THE IMPACT OF CASH TRANSFERS ON CHILD LABOR AND SCHOOL ATTENDANCE IN BRAZIL

by

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ON CHILD LABOR AND SCHOOL ATTENDANCE IN BRAZIL

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Abstract

The paper estimates the impact on school attendance and child labor of conditional cash payments to poor families in Brazil. It describes Brazil's transfer programs and presents statistics on school attendance and child labor. In the second half of the 1990s, many municipalities had adopted the "Bolsa Escola" (a cash transfer conditional on school attendance) and/or the federal minimum income program (in place during 1999 and 2000 and replaced by the "Bolsa Escola Federal" in 2001). Although conditional cash transfer programs in Brazil have been in place since 1996, studies on their ex-post impact are very few. Micro household level data from the 2000 Census allows the use of propensity score methods to estimate the impact of income transfers on child labor and school attendance. The paper finds that income transfer programs had no significant effect on child labor but a positive and significant impact on school attendance. These preliminary results suggest that these programs have not been effective in fighting child labor in Brazil. They increase the chance of a poor child going to school but do not reduce her labor activity perhaps because she prefers to combine school and labor, considering that the transfers are too small to provide an incentive to forgo the labor income.

Key Words: Child labor, School Attendance, Income Transfer Programs, Brazil.

1. Introduction

Using the data from the Census 2000, this paper tests whether income transfers to poor families have increased school attendance and reduced child labor in Brazil. After this introduction, section 2 briefly reviews the literature on child labor and section 3 discusses the relationship between child labor and school attendance. Using data from surveys (*Pesquisa Nacional por Amostragem a Domicílio* (PNAD) of the *Instituto Brasileiro de Geografia e Estatística* (IBGE)), section 4 reviews the decline of child labor and the increase in school attendance in Brazil between 1992 and 2001. Section 4 also discusses the household characteristics that influence these two behavior outcomes. Section 5 examines the income transfer programs in Brazil, such as the Program for Eradication of Child Labor (PETI), the municipal Bolsa-Escola programs starting in 1996, the Minimum Income Program (Programa de Garantia de Renda Mínima) of the Ministry of Education in 1999-2000, and the Bolsa-Escola Federal since 2001. Section 6 describes the Census data on school attendance and child labor in 2000 and section 7 uses the census data to test whether the income transfer programs in 2000 affected child labor and school attendance. Section 8 summarizes the main conclusions.

The 1973 convention of the International Labor Office (ILO convention 138) specifies fifteen as the age above which, in normal circumstances, a person may participate in economic activity and defines a child as a laborer if the child is economically active or gainfully employed. Basu (1999), cobbling information from various sources, reports that in 1990 there were nearly 79 million children economically active. ILO (1996) estimates that in 1995 there were 120 million children engaged in full-time work. Most of them were in Asia. Evidence in 2000 suggests that the absolute number of children economically active in the world has been declining. There were approximately 1.5 million children working in Brazil in 2000 (Census, 2000).

Child labor has a tendency to decline with economic prosperity, the availability of schools and small incentives, such as providing children with a meal in school or giving parents a subsidy for sending their children to school. The declining trend in child labor is very clear in Brazil. But the relative importance of different factors that contributed to this declining trend is not yet well established.

Fernandes and Souza (2003) report that between 1992 and 2001, the share of boys and girls between 10 and 17 years of age in the labor force in Brazil declined by 30 percent. In 1992, 36 percent of boys (and 19 percent of girls) between 10 and 17 were in the labor force. In 2001, these ratios had fallen to 24 percent (and 12 percent). According to the 2000 census, 11 percent of boys and 5.4 percent of girls between 10 and 15 years old were in the labor market.

Not all types of labor are harmful to children. If associated with a nurturing working environment in the home, it can provide training and discipline for the labor market in adulthood. Nevertheless, the type of labor in which children are involved can impose substantial harm to their physical and mental health. In Brazil, long knives and machetes used for cutting, piling, and hauling the crops cause injuries among children working on sisal (jute) or sugarcane plantations. The heavy manual labor of agricultural activities places physical and emotional strain on the child workers. In urban areas children may be engaged in street vending, garbage collection, and illegal occupations such as selling drugs or prostitution.

Child labor also has an adverse impact on education and future earnings, as discussed in section 3. Governments and NGOs have tried a variety of laws and interventions to reduce child labor. Some countries have enacted laws prohibiting firms in their country from employing children under the age of fifteen. Organizations such as ILO, the WTO, and UNICEF have established conventions and encouraged nations to ratify them. The most powerful and controversial supranational institution to curb child labor is the imposition of international labor standards but the world has been slow to adopt them. Some countries have considered legislation and actions to curb child labor in developing countries. For instance, the Child Labor Deterrence Act debated in the US congress seeks to disallow the import of goods that produced with the help of child labor. Protectionist forces that represent narrow interests can misuse these interventions. Moreover, a ban, which is based on the working conditions and the imposition of minimal labor standards as a prerequisite for trade, results in the maintenance of standards only in the export sector.

Beyond home legislation, the major instrument for eradicating child labor is compulsory education. Policy makers and multilateral institutions are praising the achievements of programs of conditional income transfers in reducing child labor and

increasing the access of children to education. These programs deserve close scrutiny. The paper begins by examining the major insights of the literature on child labor in the next section.

2. The literature

There is a strong belief that poverty causes child labor. The World Bank and national governments have collected large data sets on household behavior during the 1990s. The data seems to confirm that the most important cause of child labor is parental poverty (Basu, 2003). Yet, Barros, and Velazco (1994) as well as Goldbaum, Garcia and Lucinda (2000), comparing data from numerous Latin American countries, found that poverty does not explain the share of working children in those countries. Such findings impose the need of considering other causes and triggering factors beyond poverty that play a role in determining child labor.

The formal analysis of child labor is closely related to the modeling of household behavior. Becker (1964) pioneered the traditional model of the household as a unit. Subsequent work considered the household behavior as the outcome of internal bargains and power struggle (Bourguignon and Chiapori, 1994). Other models assume that a child has negligible bargaining power in the household and is an instrument for parents' maximization of effort. Gupta (1998) models the bargaining between the parent and the employer.

Basu and Van (1998) argue that the early household models overlooked an important fact: a labor market, where children are potential workers, will be prone to having more than one equilibria. Basu (2003) explains why this insight is important:

"Consider a poor country, where wages are very low and all children are for that very reason made to work. Now assume, for the sake of argument, that child labor is banned. The firms that are using child labor will be forced to seek adults to fill those gaps. Hence the wage rate of adult labor will rise. Now, it is entirely possible that, the wage were high to start with, then the parents would not have sent the children out to work anyway. Hence, even if the law is now revoked, wages will be high, children will not work and this will sustain the high wage. In other words, this economy had multiple equilibria and hence the law works simply as a mechanism for deflecting the economy

from the inferior equilibrium, where wages are low and children work, to the superior equilibrium, where wages are high and there is no child labor."

But this may not always be the case. Of course, minimal restrictions, such as restrictions that prevent children from working in hazardous occupations, are worthwhile enforcing legally. But there is no unconditional answer to a total ban even if it were feasible and costless to implement because there are situations in sufficiently poor regions where a ban on child labor can cause children to starve or drive them to underground activities. If deemed desirable, a good way to implement a ban is to make schooling compulsory. Even when work is compatible with part time work, it prevents full time work and schooling is desirable in itself.

Child labor is also part of the household's risk management strategy as shown by Mendelievich (1979), Cain and Mozumder (1980) and Grootaert and Kanbur (1995). The impact of job loss and other shocks on the households' income stream is more severe on poor households that have no savings and cannot borrow. Thus, both low income and the constraints imposed by the limited asset base of poor households explain child labor supply.

Evidence on the relationship between child labor and the availability of credit suggests that extending access to borrowing may be an effective way of reducing child labor in poor countries (Dehejia and Gatti, 2002).

World Bank (2001) reports that in Brazil a child whose father experiences a shock and is in the lowest income quintile has an approximately 42 percent greater probability of dropping out of school than a child in the same quintile whose father does not experience a shock. Children in the second and third income quintiles whose parents experience an income loss have about a 30 percent greater probability of dropping out of school than those whose parents do not experience an idiosyncratic shock to their income. Grade repetition increases by about 23 percent for children in the lowest income quintile when their parents experience an income shock. This evidence supports the argument that credit-constrained households will cope with crises by changing their children's time allocation by substituting away from school toward work.

Beyond the household's ability to cope with income fluctuations, other key factors that affect child labor supply include household size and composition, and the education and employment status of parents. Grootaert and Patrinos (1999) focus on the labor

supply decision by the household and report the findings of a comparative study in Côte d'Ivoire, Colombia, Bolivia, and the Philippines. The key findings are the following: in all four countries, the more educated the parents the less likely are their children to work; the older children are more likely to work than younger children and boys are more likely to work then girls; a family rural enterprise increases the probability that a child will work. The probability of child labor is always higher in rural then in urban areas and among the poor; children's wages constitute a substantial share of the family budget in the rural areas of the four countries studied.

On the demand side, both the functioning of the labor market and the production technology influence the demand for child labor. Wages in the labor market determine the income to child and adult labor. Discrimination or segmentation in the labor market and the production technology determine the extent to which the labor of children and adults can substitute for one another. The stigma associated with having children at work influences both demand and supply of child labor and is negatively related to the amount of child labor that occurs in society.

Suppose that intervention, such as monetary incentives to send children to school, can reduce child labor little by little. At some point, as we move to a zone where child labor is not anymore widespread and the stigma associated with sending one's children to work increases, child labor will tend to fall off rapidly. This hypothesis is consistent with the evidence in many countries of a rapid decline of child labor over a short period of time.

Intergenerational child labor traps are also possible (Baland and Robinson, 2000). People who work as children grow up without enough human capital are thus poor as adults. Poverty compels them to send their children to work, trapping the family line in a perpetual child labor cycle. Emerson and Souza (2003) find that in Brazil parents who worked when they were children are more likely to have their own children in the labor force. They also find that parents who worked during childhood are more likely to send their children to work even if adult incomes were to be held constant. This evidence suggests that causation goes beyond economics and that parents, who work as children, are likely to have social norms that attach less value to children's schooling.

3. Child labor and school attendance

The combination of high opportunity costs of school attendance and an education system with low quality will result in low valuation of the returns to child's education, low school attendance and high participation of children in the labor market. Child labor can harm the child's development if it affects the child's health or take away time the child could use to build its human capital. Children who work end up with lower salaries in adult life in comparison with similar individuals who went to school.

Papers that investigate the relationship between education and child labor find that school and part time work are not mutually exclusive activities. In some cases, working makes it possible for children to go to school. A restricted amount of work and school can thus be complementary (Peter Jensen and Helena Nielsen, 1997, Grootaert, 1998, Psacharopoulos, 1997, Patrinos and Psacharopoulos, 1997). Yet, compulsory education can play a role in limiting child labor and even where education is not compulsory, the availability of good schools can move children away from long hours of work (Addison and others, 1997).

World Bank (2001) shows evidence for Brazil that suggests that child labor tends to lead children to substitute away from both school and leisure. The majority of children who work in Brazil are also enrolled in school. But among those who are not working a higher share is enrolled in school than among children who are working. Thus, there appears to be some reduction in quantity of schooling in the presence of child work. Enrollment for nonworking children remains strictly above those of working children across all ages and the difference increases across increasing age cohorts.

Working children in Brazil typically enter school 4 months later than nonworking children (World Bank, 2001). Those children who work lag behind in grade by 0.05 years for every year they remain working. Child labor negative impact on educational achievement is larger in rural areas when compared to children in urban areas. The correlation between early work and school attainment at the local level is negative, as expected. The highest incidence of child labor can be found in the regions with the worst schooling indicators. In many states, however, the association between child labor and schooling indicators is not statistically different from zero, which confirms that factors

other than early entry into the labor force influence school retention and learning outcomes.

Ilahi and Sedlacek (2000) analyze the lifetime earnings implications of child labor, using a unique dataset on adult earnings in Brazil. In their survey, respondents were asked retrospectively if they worked when they were children. By treating child labor symmetrically with child schooling in regressions explaining adult wages, they were able to isolate the long-term impact of child labor on human capital accumulation. Early entry into the workforce reduces lifetime earnings by 13 to 17 percent. It raises the probability of being poor later in life (that is, falling into the bottom 40 percent of the income distribution) by 7 to 8 percent. Both direct effects (independent of the effect on education) and indirect effects (through the effects on education) are statistically significant. The direct effect of child labor is about 3 percent for adult wages and 4 to 5 percent for poverty. The indirect effects through education are also quite large in magnitude—11 to 14 percent for wages and about 3 percent for poverty.

Grootaert and Kanbur (1995) argue that social returns to education may exceed private returns. Thus government intervention to direct children away from the labor force and to the classroom may be desirable. The ideal policy according to Grootaert and Kanbur is to bolster the returns to education. Government can also intervene by providing more and better schools and by giving school meals to children or cash incentives to poor parents who send their children to school.

Changes in institutions, increased number of schools in the rural areas, and the introduction of social programs — such as income transfer to poor families with the condition that children should attend school — can also explain changes in children's participation in the labor market and school attendance. Bourguigon, Ferreira and Leite (2003) observe that a growing number of developing countries are adopting cash transfers targeted to poor people, but conditional on some behavior on their part, such as school attendance. The paper puts forward a method (based on estimated models of household behavior) to simulate the effects of alternative program designs on behavior and welfare. It applies the method to Brazil's recently introduced Federal Bolsa Escola Program. The conditionality in the program has a strong effect on school attendance. The effect on current poverty and child labor is muted in the simulations of the paper. Evidence in section 7 is consistent with this result.

The next section discusses the association between increases in school attendance and reduction in child labor between 1992 and 2001 and the economic and demographic characteristics of children and their families.

4. Changes in child labor and school attendance in Brazil from 1992 to 2001

As observed in section 2, poverty is an important factor behind child labor. Poverty is associated with the characteristics of the household: parents' education, region, size of the household, and the age of the children. Changes in the distribution of these characteristics can be associated with changes in children's participation in the labor market and school attendance. This section summarizes main findings in Fernandes and Souza (2002). The analysis uses the data from the *Pesquisa Nacional por Amostragem a Domicílio* (PNAD) of the *Instituto Brasileiro de Geografia e Estatística* (IBGE). The sample consists of children between 10 and 17 years: 28,017 girls and 29, 804 boys in 1992 and 29,804 girls and 30,350 boys in 2002.

Beginning in early 1990s, child labor in Brazil declined and school attendance increased. Boys at work were 36.3 percent in 1992 and 23.5 percent in 2001. Girls at work were 18.5 percent in 1992 and 12.5 percent in 2001. The percentage of boys going to school increased from 76.1 percent in 1992 to 90.6 percent in 2001. The percentage of girls going to school increased from 79.8 percent in 1992 to 90.5 percent in 2001 (table 1).

The decomposition method shows that the decline in child labor and the increase in school attendance observed in the period are mostly due to changes inside each group under analysis. The most pronounced changes between 1992 and 2001 occurred among children between 14 and 17 years in contrast to children between 10 and 13 years. It also occurred among children living in households where the head of the household had less than three years of schooling. This result suggests that changes occurred among the poorest families.

Table 2 shows that the reduction in the probability of child labor does not depend on the gender of the head of the household or on the size of the family. The reduction of this probability is clearly bigger for children 14 to 17 years old than for children 10 to 13 and in households where the head of the household has less than 3 years of education. It

is also bigger in the rural than in the urban area. But, as the children population is bigger in the urban area, the contribution of the decline in child labor in the urban are to the total decline in child labor is bigger than the contribution of the decline in child labor in the rural area. Results are the same for boys and girls.

Table 3 shows that the increase in the probability of a child attending school also does not depend on the gender of the head of the household or on the size of the family. The change of this probability is clearly bigger for children 14 to 17 years old than for children 10 to 13 and in households where the head of the household has less than 3 years of education. It is also bigger in the rural than in the urban area. But, as the children population is bigger in the urban area, the contribution of the increase in school attendance in the urban are to the total increase in school attendance is bigger than the contribution of the increase in school attendance in rural areas. Results are the same for boys and girls.

Results in tables 2 and 3 suggest that the decline in child labor could be closely associated with the increase in school attendance. Section 7 will test the impact of cash transfer programs on both child labor and school attendance.

5. Income transfers programs in Brazil:
PETI, Bolsa-Escola, Renda Mínima and Bolsa-Escola Federal

This section reviews a group of programs of income transfer to poor families on the condition that children should attend school, beginning with the program for the Child Labor Eradication Program (PETI).

World Bank (2001) offers a positive evaluation of PETI. The objective of the program was to eradicate the worse forms of child labor by providing cash grants to families with children of school-going age (7 to 14) and by requiring that children attend school both 80 percent of the required number of hours at school and the *jornada ampliada* (a program of after-school activities). In 1996, the federal government implemented a pilot program in the state of Mato Grosso do Sul, an area of high incidence of children working in the production of charcoal. In January 1997, the program was introduced in the state of Pernambuco (which has high numbers of children working in the cultivation of sugarcane) and in July 1997, in the sisal region of the state

of Bahia. By 1999 the program had managed to reach 166 municipalities in eight states and provided assistance to more than 131,000 working children (almost 10percent of working children in Brazil).

Pianto and Soares (2003) use the PNAD survey and find that PETI reduced child labor and increased schooling between 1997 and 1999. They use two different methodologies: they measure the change from a baseline level in municipalities where PETI was introduced and they also match municipalities to form a comparison group. They find that the child labor impact of PETI is robust to the difference in difference analysis.

World Bank (2001) observes that many challenges besiege the expansion of PETI to urban areas. Child labor is more difficult to target in urban areas because occupations are much more heterogeneous than those in rural areas. Many of the forms of child labor take place in the streets and data for children vending items, collecting trash, selling drugs, and engaging in prostitution are difficult to obtain. Strategies to involve families in the program would be more difficult because of the potential weak link between children working on urban areas and their families. Exposure to drugs and violence may require additional methodologies and support, such as counseling and rehabilitation.

The Bolsa Escola programs are poverty-targeted social assistance programs similar to PETI as they give cash grants to poor families with school-age children (7-to-14-year-old children). The differences between the two programs are that PETI was initially introduced in rural areas and Bolsa Escola is initially located in metropolitan areas. PETI targets the worst forms of child labor while the Federal Bolsa Escola, initiated in 2001, selects families based on an income-means test and/or a scoring system.

Bolsa Escola programs have ambitious objectives. They aim at increasing educational attainment among today's children and thus at reducing future poverty. By requiring children in beneficiary households to have minimum attendance in school, the programs implicitly aim at reducing child labor. By transferring income to poor families, they could also reduce current poverty.

In 2002, 5,545 municipalities (99.7 percent of all Brazilian municipalities) had joined the Bolsa Escola Federal. The program provided assistance to five million children according to the Ministry of Education (2002). Until October 2002, the program had spent R$ 1.3 billion from the R$ 2 billion in the budget for 2002. The Ministry of

Education (2002) calculated the operational cost of the program around 7 percent of distributed benefits. The program pays R$ 15.00 per child between 6 and 15 years old (up to R$ 45.00) to a family with an income per capita below R$ 90.00. The mother promises to keep all the children in school.

The idea of paying an income transfer to poor families that allow them to keep their children in school was born in the 1980s at the University of Brasília under the coordination of professor Cristovam Buarque and was implemented in 1995 by the government of the Distrito Federal. In 1996, the Bolsa-Escola received a UN prize and become a model for the rest of the country. Despite all the enthusiasm in Brazil and abroad surrounding the program, our knowledge about its costs and benefits are still imperfect.

Yet the appeal of minimum income programs continues to grow in recent years prompted by preliminary evidence that these programs can have positive repercussions by reducing poverty in the short term and by upgrading education among social groups excluded from the social protection system. Programs in place include in Mexico: Oportunidades/Progresa; in Brazil: Bolsa Escola, Bolsa Alimentação and Programa de Erradicação do Trabalho Infantil (PETI); in Colombia: Familias en Acción; in Honduras: Programa de Asignación Familiar (PRAF); in Jamaica: Program of Advancement through Health and Education (PATH), in Nicaragua: Red de Protección Social (RPS) and in Bangladesh: Food for Education. Soufias and Parker (2001) and Buddelmeyer and Skoufias (2003) provide evidence that in Mexico PROGRESA had a positive effect the school attendance of both boys and girls in primary and secondary school and a small but negative impact on children's labor market participation (especially boys). Since the fall in the incidence of work is smaller than the increase in schooling, the adjustment seems to be coming mostly through leisure time, as well as through domestic work primarily in the case of girls.

The endorsement of the Bolsa Escola program in Brazil by the World Bank is based on a case study: the case of Brasília, Distrito Federal (DF). See World Bank (2002). The endorsement of the International Labor Office (ILO) is based in the case study of Recife. See Levinas and others (2001).

In 1999, many states and municipalities had replicated the Bolsa-Escola Program. World Bank (2002) refers to 60 programs. Levinas and others (2001) refer to more than

100 programs. But both documents reproduced the only systematic counting of the programs done at the Instituto de Pesquisa Econômica Aplicada. (Levinas and Bittar, 1999). According to this document, in 1998, the program existed in three states (Amapá, Goiás, and Tocantins), in 45 municipalities in São Paulo, and in other nine municipalities in different states. Adding the programs of four other states (Alagoas, Minas Gerais, Mato Grosso do Sul, and Acre) that were not in Levianas and Bittar's list, we obtain 61 programs at the beginning of 1999. Other 17 non-governmental programs, called Bolsa Escola Cidadã, also exist and are run by the NGO Missão Criança.

Detailed analysis of the Bolsa Escola before 1999, always cover the same programs: Brasília DF, Campinas and Recife. Brasilia DF between 1995 and 1998 is the most successful case. At the end of Cristovam Buarque's administration, the program covered 80 percent of the families with an income per capita below half the minimum wage and residing in Brasília, DF, for more than five years. The program increased school attendance and reduced child labor using less than one percent of Brasília's budget. Part of the success derives form the relative affluence of Brasília in relation to other municipalities. While the Distrito Federal would need one percent of its budget to benefit all children between 7 and 14 years old belonging to families with an income below half the minimum wage, Salvador (Bahia) would need 20 percent of its own budget to obtain the same result (World Bank, 2002).

At the end of the 1990s, Recife's program covered just two percent of the poor families and around 20 percent of the families with the characteristics requested by the program, including time of residence. (Levinas and others, 2001). The program did not have an impact on reducing child labor. The children who benefited from the program had a worse score on a performance test than the children who did not receive the benefit but had the same characteristics of the group benefiting from the program.

Levinas and others (2001) asserts that the vast majority of municipal programs in 1998-99 served a very small fraction of the poor population and that many municipalities substituted food or cooking gas for cash payments. The programs did not aim at guaranteeing that a child would finish primary education. On the contrary, in some municipalities there was a turn over of beneficiaries with a family, which was benefited in one year, being forced to leave the program the following year to open space for another family.

Just before the 1998 elections, the Ministry of Education launched the Minimum Income Program (Programa de Garantia de Renda Mínima) for municipalities with an income per capita and tax revenues below the average of its respective state. The program objective was to benefit children between 7 and 14 years old attending school. In December 1999, the Ministry of Education informed that the program benefited 504,000 families (and around one million children) in one fifth of all Brazilian municipalities, with differentiated payments that averaged R$ 37.00 per family.

Until now, evaluation of the impact of the set of these programs on poverty, education and child labor do not exist. It is not know what happened to municipal programs after the introduction of the Minimum Income program and the government never made or published an analysis of this program. The program disappeared in 2001 as the government substituted the Bolsa Escola Federal for it. The government is currently discussing the possibility of substituting all income transfer programs (including the "Fome Zero" created in 2003) with a single benefit program. The program would make use of cash payments and conditions such as school attendance or visits to local clinics. Camargo and Ferreira (2001) argue in favor of this reform. The major difficulty is to build a trustworthy catalogue of poor families entitled to benefits. The catalogue (inherited from the previous government) was done in a hurry by mayors themselves. As a consequence, the catalogue has many beneficiaries' addresses as the address of the prefecture itself. See Ferreira (2003). Before moving in the direction of a single conditional benefit, it is also important to know the impact of existing cash transfer programs.

6. The Census Data and The evidence from the Census

The Brazilian Census 2000 developed by the Brazilian Census Bureau IBGE is a household level sample that covers around 12 percent of the Brazilian population. Similarly to the Public Use Sample (PUMS) of the United States Census Bureau, the micro data sample from the Brazilian census is representative to the entire country at each municipality level and includes information on demographics and labor market variables. The advantages of the Census compared to other household surveys available in Brazil

are that it covers the entire country whereas the other surveys not, and, it has information on transfers from social programs that are not available in the others.

In order to estimate the incidence of child labor and school attendance in Brazil and its regions, we selected a sample of all children aged ten to fifteen years old with valid information on child labor and school attendance. The school attendance variable is obtained from the question "attend school or day care" and a child is considered working if he or she is regularly occupied in the labor market or in domestic activities linked to the market. We start from a ten-year-old child because available information on child labor starts at this age. The fifteen year old cut-off is justified by the fact the Brazilian labor law imposes sixteen years of age as the minimum age at which a person is allowed to participate legally in the labor market. The sample consists of 2,387,677 children and its basic statistics are presented in the Table A.1.a in the Appendix.

In 2000, approximately 18 million children between 10 and 15 years old (8,689,984 girls and 9,086,986 boys) lived in Brazil (Census 2000, IBGE). Among these children, 8.32 percent or close to 1.5 million children were in the labor force (table 4). Among the working children in Brazil, 54 percent were in the urban area and 46 percent in the rural area. Although the share of working children in the rural area is higher than in the urban area, the absolute number of working children is higher in the urban area than in the rural area. Moreover, because the population differ much across states and the most populous states are not the poorest, there is an enormous difference among states with the highest absolute numbers of working children and the states with highest shares of working children. More than half of working children (51 percent of them) were in only six states: São Paulo, Minas Gerais, Bahia, Ceará, Rio Grande do Sul, and Paraná. São Paulo and Minas Gerais have the highest number of working children (approximately 164 thousand and 157 thousand respectively). Amapá and Roraima have the lowest number of working children (above 2 thousand, each). The highest shares of working children are in Rodonia and Tocantis (14 percent and 13.6 percent respectively). The lowest shares are in Distrito Federal (2.2 percent) and Rio de Janeiro (3.4 percent).

Ninety two percent of the girls between 10 and 15 years old and 84.2 percent of the boys just attended school. The proportion of children who both worked and went to school was much higher than the proportion of children who just worked. For the country as a whole, on average, 4.6 percent of girls and 9.1 percent of the boys attended school

and worked; 0.8 of the girls and 2 percent of the boys just worked. The remaining 4.4 percent of the girls and 4.7 percent of the boys did not work and did not go to school (table 5). These aggregate numbers hide wide variations across urban and rural areas. For instance, while 23.6 percent of boys in Brazil's rural area worked, 6.2 percent of boys in the urban area worked.

Because the population in rural areas is smaller than population in urban areas, the five states with the largest share of working children in the rural area are not the same as the five states with the largest share of working children in both urban and rural areas. Table 6 and 7 show the highest incidence of working children by region and gender. This incidence varies widely across rural and urban areas in the same region and among boys and girls. For instance, more than 30 percent of boys in the rural areas of Piauí, Paraíba, and Espírito Santo worked while less than 2 percent of girls worked in the urban areas of Distrito Federal and around 2 percent of girls worked in the urban areas of Rio de Janeiro.

The proportion of children who do not study and do not work is also very high. Approximately 25 percent of boys in the Amazon and 17 percent of girls in Rondonia do not work and do not go to school. Not only poverty in these states but also the lack of schools or the exclusion of some groups must play a role here.

7. Econometric Tests

Of particular interest to this study, the Census 2000 gathers information on the values of transfer income received by the individual from official transfer programs such as minimum income, bolsa-escola, unemployment insurance, and handicapped aid. Our goal is to disentangle the value received from unemployment insurance and aid for handicapped from the value received from minimum income and bolsa escola and then test the impact of these two latter programs on the incidences of child labor and school attendance among participating children in Brazil.

The ideal experiment would be to observe the same children in both states of the world. One where there is no income transfer and another where there is nothing different

but the income transfer. Comparisons between outcomes from each state would give us the impact of the income transfer on the outcomes of interest. However, this ideal world is not observed. For that matter, we have to rely on constructed counterfactuals to be able to say something about the income transfer impacts. Given our data limitations, we are only able to tell which families received income transfers and which not. Those children living in families that received income transfers are our treatment group. Our counterfactuals are those children in families that could have received the income transfers but did not. In order to construct this comparison group, we apply the propensity matching score method (Rosenbaum and Rubin, 1983). The method balances the observed covariates between the treatment group and a comparison group.

The next section describes the selection of four different samples. All four samples include a treatment group and a random sample from which a different comparison group will emerge.

7.1. The Sample Selection

Our first step is to construct the treatment and comparison groups we assign a child to the treatment group if she belongs to a family that receives cash transfers. A family is considered receiving cash transfers if the father or the mother has strictly positive values on the income transfer variable. Conversely, a family is considered not belonging to an official income transfer program if the father and the mother do not receive any official income transfer.

In order to eliminate the effect of the handicapped aid transfer we dropped from all samples all children that live in families where there is at least one handicapped member.

The treatment group in the main sample includes all children aged 10 to 15 years old, living in families where parents receive transfers from social programs. These families represent around 2 percent of all children aged 10 to 15 years old in the Brazilian Census 2000. The main sample adds to this treatment group a random sample of 25 percent of all 10 to 15 years-old children from families in which parents do not receive public transfers. Table A.1.b in the appendix presents the basic statistics of this "all families sample" with 428,740 observations.

We also create other three alternative samples: "only poor families sample", "all families with employed parents" and "only poor families with employed parents."

In the "only poor families sample" we select a sub-sample of all children living in poor families because the bolsa-escola and the minimum income programs are supposed to target poor families. A family is considered poor if the family per capita income is equal to or less than one hundred reais (R$ 100) at 2000 values. The family per capita income is defined by the sum of all income (minus the transfers described previously) divided by the number of members in the family. Pensioners, domestic servants, relatives of domestic servants, and people living in collective houses were not considered family members. One hundred reais represent roughly 55 percent of the monthly minimum wage prevailing in 2000.

The census does not ask separately for information on unemployment insurance payments received. So we are not able to separate the income from unemployment insurance from the conditional transfers for the complete sample. As unemployment benefits to poor families also act as a partial safety net —as they prevent the families that benefit from it from falling further into poverty in the event of an adverse shock — it is important to know the impact of these transfers on child labor and school attendance.

Yet, we also want to know what is the impact of conditionality. Thus, we try to sweep out the unemployment insurance effect by constructing two dummy variables, one for each unemployed parent. The assumption is that the parent receiving unemployment insurance is unemployed. Because people working in the informal market could at the same time be receiving unemployment benefits and we want to ensure that the effect of unemployment insurance does not affect the impact of conditional cash transfers on schooling and child labor, we build two other samples. These two sub-samples exclude unemployed parents. The "all families with employed parents" sample and the "poor families with employed parents" are sub-samples of children living in families where both parents are not unemployed and thus cannot be collecting unemployment insurance. Thus, they can be employed or out of the labor force.

The basic statistics of these other samples can be obtained from authors.

7.2. The Empirical Strategy

We construct for each child a school attendance indicator variable and a child labor indicator variable. The school attendance variable is obtained from the question "attend school or day care" and a child is considered working if he or she is regularly occupied in the labor market or in domestic activities linked to the market.

Additionally, we construct children characteristic variables, such as gender, age and ethnicity, as well as variables for fathers´ characteristics, mothers´ characteristics, family composition and the municipalities´ characteristics (described below). For children without a father or a mother, we assign zero values for his or her absent parent characteristics. In order to control for possible bias due to these assignments, we add a father absent indicator variable and a mother absent indicator variable.

Children living in families that received income transfers are our treatment group. Our counterfactuals are those children in families that could have received the income transfers but did not. We assign three observations from the comparison group to each observation of the treatment group. This assignment is based on the predicted propensity scores estimated by a logit model where the dependent variable is the indicator variable for a child belonging to a family that receives the income transfers and the control variables are a set of children characteristics, father characteristics, mother characteristics, municipality characteristics, political party of the mayor in 2000, and others. The children characteristics are age, gender, race, and rural indicator. The parent characteristics are years of schooling, age, race, unemployment dummy and income minus transfer. The family composition are the numbers of children aged 0 to 5, number of individuals aged 6 to 15, and number of individuals above 16. The Municipalities characteristics are the averages and standard deviations of schooling, age, and income minus transfer, and the proportion of people living in rural areas. Additional controls are absent parent dummies. Since until 2000 the majority of these transfer programs are decentralized at local government levels and the criteria to a municipality having a conditional cash transfer program are not completely clear and may depend on political factors, we added the political party dummies as additional controls on the propensity scores calculations. We use the nearest neighborhood criteria for this matching with replacement and kept the observations in the common support only.

A caveat is important to mention here. The underlying assumptions are that the assignment of treatment is independent over families conditional on observable controls,

and the outcomes are independent of participation given the observable controls. On this point, see, for instance Rosenbaum and Rubin (1983) and Ravallion (2001).

Four matched samples are obtained. The first two columns of table A.2 in the appendix shows the logit coefficients for the "all children" sample matching and the last two columns of the same table shows the coefficients for the "all poor children" matching. Table A.5 shows the logit results for the "all children with employed parent" sample matching and the results for the "poor children with an employed parent" sample matching. We follow Dehejia and Wahba (1998) and after units are matched we estimate the impact of transfers.

7.3. The Results

Having done the matching as described in the previous section, we proceed to collect the basic statistics of the resulting four samples. Tables A.3, A.4, A.7, and A.8 in the Appendix show the basic statistics for selected variables. These tables show that (in the treatment group, depending on the sample considered) the average income transfer for a father is between R$ 60 to R$ 75 and it is between R$ 48 to R$ 57 for a mother.

Table 8 shows the effects of transfers for the "all children" sample. The effects are calculated separately for boys and girls. While 95 percent of boys attend school in the treatment group, around 92 percent of them attend school in the control group. The average treatment effect is an increase of 3 percentage points in school attendance among boys and the effect is highly significant. Considering that in the comparison group there are only 8 percent of boys out of school, a 3-percentage points change is a big effect.

On the other hand, there is no discernible difference for child labor between the two groups.

We also obtain the impact of transfers on four other categories: children attending school only, working only, working and attending school, and children that do not work in the labor market and do not attend school. Table 8 shows that there is a transfer impact on reducing only working child incidence, an increase on work and school incidence, and a decrease in the no work and no school incidence among boys. It seems that the cash transfer program increases the incidence of school attendance by driving to school children who previously only worked and children who previously did not work and did

not go to school. Note that the decrease in the incidence of only work children is partially compensated by the increase in the incidence of school and work children and that explain why there is no net impact on child labor. The results for girls are similar except that there is a small positive net impact on child labor, possibly due to the fact that the no school/no work girl starts to work and go to school at the same time.

Tables 9, 10 and 11 show similar results for the other samples. In the sample for "only poor children", the coefficients measuring the impact of transfers on school attendance is bigger than in the "all children" sample. Results described above for the "all children" sample remain the same when we repeat the tests for samples with "children with employed parents", as shown in Tables 10 and 11.

Finally, we can shed some light on the determinants of school attendance (and child labor) by estimating a logit model using the matched samples again. Tables 12 and 13 show evidence that supports the hypothesis that transfers made to mothers are more efficient than transfers made to fathers. In the logit models, school attendance the coefficient of transfers made to mothers are much bigger than the coefficient of transfers made to fathers and their difference is statistically different from zero. Interestingly, there are no statistically difference between the coefficients of transfers to fathers and transfers to mothers regarding child labor outcome. These results are partially consistent with Emerson and Souza (2002) where they find evidences of differences in intra-household allocation between father and mother and child´s gender.

8. Final Remarks

This paper examined the impact of cash transfer programs, such as minimum income program and the bolsa escola, on child labor and school attendance among ten to fifteen year-old poor children in Brazil. It finds that these programs have a significant impact on increasing school attendance. The results are the same for boys and girls, and seem to be robust since they are similar for alternative samples of children in poor families and samples that include only children with employed parents.

Our results suggest that these transfers change the child´s time allocation between school and work. The cash transfer programs reduce the incidences of only work child and no work/no school child and increases the incidences of only school child and school

and work child. That is, some of those children that are not at school nor at work or working only start to go to school and to work concomitantly.

The paper does not find an impact of conditional cash transfers on reduction of child labor as net effect. A possible explanation for this finding is that the cash transfers are too small to create the incentive for families to forgo the income from child labor. The average transfer in 2000 was well below half a minimum wage for a father receiving an income transfer (including unemployment benefits) and around one quarter of a minimum wage for a mother receiving an income transfer (including unemployment benefits). Even if such transfers were approximately what a child earns working, they would not be enough to convince both parents and children to give up combining work with school (the condition for receiving an extra income). This would be particularly true if the income the child derives from work represents a substantial contribution to family income. Kassouf (2001) observes that for 17 percent of rural households in Brazil, the contribution to family income from working children aged 5 to 14 years represents more than 40 percent of the family income. Cavalieri (2003) argues that child labor could be part of the reason why children in Brazil, chiefly in the Northeast, perform poorly in school. Even if a small cash transfer can send children to school, it does not guarantee that children will leave the labor force and study. Improving the schools themselves will probably have to part of the solution of the child labor problem.

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Table1: Child Labor and School Attendance
Brazil, 1992 - 2001
(Percent)

	Girls (10 to 17 years)			Boys (10 to 17 years)		
	1992	2001	Difference	1992	2001	Difference
Child Labor	0.185	0.125	-0.061	0.363	0.235	-0.128
School Attendance	0.798	0.902	0.104	0.761	0.906	0.144

Source: Fernandes and Souza, 2002.

Table 2: Decomposition of Changes in Probabilities of Child Labor
According to Characteristics of the Group
Brazil, 1992-2001
(Percent)

Characteristics	Girls	Weight	Total			Boys	Weight		Total
Schooling of Head of Household									
0 to 3 years	-0.075	0.471	-0.036		-0.135	0.494	-0.067		
4 to 7	-0.044	0.304	-0.013		-0.093	0.294	-0.027		
8 to 10	-0.021	0.089	-0.002		-0.068	0.085	-0.006		
11 or more	0.016	0.136	0.002	-0.049	-0.045	0.127	-0.006		-0.106
Gender of Head of Household									
Male	-0.046	0.815	-0.038		-0.105	0.823	-0.086		
Female	-0.058	0.185	-0.011	-0.049	-0.109	0.177	-0.019		-0.106
Child's Age									
10 to 13 years	-0.031	0.529	-0.016		-0.076	0.531	-0.041		
14 to 17 years	-0.068	0.471	-0.032	-0.049	-0.139	0.469	-0.065		-0.106
Region									
Rural	-0.071	0.206	-0.015		-0.124	0.219	-0.027		
Urban	-0.043	0.794	-0.034		-0.101	0.781	-0.079		-0.106
Household Size									
Up to 4 People	-0.048	0.658	-0.032		-0.098	0.684	-0.067		
More than 4 People	-0.049	0.342	-0.017	-0.049	-0.122	0.316	-0.038		-0.106

Source: Fernandes and Souza (2002)

Table 3: Decomposition of Changes in Probabilities of School Attendance
According to Characteristics of the Group
Brazil, 1992-2001
(Percent)

Characteristics	Girls				Boys		
		Weight	Total			Weight	Total
Schooling of Head of Household							
0 to 3 years	0.146	0.471	0.069		0.196	0.494	0.097
4 to 7	0.078	0.304	0.024		0.096	0.294	0.028
8 to 10	0.044	0.089	0.004		0.049	0.085	0.004
11 or more	0.041	0.136	0.006	0.102	0.043	0.127	0.005	0.135
Gender of Head of Household							
Male	0.103	0.815	0.084		0.134	0.823	0.110
Female	0.098	0.185	0.018	0.102	0.136	0.177	0.024	0.135
Child's Age							
10 to 13 years	0.068	0.529	0.036		0.085	0.531	0.045
14 to 17 years	0.141	0.471	0.066	0.102	0.191	0.469	0.090	0.135
Region							
Rural	0.170	0.206	0.035		0.222	0.219	0.049
Urban	0.085	0.794	0.067	0.102	0.110	0.781	0.086	0.135
Household Size							
Up to 4 People	0.102	0.658	0.067		0.135	0.684	0.092
More than 4 People	0.103	0.342	0.035	0.102	0.133	0.316	0.042	0.135

Source: Fernandes and Souza (2002).

Table 4: Child Labor Incidence, Brazil, 2000
Percent and Absolute Numbers
States ordered by the total number of working girls and boys (10 to 15)

State	Absolute number of 10 to 15 years old working children (Thousands)	Share of working children among children of the same age in the respective state (Percent)
Brazil	1,479.362	8.32
1. São Paulo	163.844	4.6
2. Minas Gerais	156.610	8.4
3. Bahia	155.481	10.2
4. Ceará	96.931	11.0
5. Rio Grande do Sul	89.929	9.3
6. Paraná	89.866	9.2
7. Maranhão	84.527	11.7
8. Pernambuco	83.254	9.5
9. Pará	79.028	10.4
10. Santa Catarina	60.215	10.8
11. Goiás	45.189	8.9
12. Paraíba	45.135	11.5
13. Piauí	43.799	12.5
14. Rio de Janeiro	42.494	3.4
15. Alagoas	36.791	11.0
16. Espírito Santo	35.142	10.7
17. Amazonas	27.479	8.0
18. Mato Grosso	27.010	9.6
19. Rondônia	23.538	14.0
20. Rio Grande do Norte	21.874	7.0
21. Mato Grosso do Sul	19.321	8.7
22. Tocantins	18.503	13.6
23. Sergipe	17.353	8.4
24. Acre	6.556	9.6
25. Distrito Federal	4.325	2.2
26. Amapá	2.758	4.7
27. Roraima	2.410	6.1

Table 5
Child Labor Incidence
Boys and Girls, Urban and Rural Areas
Brazil, 2000
(Percent)

	Girls (10 to 15 Years)		Boys (10 to 15 Years)	
	Work (just work or work and go to school)	Do Not Work and Do Not Go to School	Work (just work or work and go to school)	Do Not Work and Do Not Go to School
Urban	4.1	3.3	6.2	4.0
Rural	9.7	8.0	23.6	7.2
Total	5.4	4.4	11.1	4.7

Source: Census 2000, IBGE.

Table 6:
Incidence of work among **girls** 10 to 15 years old

Highest incidence in absolute numbers in urban or rural areas			
Urban area of		Rural area of	
São Paulo	53,037	Bahia	27,100
Minas Gerais	37,973	Rio Grande do Sul	18,626
Bahia	21,074	Minas Gerais	15,828
Paraná	17,702	Pernambuco	13,728
Goiás	14,384	Maranhão	13,567
Highest incidence as share of children of the same age (Percent)			
In the urban area of		In the rural area of	
Tocantins	11.42	Rio Grande do Sul	19.65
Goiás	6.73	Santa Catarina	18.42
Mato Grosso	5.92	Espírito Santo	15.38
Mato Grosso do Sul	5.43	Alagoas	13.29
Minas Gerais	5.32	Rondonia	12.51

Table 7:
Incidence of work among **boys** 10 to 15 years old

Highest incidence in absolute numbers in urban or rural areas			
Urban area of		Rural area of	
São Paulo	88,795	Bahia	66,544
Minas Gerais	61,225	Ceará	44,856
Bahia	40,763	Maranhão	42,628
Paraná	31,238	Minas Gerais	41,584
Ceará	26,295	Pará	37,585
Highest incidence as share of children of the same age (Percent)			
In the urban area		In the rural area	
Tocantins	16.26	Espírito Santo	35.11
Mato Grosso	11.36	Rondônia	33.79
Rondônia	10.89	Rio Grande do Sul	31.81
Goiás	10.69	Paraíba	31.40
Maranhão	9.83	Piauí	31.24

Table 8: The Effects of Transfers - All Sample

	Treatment		Comparison		Difference	
	Mean	**Std. Error**	**Mean**	**Std. Error**	**Mean**	**Std. Error**
			Boys			
School	0,949	0,002	0,918	0,001	0,031	0,002
Work	0,141	0,002	0,144	0,002	-0,004	0,003
Only School	0,827	0,003	0,801	0,002	0,026	0,003
Only Work	0,019	0,001	0,028	0,001	-0,009	0,001
School and Work	0,122	0,002	0,117	0,002	0,005	0,003
No School and No Work	0,032	0,001	0,055	0,001	-0,023	0,002
			Girls			
School	0,961	0,001	0,932	0,001	0,030	0,002
Work	0,074	0,002	0,069	0,001	0,004	0,002
Only School	0,895	0,002	0,875	0,002	0,020	0,003
Only Work	0,008	0,001	0,012	0,001	-0,005	0,001
School and Work	0,066	0,002	0,057	0,001	0,009	0,002
No School and No Work	0,031	0,001	0,056	0,001	-0,025	0,002

Table 9: The Effects of Transfers - Poor Children Sample

	Treatment		Comparison		Difference	
	Mean	**Std. Error**	**Mean**	**Std. Error**	**Mean**	**Std. Error**
			Boys			
School	0,946	0,002	0,904	0,002	0,042	0,003
Work	0,144	0,003	0,152	0,002	-0,008	0,003
Only School	0,821	0,003	0,781	0,002	0,040	0,004
Only Work	0,019	0,001	0,029	0,001	-0,010	0,002
School and Work	0,125	0,003	0,123	0,002	0,002	0,003
No School and No Work	0,035	0,001	0,067	0,001	-0,032	0,002
			Girls			
School	0,958	0,002	0,921	0,002	0,038	0,003
Work	0,076	0,002	0,070	0,001	0,006	0,003
Only School	0,889	0,003	0,863	0,002	0,026	0,003
Only Work	0,007	0,001	0,013	0,001	-0,006	0,001
School and Work	0,069	0,002	0,057	0,001	0,012	0,002
No School and No Work	0,034	0,001	0,066	0,001	-0,032	0,002

Table 10: The Effects of Transfers - All Sample
Children with Employed Parents Only

	Treatment		Comparison		Difference	
	Mean	**Std. Error**	**Mean**	**Std. Error**	**Mean**	**Std. Error**
			Boys			
School	0,946	0,002	0,912	0,002	0,034	0,003
Work	0,164	0,003	0,168	0,002	-0,004	0,004
Only School	0,803	0,003	0,777	0,002	0,027	0,004
Only Work	0,021	0,001	0,033	0,001	-0,012	0,002
School and Work	0,142	0,003	0,135	0,002	0,007	0,003
No School and No Work	0,033	0,001	0,055	0,001	-0,022	0,002
			Girls			
School	0,959	0,002	0,929	0,001	0,030	0,002
Work	0,085	0,002	0,076	0,001	0,009	0,003
Only School	0,883	0,003	0,867	0,002	0,016	0,003
Only Work	0,009	0,001	0,013	0,001	-0,004	0,001
School and Work	0,076	0,002	0,063	0,001	0,014	0,003
No School and No Work	0,032	0,001	0,057	0,001	-0,026	0,002

Table 11: The Effects of Transfers - Poor Children Sample
Children with Employed Parents Only

	Treatment		Comparison		Difference	
	Mean	**Std. Error**	**Mean**	**Std. Error**	**Mean**	**Std. Error**
			Boys			
School	0,942	0,002	0,897	0,002	0,045	0,003
Work	0,171	0,003	0,175	0,002	-0,004	0,004
Only School	0,793	0,004	0,755	0,003	0,038	0,005
Only Work	0,022	0,001	0,034	0,001	-0,012	0,002
School and Work	0,149	0,003	0,141	0,002	0,008	0,004
No School and No Work	0,036	0,002	0,069	0,002	-0,033	0,003
			Girls			
School	0,956	0,002	0,920	0,002	0,036	0,003
Work	0,090	0,003	0,078	0,002	0,011	0,003
Only School	0,875	0,003	0,855	0,002	0,020	0,004
Only Work	0,009	0,001	0,014	0,001	-0,005	0,001
School and Work	0,081	0,003	0,065	0,002	0,016	0,003
No School and No Work	0,035	0,002	0,067	0,002	-0,032	0,003

Table 12

Logit Model on School Attendance - All Sample
Children 10 to 15 Years Old

Variables	Boys		Girls	
	Coefficients	Std. Error	Coefficients	Std. Error
Transfers to Father	0,0018	0,0003	0,0015	0,0004
Transfers to Mother	0,0045	0,0005	0,0051	0,0006
Child's Characteristics				
Age	-0,3861	0,0107	-0,3872	0,0120
Non-White Dummy	-0,0541	0,0374	0,0793	0,0403
Father's Characteristics				
Years of Schooling	0,0854	0,0088	0,0810	0,0098
Age	-0,0109	0,0024	-0,0009	0,0028
Unemployed Dummy	-0,1757	0,0600	0,0121	0,0695
Mother's Characteristics				
Years of Schooling	0,1370	0,0079	0,1374	0,0089
Age	-0,0029	0,0030	-0,0066	0,0033
Unemployed Dummy	-0,1421	0,0584	-0,0105	0,0667
Family's Characteristics				
Per-Capita Income Minus Transfers	0,0001	0,0002	0,0008	0,0003
Rural Dummy	-0,2654	0,0420	-0,5530	0,0479
Metropolitan Area Dummy	0,1202	0,0724	0,0628	0,0752
Number of Children Aged 0 to 5	-0,2202	0,0177	-0,2438	0,0198
Number of Children Aged 6 to 15	-0,0568	0,0126	0,0021	0,0140
Number of Children Aged above 15	-0,0249	0,0142	-0,0371	0,0158
Municipality's Characteristics				
Schooling Average	0,3905	0,0721	0,0871	0,0796
Schooling Standard Deviation	-0,0775	0,1091	0,1441	0,1217
Age Average	-0,0955	0,0183	-0,0913	0,0204
Age Standard Deviation	0,2485	0,0320	0,2814	0,0362
Income Minus Transfers Mean	-0,0020	0,0003	-0,0010	0,0004
Income Minus Transfers Standard Deviation	0,0000	0,0000	0,0000	0,0000
Proportion Living in Rural Area	0,3793	0,1234	0,2463	0,1382
Additional Controls				
Father Absent Dummy	-0,6597	0,1257	-0,1756	0,1437
Mother Absent Dummy	-0,3932	0,1637	-0,7845	0,1808
Constant	4,6594	0,4084	3,8819	0,4633
Number of Observations	60.449		57.582	
Log-Likelihood	-13.758,0630		11.398,1180	

Table 13

Logit Model on Child Labor - All Sample
Children 10 to 15 Years Old

Variables	Boys		Girls	
	Coefficients	Std. Error	Coefficients	Std. Error
Transfers to Father	-0,0004	0,0002	0,0002	0,0003
Transfers to Mother	-0,0001	0,0003	0,0006	0,0003
Child's Characteristics				
Age	0,4487	0,0082	0,4333	0,0112
Non-White Dummy	-0,0223	0,0283	-0,0847	0,0372
Father's Characteristics				
Years of Schooling	-0,0484	0,0061	-0,0556	0,0083
Age	-0,0041	0,0020	-0,0016	0,0027
Unemployed Dummy	-0,8278	0,0634	-0,4447	0,0771
Mother's Characteristics				
Years of Schooling	-0,0383	0,0053	-0,0651	0,0073
Age	0,0089	0,0024	0,0040	0,0031
Unemployed Dummy	-0,3662	0,0554	-0,3668	0,0714
Family's Characteristics				
Per-Capita Income Minus Transfers	0,0005	0,0001	0,0005	0,0001
Rural Dummy	0,6715	0,0321	0,1548	0,0430
Metropolitan Area Dummy	-0,5685	0,0662	-0,5522	0,0842
Number of Children Aged 0 to 5	0,1032	0,0143	0,1280	0,0189
Number of Children Aged 6 to 15	0,0685	0,0097	0,0734	0,0127
Number of Children Aged above 15	-0,0544	0,0117	-0,0249	0,0154
Municipality's Characteristics				
Schooling Average	0,0984	0,0492	0,3117	0,0665
Schooling Standard Deviation	-0,5326	0,0798	-0,5891	0,1078
Age Average	0,0755	0,0093	0,0625	0,0131
Age Standard Deviation	-0,0259	0,0105	-0,0424	0,0171
Income Minus Transfers Mean	0,0000	0,0003	-0,0004	0,0003
Income Minus Transfers Standard Deviation	0,0000	0,0000	0,0000	0,0000
Proportion Living in Rural Area	0,5153	0,0931	1,2251	0,1262
Additional Controls				
Father Absent Dummy	-0,3776	0,1022	-0,0245	0,1366
Mother Absent Dummy	0,3882	0,1387	-0,2767	0,2102
Constant	-8,0730	0,2779	-8,4677	0,3873
Number of Observations	60.449		57.582	
Log-Likelihood	20.878,9640		-13.028,1940	

APPENDIX

Table A.1.a: Unweighted Statistics of Selected Variables of The Whole Sample

Variable	N	Mean	Std Dev	Minimum	Maximum
Child´s Characteristics					
Parent Receive Transfer	2.387.677	0,0212	0,0144	0,00	1,00
School	2.387.677	0,932	0,253	0,00	1,00
Work	2.387.677	0,100	0,301	0,00	1,00
Age	2.387.677	12,501	1,696	10,00	15,00
Girl Dummy	2.387.677	0,484	0,500	0,00	1,00
Non-White Dummy	2.369.276	0,503	0,500	0,00	1,00
Handcapped Dummy	2.387.677	0,021	0,143	0,00	1,00
Father´s Characteristics					
Years of Schooling	2.015.720	4,587	4,139	0,00	17,00
Occupied	2.043.370	0,848	0,359	0,00	1,00
Age	2.043.370	43,421	9,056	10,00	127,00
Non-White Dummy	2.032.722	0,522	0,500	0,00	1,00
Transfers	2.043.370	1,802	20,364	0,00	597,00
Handcapped Dummy	2.043.370	0,047	0,211	0,00	1,00
Mother´s Characteristics					
Years of Schooling	2.310.821	4,916	4,076	0,00	17,00
Occupied	2.339.233	0,464	0,499	0,00	1,00
Age	2.339.233	39,403	7,702	10,00	130,00
Non-White Dummy	2.325.179	0,504	0,500	0,00	1,00
Transfers	2.339.229	1,207	14,185	0,00	595,00
Handcapped Dummy	2.339.233	0,038	0,191	0,00	1,00
Family Characteristics					
Number of Children Aged 0 to 5	2.387.677	0,378	0,732	0,00	12,00
Number of Children Aged 6 to 15	2.387.677	2,300	1,227	1,00	20,00
Number of Peolpe Aged 16 abd Above	2.387.677	0,848	1,147	0,00	24,00
Number of Handiccaped People	2.387.677	0,178	0,481	0,00	10,00
Rural Dummy	2.387.677	0,316	0,465	0,00	1,00
Metropolitan Area Dummy	2.387.677	0,191	0,393	0,00	1,00
Municipality´s Characteristics					
Average Income	2.387.677	238,879	163,637	21,89	2034,51
Average Schooling	2.387.677	4,257	1,450	0,74	7,82
Average Age of Adult People	2.387.677	27,641	2,928	17,40	75,37
Proportion in Rural Area	2.387.677	0,300	0,261	0,00	1,00
Income Standard Deviation	2.387.677	945,297	890,794	72,40	31730,90
Schooling Standard Deviation	2.387.677	3,820	0,674	1,31	5,30
Age Standard Deviation	2.387.677	19,810	2,393	15,12	95,40

Table A.1.b: Weighted Basic Statistics - All Sample
Children Aged 10 to 15 Years Old

Variable	Obs	Mean	Std. Dev.	Min	Max
Child's Characteristics					
School	428.740	0,945	0,227	0	1
Work	428.740	0,083	0,276	0	1
School Only	428.740	0,876	0,329	0	1
Work Only	428.740	0,014	0,118	0	1
School and Work	428.740	0,069	0,253	0	1
No School/No Work	428.740	0,040	0,197	0	1
Age	428.740	12,487	1,696	10	15
Girl Dummy	428.740	0,491	0,500	0	1
Non-White Dummy	425.513	0,483	0,500	0	1
Father's Characteristics					
Years of Schooling	423.917	4,404	4,418	0	17
Unemployment Dummy	428.740	0,051	0,219	0	1
Age	428.740	36,148	17,496	0	120
Transfers	428.740	1,517	19,178	0	590
Mother's Characteristics					
Years of Schooling	423.698	5,386	4,248	0	17
Unemployment Dummy	428.740	0,082	0,274	0	1
Age	428.740	38,315	9,128	0	130
Transfers	428.740	0,518	0,500	0	1
Family's Characteristics					
Receive Transfers	428.740	0,018	0,133	0	1
Mother Receive Transfers	428.740	0,009	0,097	0	1
Father Receive Transfers	428.740	0,009	0,095	0	1
Number of Children Aged 0 to 5	428.740	0,334	0,674	0	12
Number of Children Aged 6 to 15	428.740	2,190	1,149	1	20
Number of People Aged 16 and Above	428.740	0,753	1,053	0	24
Per-Capita Family Income	428.740	219,985	571,040	0	83.333
Rural Dummy	428.740	0,245	0,430	0	1
Metropolitan Area Dummy	428.740	0,240	0,427	0	1
Municipality's Characteristics					
Average Income	428.740	269,494	171,015	28.1	2.035
Average Schooling	428.740	4,543	1,452	1	8
Average Age	428.740	27,782	2,829	17	75
Proportion in Rural Area	428.740	0,244	0,246	0	1
Income Std. Deviation	428.740	1.088,873	946,112	72	31.731
Schooling Std. Dev.	428.740	3,961	0,661	1	5
Age Std. Dev.	428.740	19,697	2,131	15	95
Mayor's Political Party					
pp1	428.740	0,183	0,386	0	1
pp2	428.740	0,045	0,207	0	1
pp3	428.740	0,034	0,180	0	1
pp4	428.740	0,196	0,397	0	1
pp5	428.740	0,037	0,188	0	1
pp6	428.740	0,180	0,384	0	1
pp7	428.740	0,073	0,260	0	1
pp8	428.740	0,066	0,248	0	1
pp9	428.740	0,077	0,267	0	1
pp10	428.740	0,017	0,130	0	1

Additional Controls

Father Absent	428.740	0,159	0,366	0	1
Mother Absent	428.740	0,021	0,144	0	1

Table A.2: Logit Model of Receiving Transfers - Children 10 to 15 Years Old

Variables	All Sample		Poor Children	
	Coefficients	Std. Error	Coefficients	Std. Error
Child's Characteristics				
Age	-0,0209	0,0034	-0,0141	0,0038
Girl Dummy	-0,0018	0,0111	0,0053	0,0125
Non-White Dummy	0,1528	0,0123	0,0872	0,0138
Father's Characteristics				
Years of Schooling	-0,0071	0,0023	0,0072	0,0029
Age	-0,0080	0,0009	-0,0075	0,0010
Unemployed Dummy	1,0875	0,0190	0,6085	0,0216
Mother's Characteristics				
Years of Schooling	-0,0091	0,0021	-0,0024	0,0026
Age	-0,0051	0,0010	-0,0050	0,0012
Unemployed Dummy	0,2813	0,0187	0,0692	0,0210
Family's Characteristics				
Per-Capita Income Minus Transfers	-0,0022	0,0001	-0,0135	0,0003
Rural Dummy	0,0443	0,0146	-0,1027	0,0159
Metropolitan Area Dummy	-0,2846	0,0206	-0,4770	0,0264
Number of Children Aged 0 to 5	0,0976	0,0069	0,0370	0,0073
Number of Children Aged 6 to 15	0,1637	0,0045	0,1137	0,0049
Number of Children Aged above 15	0,0314	0,0055	0,0588	0,0061
Municipality's Characteristics				
Schooling Average	-0,1499	0,0212	-0,0923	0,0246
Schooling Standard Deviation	-0,0430	0,0351	-0,1542	0,0401
Age Average	0,0138	0,0041	0,0418	0,0049
Age Standard Deviation	-0,0153	0,0046	-0,0432	0,0065
Income Minus Transfers Mean	0,0024	0,0001	0,0030	0,0001
Income Minus Transfers Standard Deviation	-0,0001	0,0000	-0,0001	0,0000
Proportion Living in Rural Area	0,4485	0,0426	0,4792	0,0479
Mayor's Political Party Dummies				
pp1	0,7192	0,0288	0,7811	0,0341
pp2	0,5660	0,0390	0,6311	0,0472
pp3	0,6083	0,0396	0,6626	0,0451
pp4	0,3059	0,0296	0,3514	0,0350
pp5	0,7509	0,0358	0,7960	0,0409
pp6	0,4167	0,0289	0,4061	0,0344
pp7	0,3105	0,0340	0,3240	0,0398
pp8	0,4421	0,0350	0,4484	0,0416
pp9	0,2981	0,0339	0,2425	0,0401
pp10	0,0266	0,0545	-0,0587	0,0618
Additional Controls				
Father Absent Dummy	-0,2775	0,0443	-0,3294	0,0490
Mother Absent Dummy	-0,5081	0,0626	-0,5116	0,0696
Constant	-2,2211	0,1255	-1,6630	0,1457
Number of Observations	416.536		238.621	
Log-Likelihood	-117.432,5500		-86.220,9960	

Table A.3.a: Statistics of The Matched Sample - All Sample
Boys 10 to 15 Years Old

Variables	Obs	Mean	Std. Dev.	Min	Max
		Without Transfers			
School	41.044	0,918	0,275	0	1
Work	41.044	0,144	0,351	0	1
Only School	41.044	0,801	0,399	0	1
Only Work	41.044	0,028	0,164	0	1
School and Work	41.044	0,117	0,321	0	1
No School and No Work	41.044	0,055	0,228	0	1
Transfers to Fathers	41.044	0,000	0,000	0	0
Transfers to Mothers	41.044	0,000	0,000	0	0
		With Transfers			
School	19.405	0,949	0,220	0	1
Work	19.405	0,141	0,348	0	1
Only School	19.405	0,827	0,378	0	1
Only Work	19.405	0,019	0,135	0	1
School and Work	19.405	0,122	0,327	0	1
No School and No Work	19.405	0,032	0,176	0	1
Transfers to Fathers	19.405	74,523	109,134	0	590
Transfers to Mothers	19.405	56,186	80,333	0	595

Table A.3.b: Statistics of The Matched Sample - All Sample
Girls 10 to 15 Years Old

Variables	Obs	Mean	Std. Dev.	Min	Max
		Without Transfers			
School	39.308	0,932	0,252	0	1
Work	39.308	0,069	0,254	0	1
Only School	39.308	0,875	0,331	0	1
Only Work	39.308	0,012	0,111	0	1
School and Work	39.308	0,057	0,232	0	1
No School and No Work	39.308	0,056	0,230	0	1
Transfers to Fathers	39.308	0,000	0,000	0	0
Transfers to Mothers	39.308	0,000	0,000	0	0
		With Transfers			
School	18.274	0,961	0,193	0	1
Work	18.274	0,074	0,261	0	1
Only School	18.274	0,895	0,307	0	1
Only Work	18.274	0,008	0,087	0	1
School and Work	18.274	0,066	0,249	0	1
No School and No Work	18.274	0,031	0,174	0	1
Transfers to Fathers	18.274	74,550	109,802	0	590
Transfers to Mothers	18.274	57,227	81,176	0	595

Table A.4.a: Statistics of The Matched Sample - Poor Children Sample
Boys 10 to 15 Years Old

Variables	Obs	Mean	Std. Dev.	Min	Max
		Without Transfers			
School	31.764	0,904	0,294	0	1
Work	31.764	0,152	0,359	0	1
Only School	31.764	0,781	0,414	0	1
Only Work	31.764	0,029	0,168	0	1
School and Work	31.764	0,123	0,329	0	1
No School and No Work	31.764	0,067	0,249	0	1
Transfers to Fathers	31.764	0,000	0,000	0	0
Transfers to Mothers	31.764	0,000	0,000	0	0
		With Transfers			
School	15.923	0,946	0,226	0	1
Work	15.923	0,144	0,351	0	1
Only School	15.923	0,821	0,384	0	1
Only Work	15.923	0,019	0,136	0	1
School and Work	15.923	0,125	0,331	0	1
No School and No Work	15.923	0,035	0,184	0	1
Transfers to Fathers	15.923	66,415	100,706	0	590
Transfers to Mothers	15.923	49,610	69,056	0	595

Table A.4.b: Statistics of The Matched Sample - Poor Children Sample
Girls 10 to 15 Years Old

Variables	Obs	Mean	Std. Dev.	Min	Max
		Without Transfers			
School	29.722	0,921	0,270	0	1
Work	29.722	0,070	0,256	0	1
Only School	29.722	0,863	0,343	0	1
Only Work	29.722	0,013	0,114	0	1
School and Work	29.722	0,057	0,232	0	1
No School and No Work	29.722	0,066	0,249	0	1
Transfers to Fathers	29.722	0,000	0,000	0	0
Transfers to Mothers	29.722	0,000	0,000	0	0
		With Transfers			
School	15.004	0,958	0,200	0	1
Work	15.004	0,076	0,266	0	1
Only School	15.004	0,889	0,314	0	1
Only Work	15.004	0,007	0,086	0	1
School and Work	15.004	0,069	0,253	0	1
No School and No Work	15.004	0,034	0,182	0	1
Transfers to Fathers	15.004	66,496	101,928	0	590
Transfers to Mothers	15.004	50,751	69,773	0	595

Table A.5: Logit Model of Receiving Transfers
Children 10 to 15 Years Old with Employed Parents Only

Variables	All Sample		Poor Children	
	Coefficients	Std. Error	Coefficients	Std. Error
Child's Characteristics				
Age	-0,0277	0,0037	-0,0208	0,0042
Girl Dummy	-0,0051	0,0123	-0,0028	0,0138
Non-White Dummy	0,1949	0,0137	0,1151	0,0155
Father's Characteristics				
Years of Schooling	-0,0188	0,0027	-0,0033	0,0035
Age	-0,0072	0,0010	-0,0062	0,0011
Mother's Characteristics				
Years of Schooling	-0,0202	0,0024	-0,0123	0,0030
Age	-0,0054	0,0011	-0,0055	0,0013
Family's Characteristics				
Per-Capita Income Minus Transfers	-0,0019	0,0001	-0,0141	0,0003
Rural Dummy	0,0137	0,0156	-0,1425	0,0171
Metropolitan Area Dummy	-0,3295	0,0254	-0,6401	0,0360
Number of Children Aged 0 to 5	0,1089	0,0074	0,0452	0,0078
Number of Children Aged 6 to 15	0,1791	0,0049	0,1270	0,0053
Number of Children Aged above 15	0,0269	0,0059	0,0530	0,0065
Municipality's Characteristics				
Schooling Average	-0,2048	0,0237	-0,1486	0,0279
Schooling Standard Deviation	0,0807	0,0385	-0,0337	0,0445
Age Average	0,0156	0,0045	0,0439	0,0055
Age Standard Deviation	-0,0149	0,0050	-0,0434	0,0074
Income Minus Transfers Mean	0,0026	0,0001	0,0036	0,0002
Income Minus Transfers Standard Deviation	-0,0001	0,0000	-0,0002	0,0000
Proportion Living in Rural Area	0,5475	0,0464	0,6064	0,0525
Mayor's Political Party Dummies				
pp1	0,6777	0,0333	0,7336	0,0402
pp2	0,5634	0,0451	0,6697	0,0554
pp3	0,6149	0,0447	0,6741	0,0518
pp4	0,2627	0,0343	0,3142	0,0413
pp5	0,7661	0,0402	0,8168	0,0467
pp6	0,4041	0,0336	0,3986	0,0406
pp7	0,2865	0,0389	0,3066	0,0462
pp8	0,4139	0,0405	0,4124	0,0491
pp9	0,2057	0,0390	0,1340	0,0470
pp10	-0,0610	0,0600	-0,1364	0,0683
Additional Controls				
Father Absent Dummy	-0,2872	0,0486	-0,2810	0,0538
Mother Absent Dummy	-0,5160	0,0689	-0,4778	0,0770
Constant	-2,6753	0,1374	-2,1339	0,1615
Number of Observations	452.105		246.536	
Log-Likelihood	-102.134,2500		-74.910,3380	

Table A.6.a: Statistics of The Matched Sample - All Sample
Boys 10 to 15 Years Old with Employed Parents Only

Variables	Obs	Mean	Std. Dev.	Min	Max
			Without Transfers		
School	34.414	0,912	0,284	0	1
Work	34.414	0,168	0,374	0	1
Only School	34.414	0,777	0,417	0	1
Only Work	34.414	0,033	0,179	0	1
School and Work	34.414	0,135	0,342	0	1
No School and No Work	34.414	0,055	0,229	0	1
Transfers to Fathers	34.414	0,000	0,000	0	0
Transfers to Mothers	34.414	0,000	0,000	0	0
			With Transfers		
School	15.279	0,946	0,227	0	1
Work	15.279	0,164	0,370	0	1
Only School	15.279	0,803	0,397	0	1
Only Work	15.279	0,021	0,145	0	1
School and Work	15.279	0,142	0,349	0	1
No School and No Work	15.279	0,033	0,179	0	1
Transfers to Fathers	15.279	62,098	101,226	0	590
Transfers to Mothers	15.279	55,624	78,078	0	595

Table A.6.b: Statistics of The Matched Sample - All Sample
Girls 10 to 15 Years Old with Employed Parents Only

Variables	Obs	Mean	Std. Dev.	Min	Max
			Without Transfers		
School	32.039	0,929	0,256	0	1
Work	32.039	0,076	0,265	0	1
Only School	32.039	0,867	0,340	0	1
Only Work	32.039	0,013	0,114	0	1
School and Work	32.039	0,063	0,242	0	1
No School and No Work	32.039	0,057	0,233	0	1
Transfers to Fathers	32.039	0,000	0,000	0	0
Transfers to Mothers	32.039	0,000	0,000	0	0
			With Transfers		
School	14.273	0,959	0,197	0	1
Work	14.273	0,085	0,279	0	1
Only School	14.273	0,883	0,321	0	1
Only Work	14.273	0,009	0,094	0	1
School and Work	14.273	0,076	0,265	0	1
No School and No Work	14.273	0,032	0,175	0	1
Transfers to Fathers	14.273	60,971	100,823	0	590
Transfers to Mothers	14.273	57,647	80,003	0	595

Table A.7.a: Statistics of The Matched Sample - Poor Children Sample
Boys 10 to 15 Years Old with Employed Parents Only

Variables	Obs	Mean	Std. Dev.	Min	Max
		Without Transfers			
School	26.065	0,897	0,304	0	1
Work	26.065	0,175	0,380	0	1
Only School	26.065	0,755	0,430	0	1
Only Work	26.065	0,034	0,181	0	1
School and Work	26.065	0,141	0,348	0	1
No School and No Work	26.065	0,069	0,254	0	1
Transfers to Fathers	26.065	0,000	0,000	0	0
Transfers to Mothers	26.065	0,000	0,000	0	0
		With Transfers			
School	12.416	0,942	0,234	0	1
Work	12.416	0,171	0,377	0	1
Only School	12.416	0,793	0,405	0	1
Only Work	12.416	0,022	0,147	0	1
School and Work	12.416	0,149	0,356	0	1
No School and No Work	12.416	0,036	0,187	0	1
Transfers to Fathers	12.416	51,805	88,501	0	590
Transfers to Mothers	12.416	48,916	65,666	0	595

Table A.7.b: Statistics of The Matched Sample - Poor Children Sample
Girls 10 to 15 Years Old with Employed Parents Only

Variables	Obs	Mean	Std. Dev.	Min	Max
		Without Transfers			
School	24.412	0,920	0,272	0	1
Work	24.412	0,078	0,269	0	1
Only School	24.412	0,855	0,352	0	1
Only Work	24.412	0,014	0,116	0	1
School and Work	24.412	0,065	0,246	0	1
No School and No Work	24.412	0,067	0,250	0	1
Transfers to Fathers	24.412	0,000	0,000	0	0
Transfers to Mothers	24.412	0,000	0,000	0	0
		With Transfers			
School	11.586	0,956	0,205	0	1
Work	11.586	0,090	0,286	0	1
Only School	11.586	0,875	0,331	0	1
Only Work	11.586	0,009	0,094	0	1
School and Work	11.586	0,081	0,273	0	1
No School and No Work	11.586	0,035	0,184	0	1
Transfers to Fathers	11.586	51,070	89,117	0	590
Transfers to Mothers	11.586	50,614	67,128	0	595

Table A8

Logit Model on School Attendance - Poor Children Sample
Children 10 to 15 Years Old

Variables	Boys		Girls	
	Coefficients	Std. Error	Coefficients	Std. Error
Transfers to Father	0,0023	0,0004	0,0020	0,0004
Transfers to Mother	0,0055	0,0005	0,0060	0,0006
Child´s Characteristics				
Age	-0,3645	0,0111	-0,3763	0,0126
Non-White Dummy	-0,0154	0,0394	0,0676	0,0428
Father´s Characteristics				
Years of Schooling	0,0875	0,0100	0,0564	0,0109
Age	-0,0088	0,0026	-0,0021	0,0030
Unemployed Dummy	-0,0896	0,0660	0,0935	0,0768
Mother´s Characteristics				
Years of Schooling	0,1275	0,0089	0,1528	0,0102
Age	-0,0105	0,0031	-0,0049	0,0035
Unemployed Dummy	-0,1153	0,0631	0,0910	0,0733
Family´s Characteristics				
Per-Capita Income Minus Transfers	0,0012	0,0008	0,0026	0,0008
Rural Dummy	-0,2314	0,0442	-0,4551	0,0508
Metropolitan Area Dummy	0,1327	0,0841	0,0119	0,0894
Number of Children Aged 0 to 5	-0,2398	0,0183	-0,2009	0,0205
Number of Children Aged 6 to 15	-0,0428	0,0130	0,0124	0,0147
Number of Children Aged above 15	-0,0141	0,0153	-0,0135	0,0174
Minicipality´s Characteristics				
Schooling Average	0,3478	0,0765	0,1901	0,0849
Schooling Standard Deviation	-0,1259	0,1153	0,0477	0,1298
Age Average	-0,0855	0,0193	-0,1144	0,0218
Age Standard Deviation	0,2242	0,0340	0,3113	0,0388
Income Minus Transfers Mean	-0,0016	0,0004	-0,0015	0,0004
Income Minus Transfers Standard Deviation	0,0000	0,0000	0,0000	0,0000
Proportion Living in Rural Area	0,4383	0,1306	-0,0258	0,1480
Additional Controls				
Father Absent Dummy	-0,5772	0,1315	-0,2007	0,1524
Mother Absent Dummy	-0,7386	0,1737	-0,2491	0,2047
Constant	4,8805	0,4426	3,7019	0,5073
Number of Observations	47.687		44.726	
Log-Likelihood	-12.115,3120		-9.884,9754	

Table A9

Logit Model on Child Labor - Poor Children Sample
Children 10 to 15 Years Old

Variables	Boys		Girls	
	Coefficients	Std. Error	Coefficients	Std. Error
Transfers to Father	-0,0005	0,0003	0,0002	0,0004
Transfers to Mother	-0,0003	0,0003	0,0008	0,0004
Child´s Characteristics				
Age	0,4071	0,0089	0,3853	0,0123
Non-White Dummy	0,0084	0,0312	-0,0780	0,0413
Father´s Characteristics				
Years of Schooling	-0,0357	0,0076	-0,0447	0,0105
Age	-0,0011	0,0022	-0,0015	0,0030
Unemployed Dummy	-0,7480	0,0735	-0,3900	0,0921
Mother´s Characteristics				
Years of Schooling	-0,0290	0,0065	-0,0680	0,0092
Age	0,0073	0,0026	0,0054	0,0035
Unemployed Dummy	-0,2972	0,0639	-0,3376	0,0837
Family´s Characteristics				
Per-Capita Income Minus Transfers	0,0064	0,0006	0,0069	0,0008
Rural Dummy	0,8121	0,0358	0,2371	0,0481
Metropolitan Area Dummy	-0,6804	0,0976	-0,5460	0,1216
Number of Children Aged 0 to 5	0,0981	0,0152	0,1457	0,0200
Number of Children Aged 6 to 15	0,1079	0,0103	0,1103	0,0138
Number of Children Aged above 15	-0,0686	0,0128	-0,0453	0,0173
Minicipality´s Characteristics				
Schooling Average	0,0436	0,0574	0,2407	0,0764
Schooling Standard Deviation	-0,4383	0,0902	-0,3536	0,1230
Age Average	0,0676	0,0111	0,0819	0,0149
Age Standard Deviation	-0,0106	0,0143	-0,0422	0,0185
Income Minus Transfers Mean	-0,0003	0,0003	-0,0013	0,0004
Income Minus Transfers Standard Deviation	0,0000	0,0000	0,0000	0,0000
Proportion Living in Rural Area	0,6054	0,1033	1,5034	0,1423
Additional Controls				
Father Absent Dummy	-0,2154	0,1111	-0,0205	0,1507
Mother Absent Dummy	0,1233	0,1611	-0,0457	0,2291
Constant	-8,3540	0,3177	-9,4440	0,4351
Number of Observations	47.687		44.726	
Log-Likelihood	-16.988,0460		-10.323,1800	

Table A10

Logit Model on School Attendance - All Sample
Children 10 to 15 Years Old with Employed Parents Only

Variables	Boys		Girls	
	Coefficients	Std. Error	Coefficients	Std. Error
Transfers to Father	0,0013	0,0004	0,0017	0,0005
Transfers to Mother	0,0049	0,0005	0,0049	0,0006
Child´s Characteristics				
Age	-0,3665	0,0112	-0,3871	0,0130
Non-White Dummy	-0,0748	0,0405	0,0518	0,0447
Father´s Characteristics				
Years of Schooling	0,0936	0,0099	0,0811	0,0113
Age	-0,0076	0,0026	0,0009	0,0031
Mother´s Characteristics				
Years of Schooling	0,1296	0,0088	0,1411	0,0102
Age	-0,0088	0,0030	-0,0009	0,0038
Family´s Characteristics				
Per-Capita Income Minus Transfers	0,0003	0,0002	0,0013	0,0003
Rural Dummy	-0,4142	0,0448	-0,5098	0,0521
Metropolitan Area Dummy	0,0316	0,0853	0,0435	0,0965
Number of Children Aged 0 to 5	-0,2053	0,0186	-0,2053	0,0214
Number of Children Aged 6 to 15	-0,0301	0,0134	-0,0132	0,0153
Number of Children Aged above 15	-0,0018	0,0148	-0,0518	0,0169
Minicipality´s Characteristics				
Schooling Average	0,4719	0,0782	0,1875	0,0900
Schooling Standard Deviation	-0,3354	0,1170	0,0667	0,1347
Age Average	-0,0942	0,0195	-0,1133	0,0219
Age Standard Deviation	0,2859	0,0342	0,2655	0,0387
Income Minus Transfers Mean	-0,0021	0,0004	-0,0013	0,0005
Income Minus Transfers Standard Deviation	0,0001	0,0000	-0,0001	0,0000
Proportion Living in Rural Area	0,3551	0,1313	0,1559	0,1508
Additional Controls				
Father Absent Dummy	-0,5357	0,1327	-0,0593	0,1563
Mother Absent Dummy	-0,5844	0,1687	-0,2505	0,2114
Constant	4,2884	0,4354	4,5182	0,5083
Number of Observations	49.693		46.312	
Log-Likelihood	-12.000,1560		-9.481,8464	

Table A11

Logit Model on Child Labor - All Sample
Children 10 to 15 Years Old with Employed Parents Only

Variables	Boys		Girls	
	Coefficients	Std. Error	Coefficients	Std. Error
Transfers to Father	-0,0005	0,0003	0,0002	0,0003
Transfers to Mother	-0,0002	0,0003	0,0011	0,0004
Child´s Characteristics				
Age	0,4267	0,0084	0,3949	0,0116
Non-White Dummy	0,0204	0,0296	-0,0334	0,0398
Father´s Characteristics				
Years of Schooling	-0,0474	0,0064	-0,0365	0,0090
Age	0,0003	0,0020	-0,0061	0,0029
Mother´s Characteristics				
Years of Schooling	-0,0282	0,0057	-0,0685	0,0080
Age	0,0043	0,0024	0,0102	0,0033
Family´s Characteristics				
Per-Capita Income Minus Transfers	0,0005	0,0001	0,0003	0,0001
Rural Dummy	0,8025	0,0335	0,2088	0,0455
Metropolitan Area Dummy	-0,6286	0,0757	-0,6124	0,1041
Number of Children Aged 0 to 5	0,0934	0,0146	0,0941	0,0200
Number of Children Aged 6 to 15	0,0778	0,0100	0,1003	0,0134
Number of Children Aged above 15	-0,0522	0,0118	-0,0010	0,0157
Minicipality´s Characteristics				
Schooling Average	0,1938	0,0523	0,2641	0,0735
Schooling Standard Deviation	-0,5480	0,0834	-0,5665	0,1160
Age Average	0,0620	0,0095	0,0978	0,0142
Age Standard Deviation	-0,0186	0,0099	-0,0595	0,0183
Income Minus Transfers Mean	-0,0008	0,0003	-0,0009	0,0004
Income Minus Transfers Standard Deviation	0,0000	0,0000	0,0001	0,0000
Proportion Living in Rural Area	0,6285	0,0964	1,1445	0,1339
Additional Controls				
Father Absent Dummy	-0,1905	0,1041	-0,1804	0,1441
Mother Absent Dummy	0,0934	0,1432	0,1833	0,2119
Constant	-7,9636	0,2843	-8,6602	0,4066
Number of Observations	49.693		46.312	
Log-Likelihood	-19.175,8500		-11.457,3950	

Table A12

Logit Model on School Attendance - Poor Children Sample

Children 10 to 15 Years Old with Employed Parents Only

Variables	Boys		Girls	
	Coefficients	**Std. Error**	**Coefficients**	**Std. Error**
Transfers to Father	0,0019	0,0004	0,0019	0,0005
Transfers to Mother	0,0063	0,0006	0,0058	0,0007
Child´s Characteristics				
Age	-0,3631	0,0119	-0,3762	0,0140
Non-White Dummy	0,0310	0,0423	0,0362	0,0474
Father´s Characteristics				
Years of Schooling	0,0785	0,0114	0,0634	0,0129
Age	-0,0069	0,0028	0,0004	0,0033
Mother´s Characteristics				
Years of Schooling	0,1280	0,0100	0,1183	0,0114
Age	-0,0070	0,0034	-0,0136	0,0039
Family´s Characteristics				
Per-Capita Income Minus Transfers	0,0009	0,0008	0,0024	0,0009
Rural Dummy	-0,3697	0,0475	-0,4607	0,0550
Metropolitan Area Dummy	-0,0409	0,1011	0,0938	0,1188
Number of Children Aged 0 to 5	-0,2150	0,0193	-0,2219	0,0218
Number of Children Aged 6 to 15	-0,0306	0,0139	-0,0083	0,0161
Number of Children Aged above 15	-0,0302	0,0158	-0,0206	0,0185
Minicipality´s Characteristics				
Schooling Average	0,4239	0,0844	0,2513	0,0966
Schooling Standard Deviation	-0,2426	0,1258	-0,0579	0,1443
Age Average	-0,0536	0,0207	-0,0972	0,0238
Age Standard Deviation	0,1829	0,0361	0,2847	0,0421
Income Minus Transfers Mean	-0,0027	0,0005	-0,0017	0,0005
Income Minus Transfers Standard Deviation	0,0000	0,0000	0,0000	0,0001
Proportion Living in Rural Area	0,4480	0,1410	0,3398	0,1614
Additional Controls				
Father Absent Dummy	-0,5770	0,1434	-0,0982	0,1679
Mother Absent Dummy	-0,6222	0,1843	-0,6643	0,2352
Constant	4,9412	0,4746	4,2400	0,5554
Number of Observations	38.481		35.998	
Log-Likelihood	-10.404,7870		-8.206,3336	

Table A13

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Logit Model on Child Labor - Poor Children Sample
Children 10 to 15 Years Old with Employed Parents Only

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Variables	Boys		Girls	
	Coefficients	Std. Error	Coefficients	Std. Error
Transfers to Father	-0,0005	0,0003	0,0003	0,0004
Transfers to Mother	-0,0002	0,0004	0,0013	0,0004
Child´s Characteristics				
Age	0,4028	0,0093	0,3676	0,0129
Non-White Dummy	0,0427	0,0328	-0,0599	0,0437
Father´s Characteristics				
Years of Schooling	-0,0354	0,0082	-0,0231	0,0115
Age	-0,0014	0,0023	-0,0064	0,0032
Mother´s Characteristics				
Years of Schooling	-0,0186	0,0070	-0,0697	0,0101
Age	0,0132	0,0027	0,0079	0,0038
Family´s Characteristics				
Per-Capita Income Minus Transfers	0,0044	0,0006	0,0061	0,0009
Rural Dummy	0,9113	0,0380	0,3472	0,0508
Metropolitan Area Dummy	-0,6300	0,1180	-0,6655	0,1599
Number of Children Aged 0 to 5	0,1016	0,0156	0,1509	0,0205
Number of Children Aged 6 to 15	0,0975	0,0108	0,1037	0,0146
Number of Children Aged above 15	-0,0965	0,0132	-0,0011	0,0176
Minicipality´s Characteristics				
Schooling Average	-0,0034	0,0612	0,3248	0,0831
Schooling Standard Deviation	-0,2715	0,0950	-0,4763	0,1309
Age Average	0,0781	0,0113	0,0664	0,0147
Age Standard Deviation	-0,0276	0,0130	-0,0218	0,0158
Income Minus Transfers Mean	-0,0010	0,0004	-0,0019	0,0006
Income Minus Transfers Standard Deviation	0,0000	0,0000	0,0001	0,0001
Proportion Living in Rural Area	0,8066	0,1087	1,3552	0,1494
Additional Controls				
Father Absent Dummy	-0,2016	0,1160	-0,2551	0,1607
Mother Absent Dummy	0,5342	0,1599	0,2161	0,2427
Constant	-8,9262	0,3272	-8,9861	0,4518
Number of Observations	38.481		35.998	
Log-Likelihood	-15.343,1500		-9.251,0568	