLUSION

In conclusion, the evolution of child labor and school enrollment rates over the last twelve years appears to be very promising. Important developments such as the decline in child labor and increases in school enrollment have taken place. These changes were observed across various subgroups (i.e. urban/rural, indigenous/non-indigenous and male/female). Even though rural and indigenous children continue to lack behind in school enrollment and are more likely to work, they have made important improvements in these areas over the last decade. Girls are also found to be slowly catching up with boys in school enrollment rates. Despite these positive developments, a range of other factors continue to be of great concern. Poverty, which was initially falling in the time period of 2000 to 2006, has been on the rise again. Furthermore, the agricultural share in GDP remains to be fairly high. As observed in the literature review, this could slower the decline in child labor.

Most of the factors associated with child labor and school enrollment in the literature review were found to be correlated with those two variables in the bivariate correlation analyses. These factors include poverty rates, GDP per capita, agricultural share of GDP, trade, parents' education, number of household members, landownership, access to basic services and natural disasters. This shows that a range of variables can be shared across regions and countries.

Nevertheless, there are also country-specific developments that need to be taken into consideration. The possession of assets and access to credit, which played a role in other studies, were not found to have an impact on either child labor or school enrollment. Contrary to other studies, the father's education was found to be more important than the mother's for child labor. Those examples highlight the need for examining issues related to child labor on a country by country basis. While most factors are present in most countries with high rates of child labor, each country owing to its unique history, socioeconomic development and cultural norms responds differently to socioeconomic issues. In order to create feasible interventions and policies these similarities and differences need to be elucidated.

Child labor among other socioeconomic problems such as poverty, unequal income and consumption distribution, low school attendance and low-quality schooling, lack of schools and teachers, lack of infrastructure, imperfect labor and credit markets, high fertility and mortality rates, lack of medical services and low-quality health care, lack of safety nets for the most vulnerable members of society, lack of basic social services, weak institutions and corruption might all or in part affect developing countries and slow down or stagnate their overall development. The correlational analyses demonstrated that most study variables were to a certain degree correlated with each other. Children in poor countries are more likely to work than children in developed industrialized countries. As a matter of fact, developing countries have fewer resources at their disposal to spend on the supply of social services. The lack of basic social services may lead to higher fertility rates and low-quality education. These factors in turn were observed to be correlated with child labor. The more children there are in a household,

the more likely they are to work. As seen in the literature review, low-quality education does not appear to be an attractive alternative to child work for parents. Parents in poor households may be uneducated and may therefore not appreciate the role of schooling for their children's future. On the other hand, poor parents who consider schooling important might not have the means to send their children to school. Sending a child to school is associated with costs such as school supplies and transportation and takes away the additional income a child could have earned working. Poor parents who would be willing to borrow against their children's future earnings may not be able to do so due to credit constraints common in developing countries. Moreover, poor households can fall further into poverty when external shocks (i.e. economic, employment and harvest shocks) occur. This may raise the need for additional household income and thereby stimulate child labor. Finally, child laborers with low levels of education will turn into low-skilled adult workers. Their wages as low-skilled workers will be relatively low and they might therefore be reliant on their own children to work.

It was shown that child labor and school enrollment can be influenced by a variety of factors and should therefore be addressed alongside other important socioeconomic factors. In order to continue the positive development of child labor and school enrollment rates, the government will have to provide more programs and subsidies to poor households. The government should provide poor families with incentives such as conditional cash-transfers, microcredits and scholarships to withdraw their children from work and enroll them in school instead. In addition to that, education would need to be presented as an attractive alternative to child labor. Building more schools and providing high-quality education could be a good start to raise the parents' as well as the children's

interest in education. As the economy grows, the demand for skilled workers should rise and the returns to education should become higher. As part of education, workshops on family planning and the provision of contraceptives should be offered to poor households in order to raise awareness and bring down high fertility rates. Studies in the literature review demonstrated that parents with fewer children are more inclined to invest in their children's human capital development. The infrastructure and production system in rural areas should also be changed in order to guarantee the development of more businesses in sectors other than agriculture. In order to make these changes possible, the country needs to be supported by strong institutions that can implement and monitor programs, and run by government officials who adopt an approach to include the entire population and reject corruption. As seen in the literature review, Guatemala is characterized by its government's malperformance in providing public goods to the entire population, weak institutions, and high levels of corruption, organized crime and impunity. Effective measures need to be taken to strengthen the institutions and to ensure that the rule of law applies to socioeconomic issues such as child-labor policies.

Even though the government will play a crucial role in making these changes possible, non-governmental and community organizations will be essential in fighting child labor. These organizations have the potential to mobilize society and to demand changes from the government. They are also very important in monitoring the government's actions and assuring that programs are implemented and carried out in effective ways. The analysis has shown that Guatemala's social and economic indicators have improved significantly in recent years. The country seems to be moving in the right direction; it needs to continue reforming and strengthening the public sector and

improving socioeconomic indicators in order to bring child labor down and raise school enrollment in the long run.

APPENDIX

Variable Operationalization

2011		
Variable Code	Variable Name	Answers and Values
REGION	Code of region	1= Metropolitan area 2= North 3= Northeast 4= Southeast 5= Central 6= Southwest 7= Northwest 8= Petén
AREA	Area	1= urban 2= rural
PPA02	Gender	1= male 2= female
PPA03	Age	None
NB_N	Welfare level	1= Extreme poverty 2= Not extreme poverty 3= Not poor
P04A02	Highest educational level of father	1= None 2= Knows how to write and read 3= Preschool 4= Some primary school 5= Completed primary school 6= Some secondary school 7= Completed secondary school 8= Some university 9= Completed university 10= Postgraduate 11= Respondent does not know his/her father 12= Respondent does not know

P04A05	Highest educational level of mother	1= None 2= Knows how to write and read 3= Preschool 4= Some primary school 5= Completed primary school 6= Some secondary school 7= Completed secondary school 8= Some university 9= Completed university 10= Postgraduate 11= Respondent does not know his/her mother 12= Respondent does not know
P04A11A	Code of ethnic group	1= K'iche 2= Q'eqchi 3= Kaqchikel 4= Mam 5= Q'anjob'al 6= Achi 7= Ixil 8= Itza 9= Poqomchi 10= Chuj 11= Awakateko 12= Poqomam 13= Ch'orti 14= Jakalteko (popti) 15= Sakapulteco 16= Mopan 17= Uspanteko 18= Tz'utujil 19= Tektiteko 20= Sipakapense 21= Chalchiteko 22= Akateko 23= Xinka 24= Garifuna 29= Ladino 30= Foreigner
P06B01	Do you know how to read and write?	1= Yes 2= No

P06B05	School enrollment for the present year	1= Yes 2= No
P06B18A	Do you pay a monthly tuition fee?	1= Yes 2= No
P06B23	Reasons for dropping out of school	1= Health problems 2= Lack of teachers 3= Mother works 4= Household chores 5= Lack of money 6= Work 7= Lack of interest 8= Severe weather 9= Pregnancy 10= Temporary migration 11= Gang bullying 12= Violence 98= Other reasons
P06B24	Reasons for not enrolling in school	1= Health problems 2= Grade level not offered 3= Lack of capacity 4= Household chores 5= Work 6= Lack of money 7= Has already graduated 8= Lack of interest 9= Distance/transportation 10= Pregnancy 11= Needs special education 12= Had to repeat school year 13= Temporary migration 14= Lack of school 15= Age 98= Other reasons
P10B02B	Type of work	1= Military Personnel 11= Public administration 12= Company CEO 13= Manager 21= Physician 22= Health care professional 23= Teacher 24= Business Administrator 25= Accountant for <i>maquiladoras</i> 31= Engineer or natural science professional

		32= Health care professional (non-degree) 33= Instructor 34= Other type of technician or professional 41= Office worker 42= Public relations worker 43= Warehouse worker 51= Private security sector employee 52= Vendor 61= Certified worker in agriculture and fishing 62= Subsistence farmer 63= Coffee grower 64= Coffee plantation administrator 71= Extractive industry and construction supervisor or operator 72= Metallurgy supervisor or operator 73= Craftsman of precision mechanics 74= Handicraftsman 75= <i>Maquiladora</i> supervisor 76= <i>Maquiladora</i> worker (machine operator) 79= Other type of job in <i>maquiladora</i> 81= Stationary equipment operator 82= Machine or forklift operator 83= Vehicle driver and mobile heavy equipment operator 91= Non-certified sales and services worker 92= Agriculture, Fishing and Forestry occupations 93= Miner, manufacturing or transportation worker 94= Coffee plantation worker 99= Job not specified
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P10B04	In the job you spent most of your time last week you were a/an...	1= Government employee 2= Private sector employee 3= Day laborer 4= Domestic employee 5= Self-employed (not in agriculture) 6= Associate in non-agricultural business 7= Self-employed in agriculture 8= Associate in agricultural business 9= Unpaid family worker
ConsumoAnual perCápita	Annual consumption per capita	None
WORK	Does the respondent work	0= does not work 1= works

2006		
Variable Coding	Variable Name	Answers and Values
NUM_HOG	Number of household	None
POBREZA	Classification of poverty level	1= Extreme poverty 2= Not extreme poverty 3= Not poor
PER_HOG	Number of household members	None
P01A05B	Is the household connected to a water distribution system?	1= Yes 2= No
P01A05C	Is the household connected to a sewer system?	1= Yes 2= No
P01A05D	Is the household connected to a power distribution system?	1= Yes 2= No
P01D16	What type of sanitary system does the household have?	1= Sewer 2= Septic tank 3= Washable toilet 4= Latrine 5= Does not have a sanitary system
P01G02	Was the household affected by hurricane Stan?	1= Yes 2= No
P15A01	Does any member of the household own a business?	1= Yes 2= No

P16A01	Does any member of the household own (or has owned in the last twelve months) fertile land?	1= Yes 2= No
P16J02	Number of farm assets	None
P17A05	Does any member of the household have outstanding loans?	1= Yes 2= No

2000		
Variable Coding	Variable Name	Answers and Values
Hogar	Number of household	None
Sexo	Gender of the respondent	1= Male 2= Female
Edad	Age of the respondent	None
p05a06	Educational level of father	1= None 2= Knows how to write and read 3= Preschool 4= Completed primary school 5= Some primary school 6= Secondary school education 7= University education 8= Respondent does not know
p05a09	Educational level of mother	1= None 2= Knows how to write and read 3= Preschool 4= Completed primary school 5= Some primary school 6= Secondary school education 7= University education 8= Respondent does not know
p05b05	Ethnic group	1= KICHE 2= QEQCHI 3= KAQCHIKEL 4= MAM 5= OTHER MAYA 6= GARIFUNA

		7= XINKA 8= NON-INDIGENOUS 9= OTHER COUNTRY
p07b05	School enrollment in 2000	1= Yes 2= No

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