Title

An Evaluation of the Impact of the Educational Conditions of Brazil's Bolsa Família Program, 2005

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Abstract

This paper analyzes the impact of the educational conditions of Brazil's Bolsa Família Program on the school dropout rates of children benefiting from the program. The main hypothesis of this paper is that a child who lives in a household that receives the benefit has a lower chance of dropping out of school. Data used are from the 2005 Impact Evaluation of the Bolsa Família Program ("Avaliação de Impacto do Programa Bolsa Família" – AIBF), collected by the Center for Regional Development and Planning ("Centro de Desenvolvimento e Planejamento Regional" – CEDEPLAR) of the Universidade Federal de Minas Gerais (UFMG) and the Ministry of Social Development and Combating Famine ("Ministério do Desenvolvimento Social e Combate à Fome" – MDS), Brazil. Logistical models estimated the chances of children dropping out of school between 2004 and 2005, for three different household income thresholds, taking into account specific information about the household, mother, child, and whether the family was receiving the Bolsa Família benefit. For households with a maximum per capita income of 50 Brazilian Reais, the program was responsible for reducing the probability of dropping out by 57 percent. An analysis of households with a per capita income threshold of 100 Brazilian Reais, the official maximum value for eligibility into the Bolsa Família Program in 2005, the likelihood of dropping out from school was reduced by 34 percent as a result of participating in the program. Households with a per capita income of up to 200 Brazilian Reais were also included in our analysis because the program may have been administered to households with more than 100 Brazilian Reais income per capita. This also helped to increase our sample size and it was determined that children belonging to any households that were benefiting from the Bolsa Família Program were 33 percent less likely to drop out of school between 2004 and 2005.

1. Introduction

Income inequality and poverty levels are among the greatest challenges facing developing countries. In Brazil, inequality between the different strata of society began to significantly decrease in the 1990s with the creation of conditional cash transfer (CCT) programs. Although inequality indicators had previously evidenced declines, a continuous and significant decline in these indicators has been observed since the implementation of CCT programs.

In 2003, the Federal Government established the Bolsa Família Program, aiming to unite the existing conditional cash transfer programs and to focus their actions more effectively. This program is considered a CCT program because it contains conditionalities that aim at increasing the human capital of its beneficiaries. A number of studies have provided evidence that CCT programs significantly reduce income inequality and even poverty (Barros, Carvalho, Franco and Mendonça 2006, 2007a; Behrman, Parker and Todd 2005; Castro and Modesto 2010; Hoffman 2006; Janvry, Finan and Sadoulet 2006; Ravallion and Wodon 2000; Rawlings and Rubio 2005; Skoufias 2005; Skoufias and Parker 2001; Soares, Soares, Medeiros and Osório 2006). However, little research has been conducted on the impact of the educational conditions attached to the Bolsa Família Program, which aims at improving human capital indicators.

The purpose of the current paper is to verify that the conditionalities of the Bolsa Família Program are effective, particularly with regards to education. This examination is significant in order to deepen the knowledge about the impact of the program on drop out levels of children. Data were obtained from the 2005 Bolsa Família Program Impact Assessment ("Avaliação de Impacto do Programa Bolsa Família" – AIBF) by the Center for Regional Development and Planning ("Centro de Desenvolvimento e Planejamento Regional" – CEDEPLAR) of the Universidade Federal de Minas Gerais (UFMG) and the Ministry of Social Development and Combating Famine ("Ministério do Desenvolvimento Social e Combate à Fome" – MDS), Brazil. Logistical models were utilized to determine whether various household characteristics, including those of the mother, child, and receipt of the Bolsa Família Program, explain the likelihood of whether children drop out of school from one year to the next. The short term impact of the program on the probability of whether children permanently leave school will also be analyzed.

2. Poverty, inequality, and conditional cash transfer programs

Brazil has one of the most unequal income distributions in the world. Data show that the total income of the poorest 50 percent is only approximately 12 percent of the country's total income. This value is lower than the income of the richest one percent, who represent 14 percent of the country's total income (Medeiros 2005). Therefore, reducing this inequality is a major

objective that will facilitate the improvement of the living conditions of the poor. Declines in poverty rates have been observed at different points in history. However, the pace of decline at those specific points was insufficient and did not serve to remedy the problems of income inequality in the short term. Until the early 2000s, social policies in Brazil were characterized by a lack of focus, a lack of integration between existing programs and a lack of coordination between levels of government. Due to the inefficacy, or indeed the absence, of political focus on the problem in Brazil, income inequality remained virtually untouched until the late twentieth century (Barros and Carvalho 2003).

Inequality began to fall significantly and continuously in Brazil between 2001 and 2004 (Barros, Carvalho, Franco and Mendonça 2006, 2007a). The main causes of this new trend appear to be changes in the labor market and the implementation of new social protection mechanisms. The association between income derived from work and income that was not derived from work was also significant in explaining the decrease in inequality before 2005. This recent decline in inequality coincided with the emergence of CCT programs, which seek to address problems of inequality and poverty and demand reciprocal actions from the families involved. By attempting to shift the accessibility of resources from the richest to the poorest population, these programs hope to gradually reduce the gap between rich and poor and alleviate poverty in the country.

According to Janvry and Sadoulet (2005), there are two approaches to the policy objectives of CCT programs—(1) directly reducing poverty and (2) reducing poverty by increasing the human capital of poor children, which precipitates an intergenerational break in poverty. If the ultimate goal of the CCT programs is poverty reduction, then there is no need for the creation of conditionalities, as this goal would be achieved simply through cash transfers. The relevant discussion would then focus on aspects related to the size of the transfer and determining the optimum public targets to achieve the greatest positive impact. However, if the ultimate goal of CCT programs is to develop strategies that break the persistent cycle that involves generations of poor families, then strategies that invest in the human capital of the children of these families should also be considered. The goal would then extend beyond solving the immediate problem of the access to basic needs of citizens in the lower stratum of society.

Support for the conditionalities of cash transfer programs is still being debated, as these conditionalities involve accessing education and health services that should be available to the entire population (Szekely 2006; Samsom 2006). Moreover, the operating costs of imposing conditionalities are also controversial (Brauw and Hoddinott 2008). In the Progress/Opportunities program in Mexico (Progresa/Oportunidades), approximately 18 percent of administrative costs and two percent of the total cost are used to verify if the conditionalities

are being followed. Program conditionalities are further debated in the context of their effect on an individual's freedom of choice on how they use government assistance.

In South and Central America, CCT programs have been in place since the late 1990s. In Mexico, Brazil, Honduras, Nicaragua, and Colombia, these programs provide financial subsidies to poor families with children and are conditional on specific health or educational behaviors. Examples of these programs include Solidario in Chile, Progress/Opportunities in Mexico, Bolsa Família in Brazil, the Social Protection Network (Red de Protección Social) in Nicaragua, and the Family Assistance Program in Honduras. There are also similar programs in Jamaica, Bangladesh, South Africa, Ghana, and other African countries (Soares, Soares, Medeiros and Osorio 2006, Ravallion and Wodon 2000; Skoufias and Parker 2001; Rawlings and Rubio 2005). Evidence suggests that these programs have a significant effect on the educational attainment of children. In Mexico, estimates show that enrollment rates increased by approximately eight percent for girls and 4.5 percent for boys (Skoufias 2005). A shift in the dropout rate also occurred, with research participants in the Bolsa Família Program in Brazil and the Opportunities program in Mexico demonstrating dramatic reductions (Behrman, Parker and Todd 2005; Janvry, Finan and Sadoulet 2006).

In Brazil, CCT programs represented less than 0.8 percent of family income and accounted for 16 percent of the overall decrease in inequality between 1999 and 2009 (Castro and Modesto 2010). It is estimated that between 2002 and 2004, CCT programs accounted for 31.4 percent of the reduction in inequality. When considering the Northeast region alone, the impact of CCT programs reached 86.9 percent (Hoffman 2006). In addition to reducing inequality, these programs were instrumental in the decline of poverty (Castro and Modesto 2010). Following the deployment of initial CCT programs, there has been a considerable decrease in the percentage of poor individuals in Brazil. Considering the poverty line of 100 Brazilian Reais in 2004, poverty showed a decrease of 12 percent between 1999 and 2009. The Bolsa Família Program was responsible for 16 percent of this decrease. Regarding extreme poverty, based on an indigence line of 50 Brazilian Reais in 2004, the reduction was just over five percent. The Bolsa Família Program was responsible for nearly one-third of this decline. Although cash transfer was not solely responsible for the decline in poverty, a substantial drop was observed in 2003, which coincided with the first year of the program (Castro and Modesto 2010).

3. Bolsa Família Program: unification and conditions

The first conditional cash transfer program in Brazil suffered from a poor coordination and exchange of information between its executive agencies. The Bolsa Escola (Schools Fund), Bolsa Alimentação (Food Fund) and Auxílio Gás (Gas Allowance) programs were created at the

national level in 2001, followed two years later by the Cartão Alimentação (Food Card Program).

In 2003, the Bolsa Família Program was created with the primary goal of uniting the existing four programs. A major initial advantage of the program was the use of the Single Registry (*Cadastro Único*), which was created in 2001 and facilitated the integration of information about the families served by existing federal programs. In 2012, families with monthly household per capita earnings of up to 70.00 Brazilian Reais became eligible to receive the benefits of the Bolsa Família Program. Families with monthly household per capita earnings between 70.01 and 140.00 Brazilian Reais were eligible to participate in the program only if they had children of up to 17 years of age living in the residence. To receive the Bolsa Família benefit, beneficiaries must maintain their children's school enrollment, attend nutritional and prenatal counseling, monitor their health, and keep vaccinations up to date. In short, the program has educational and health offsets.

Although the Bolsa Família Program is a federal program, it is decentralized. Beneficiary selection and the monitoring of reciprocal actions are the responsibility of the municipalities. One of the objectives of decentralization is to save resources by using existing municipal structures (Soares and Sátyro 2009; Soares, Ribas and Soares 2009).

A major challenge for CCT programs is targeting. It is necessary to ensure with some degree of certainty that the resources are distributed to those who will truly benefit from them. By using a quota system, the Bolsa Família Program achieved significant advances with respect to targeting, successfully addressing problems of prior programs. Over 80 percent of program resources are targeted at the poorest 40 percent (Castro and Modesto 2010). Compared to programs that have no criteria for the selection of beneficiaries, Bolsa Família has a 37 percent better ability to target the appropriate recipients. With the implementation of this program, income inequality declined until the late 2000s, and the downward trend in inequality has continued. This is evidence that the program has a reliable system for the selection of families, even in a context in which information regarding income is generally of poor quality (Barros, Carvalho, Franco and Mendonça 2008).

As a conditional cash transfer program, Bolsa Família has the following three dimensions (Rios-Neto 2010): (1) immediate relief of poverty through the direct transfer of income, (2) the breaking of the intergenerational cycle of poverty through conditionalities that reinforce the social rights of health care and education (the need for family counseling) and (3) complementary programs, that include the coordinated efforts of federal, state, and municipal governments with civil society to implement programs/social policies aimed at the development of the beneficiary families. Thus, the goal of the Bolsa Família Program is to reduce the poverty level of eligible families in the short term by improving the well-being of these families in terms of consumerism, nutrition, education and health. In the long term, the program seeks to leverage

the investment in the human capital of eligible families (the chronically poor and susceptible) to reduce intergenerational vulnerability and poverty. The reciprocal educational and health care guidelines that a family is required to follow includes: ensuring a school attendance rate of at least 85 percent for children between 6 and 15 years; receiving information about immunization, growth and development appointments for children up to 7 years; receiving birth and postpartum counseling, and obtaining nutritional counseling via the Food and Nutrition Surveillance System ("Sistema de Vigilância Alimentar e Nutricional" – SISVAN). Based on the results of the first round of fieldwork of the 2005 Bolsa Família Program Impact Assessment ("Avaliação de Impacto do Programa Bolsa Família" – AIBF), Rios-Neto (2010) explored the estimated differential between the beneficiaries of the program (treatment group) and non-beneficiaries (comparison group), which provides a preliminary view of the program's potential impact. Although beneficiary children, who would not have otherwise attended school were present in class and did not drop out, their attainment did not advance throughout the school years. However, Bolsa Família Program is not strictly an educational public policy to be evaluated through such a limited perspective. The program acts on the demand for education through conditionality, which generates a price effect (reduction in the price of education with the constraint of time at school) and an income effect (increased income). A program of demand for education will only be as effective as the supply conditions (the school system and quality of schools). If the supply does not meet the demand, greater demand will not lead to improved results.

According to Rios-Neto (2010), the Bolsa Família Program has a number of challenges, including: (1) to develop a more detailed program of conditionalities and services for early childhood, such as kindergartens and programs to encourage verbalization and dispense micronutrient supplements; (2) to link services on the supply side (educational and health policies, for example) with increased demand from beneficiaries; (3) to take into account differences between the beneficiary families regarding the risks inherent in the existing family order and the stage of the family life cycle (youth programs and programs for single parent families, for example); (4) to address the problems related to "graduating" or "placing out" of the program, which highlight the need to separate chronic poverty from transient poverty; (5) to resolve the contradiction between investment in children and young people (intergenerational poverty) and the explicit goals to enable the "empowerment" of women; and (6) to consider the negative impact on female "empowerment," which has been an unintended consequence of the program, although there is some positive evidence. CCT programs pose a serious threat to female empowerment because they were not designed for this purpose. The programs support a traditional model of the sexual division of labor, in which the husband is responsible for the financial support of the household (working in the marketplace) and the woman is responsible for family care. Depending on living arrangements (single parent families, for example) and the

stage of the family life cycle, a woman can become overburdened by undertaking both the financial support (working for income) and the increased demand of family care (the domestic needs of the children). The emphasis on "graduating" from the program places pressure on women, who must seek employment and participate in training programs while the demand for family care remains high. From the point of view of public services, the provision of day care and full-time schooling are forms of "defamilization." These services reduce the demand for family care and facilitate the reconciliation between domestic strains and the demands of the workplace.

4. Social capital and education

The Bolsa Família Program does not only aim at immediately improving income levels, but it also serves to impact overall family conditions. The goal of this feature is to advance living conditions across generations. Thus, it is important to discuss how indicators of family social capital can improve the educational conditions of children. The way in which social relations are constituted within and outside of the family environment plays an important role in building the human capital of individuals.

The discussion about the definition, construction, and reproduction of social capital is vast and develops along many different paths and across many dimensions. Bourdieu (1980) defines social capital as the aggregate of the actual or potential resources that are associated with a durable social network. Individuals not only possess common properties, but are also united by permanent and useful connections. Neves et al. (2007) suggest that social capital is the ability of a collective effort to maximize the satisfaction of the collective interest and, thus, overcome the difficulties brought about by selfish individual action.

According to Coleman (1988), the association between social capital and education involves two dimensions, the family environment and extra-familial relationships. Social capital in the family provides the child with access to adult human capital. Human capital, in turn, is produced by individual changes that result in skills or capabilities that enable the person to act in new ways. The human capital of parents only impacts the human capital formation of children if the parents participate in the children's lives. This influence depends directly on the physical presence of parents in the child's domestic environment. Likewise, the incorporation of the family into social networks is positively associated with educational levels. Neves et al. (2007) demonstrated that both family social capital (represented mainly by the amount of time the mother is present in the household) and community social capital (based on extra-familial networks and measured by an indicator of participation in social organizations) have a positive impact on the educational attainment of children.

The framework of our current work, including the control variables and main independent variable of receipt of the benefit, employs independent variables that measure the

association between indicators of family social capital and whether children dropped out from school. More precisely, we will test the hypothesis that both family social capital (represented mainly by varying the number of hours a mother works per week and whether the mother resides at home) and community social capital (the mother's participation in social organizations) are negatively associated with dropout. Thus, we will test the hypothesis that a greater presence of the mother in the home environment and an involvement in social organizations, leads to a lower likelihood of children dropping out of school.

5. Data and methodology

For the analysis proposed in this paper, we used the database from the 2005 Bolsa Família Program Impact Assessment (AIBF) of the Center for Regional Development and Planning (CEDEPLAR) and the Ministry for Social Development and Hunger Combat (MDS). This database maintains household information including the social, educational, economic, health, and anthropometric characteristics of the inhabitants. Data on individual expenditure, collective spending, assessment of living conditions, and benefits received were collected. This research is representative of the following three areas in Brazil: North/Central-West, Northeast, and South/Southeast. Data were collected for the entire country, except for the rural North. The age range between 7 and 14 years was selected to ensure that all children were within the target group of the educational conditionality (which applies to children aged 6–15 years).

First, the distribution of independent variables was analyzed by category. The following dependent variables were then examined: (1) children who attended school in 2004 but dropped out in 2005 and (2) children who were absent from school within the last 30 days prior to survey. The first variable effectively measures dropout from one year to the next, which facilitates an evaluation of the program's educational conditionality. The second variable measures the absence of children from school in the last 30 days, which verifies the effect of the program on the short-term withdrawal of children from school. A means test was utilized to determine whether the proportions of these dependent variables significantly differed between those who received and those who did not receive the Bolsa Família Program benefit. Finally, logistical models were estimated for a multivariate analysis of the dependent variables. In addition to the variable of the receipt of Bolsa Família Program benefits by the child's family, the logistical models included independent variables relating characteristics about household, mother, and child.

Household characteristic variables included regular water supply, electricity, and garbage collection service. The lack of a regular water supply, electricity, and garbage collection service in the home increased the likelihood of children dropping out of school. In addition, control variables were included for number of family members, presence of elderly

relatives in the household, household location (urban/rural), and region of residence (North/Central-West, Northeast and South/Southeast).

The characteristics of the mother used in the model were race/color, years of schooling, and age. It is hypothesized that children are more likely to dropout from school if their mothers are non-white, less educated, and older. Information about whether the mother was the head of the household was also utilized, based on the hypothesis that children from households headed by the mother have a greater tendency to dropout. Information on the mother's residence for at least 10 years in the city was also included based on the hypothesis that recent migration increases the likelihood that children will dropout from school. The community social capital variable indicated whether the mother participated in social organizations. The following family social capital variables were included: the hours the mother worked during the week and the daily hours spent on household shores.

Finally, the following characteristics of the child were included: age, whether they work, and whether the child's mother resides in the same household. Child labor increases the likelihood of dropping out from school. In contrast, the residence of the mother in the same household has a decreases the chance of a child dropping out.

Analyses were performed to compare results between the groups that received the Bolsa Família benefit (treatment group) and those that did not (comparison or control group). The goal was to estimate the change in the outcomes of the people who received the benefit, if they had not received assistance. The effect that the benefit would have had on the control group, if they had received funding, was also tested. Because the research design is non-experimental, meaning the receipt of the benefit was not determined by a random drawing, we cannot properly examine a true counterfactual group. According to Racchumi-Romero (2008), AIBF research classified individuals into the following treatment and comparison groups: (1) the treatment group (T) is composed of households that declare receipt of the Bolsa Família Program benefit at the time of the research; (2) comparison group 1 (C1) is composed of households receiving other social benefits; and (3) comparison group 2 (C2) is composed of households who report never having received any benefit, irrespective of whether they are registered in a public program. As proposed by CEDEPLAR (2007), the current study examined the treatment group in relation to comparison group 2 to capture the pure effect of the Bolsa Família Program. This method compares similar homes on the probability of participation in the program. The evaluation of the treatment group in relation to comparison group 1 would need to be analyzed more carefully because this control group is quite heterogeneous with respect to income transfer policies and the existence of conditionalities.

The benefiting and control groups were further defined by maximum per capita household income, as follows: (1) households with up to a 50 Brazilian Reais per capita income. According to Racchumi-Romero (2008), an analysis of this group captures information on the

population with the worst socioeconomic conditions; (2) households with up to a 100 Brazilian Reais per capita income, which was the official income limit set for eligibility to participate in the Bolsa Família Program at the time of the AIBF survey; and (3) households with up to a 200 Brazilian Reais per capita income, used to ensure representative sampling across all groups. These procedures allowed us to use the AIBF data and to compare groups of individuals who received the Bolsa Família Program benefit with groups that did not receive this benefit but had similar characteristics.

6. Results

The final sample used in this analysis included a total of 9,232 children aged between 7 and 14 years who resided in households with an income per capita no greater than 200 Brazilian Reais. Of this total, 6,761 children resided in a household with a maximum income per capita of 100 Brazilian Reais, and 3,312 resided in a household with a maximum of 50 Brazilian Reais.

Table 1 shows the percentage distribution of children in the final sample, classified by income threshold and by the categories of variables of interest. With regards to regional representation, 38.10 percent of the sample was concentrated in the South/Southeast, 30.73 percent was concentrated in the Northeast, and 30.53 percent was concentrated in the North/Central-West. In all income groups, most children lived in households located in urban areas. The mean number of family members decreased slightly as the maximum household income per capita increased, with 5.76 members on average for the 50 Brazilian Reais threshold and 5.51 members for the 200 Brazilian Reais threshold. Households with a higher income were more likely to include elderly members.

>>> **Table 1** <<<

As was predicted, the probability that a household had a water supply, electricity, and garbage collection service substantially increased from the 50 Brazilian Reais to the 200 Brazilian Reais income bracket, the former having only 65.91 percent of households with a water supply, 93.36 percent with electricity, and 60.29 percent with garbage collection. By expanding the range of per capita household income to 200 Brazilian Reais per month, these percentages increased to 71.57 percent, 96.14 percent and 72.09 percent, respectively.

Across the three income levels, most households had non-white mothers, and the mother was not the head of household. In the 50 Brazilian Reais income level, the mother was identified as non-white in 72.14 percent of cases and was the head of the household in 41.25 percent of cases. For the 200 Brazilian Reais group, these percentages were 68.67 percent and 38.34 percent, respectively. In all income brackets, most mothers had a low level of education. Among children in families with incomes of up to 200 Brazilian Reais, 55.66 percent lived in households where the mother had less than five years of schooling. When the income limit was reduced to 100 Brazilian Reais, the proportion rose to 57.89 percent and reached 62.04 percent

for the 50 Brazilian Reais group. The majority of the mothers in the sample (44.04 percent) were between 35 and 49 years of age. As the per capita income level was reduced, the percentage of mothers who were aged up to 49 years increased, and the percentage of mothers aged 50 years or over decreased. Regardless of income level, most mothers resided in the city for 10 years or more. The number of mothers who migrated less than 10 years before the survey was conducted, was highest for the 100 Brazilian Reais group, at 14.25 percent. Regarding the involvement of mothers in social organizations, there was a small increase in participation as household income increased, with 33.77 percent for those in the first income level and 34.72 percent for those in the highest income level.

For all income levels, most mothers did not work, and the proportion of working mothers increased as the income level increased. The percentage of mothers who worked 40 hours per week or more was 18.96 percent for the 50 Brazilian Reais income level, 21.37 percent for the 100 Brazilian Reais level, and 24.15 percent for the 200 Brazilian Reais level. For the category of time spent by the mother in the home, this percentage tended to be greater for those in the lower income level. A total of 63.31 percent of mothers in the 50 Brazilian Reais income level spent more than 4 hours per day in the home, whereas this percentage dropped to 60.55 percent for the higher income group.

When examining the characteristics of children, there was no significant difference between the mean ages in the three income levels, the lowest being 10.3 years and the highest being 10.4 years. Child labor increased proportionately as the income level decreased, with 7.13 percent of children in the lowest group working or having worked at some point. The highest proportion (93.27 percent) of children whose mothers lived in the same household was also represented by the lowest income group.

Children belonging to households that received the Bolsa Família Program benefit represented 68.39 percent of the families with an income per capita of up to 50 Brazilian Reais. When the maximum income per capita rose to 100 Brazilian Reais, the total number of children receiving the benefit reached 64.71 percent. For the 200.Brazilian Reais per capita level, the Bolsa Família beneficiaries correspond to 59.75 percent of the total.

For the initial analysis of school dropout rates, Table 2 shows the percentage of children in the treatment and control groups who left school from 2004 to 2005 for the three income brackets. For both the treatment and control group, the percentage of dropout decreased as maximum income increased. Comparing these two groups, the children in households that received the benefit expressed a lower dropout rate across all three income levels. The difference in dropout rates between the treatment and control groups was greatest in the lowest income limit (50 Brazilian Reais). In this group, the proportion of beneficiary children who left school between the two years was 1.28 percent lower than children who resided in households that did not receive the benefit. This difference was 0.55 percent for the 100 Brazilian Reais

income group, and 0.50 percent for the 200 Brazilian Reais group. All results were tested for differences between means, and they were statistically significant.

>>> **Table 2** <<<

Table 3 shows the percentage of children in the treatment and control groups who were absent from school within the 30 days prior to the survey, according to the three household income per capita brackets. Of not is the fact that the percentage of children who stopped attending school was lower for the benefiting group compared to the control group at all three income levels. Beneficiary children in the 200 Brazilian Reais range of per capita household income who dropped out of school represented 16.17 percent of the total. This value was 1.96 percent lower than non-beneficiary children, representing a statistically significant finding.. The differences between the proportions of children who stopped going to school 30 days prior to the survey and children who dropped out between 2004 and 2005 (Table 3) indicated a potential relationship between the receipt of the benefit and a lower chance of short term and permanent dropout. However, these differences may be associated with characteristics beyond the income transfer program. Thus, logistic regression models were conducted to control for the impact of other important variables and verify the impact *ceteris paribus* of each characteristic.

>>> **Table 3** <<<

6.1. School dropout rates between 2004 and 2005

Logistical regression models were calculated for each income per capita bracket (50, 100, and 200 Brazilian Reais). The following groups of variables were included in the construction of the model: (1) characteristics of the household, (2) characteristics of the mother, (3) characteristics of the child, and (4) receipt of the Bolsa Família benefit.

Table 4 shows the odds ratios and statistical significance of the calculated coefficients of the three models to explain dropout rates for the different income brackets (50, 100, and 200 Brazilian Reais). In the first model (50 Brazilian Reais per capita household income level), only region of residence was statistically significant in relation to household variables, at a 95 percent level of certainty. The odds ratio indicated that, controlling for other independent variables, a child residing in the Northeast region was 204 percent more likely [(odds ratio–1)*100] to dropout of school, compared to a child from the South/Southeast region. A child residing in the North/Central-West region had a 154 percent greater chance of dropping out from school, compared to a child from the South/Southeast.

>>> **Table 4** <<<

With regards to the characteristics of the mother in model 1, a child residing in a family where the mother was the head of the household had a 97 percent greater likelihood of dropping out of school than a child whose mother was not the head of household. For children of white mothers, there was a 125 percent greater chance of dropping out compared to children of black

or brown mothers. In both cases, the impact was statistically significant ($p<0.05$). These families may have been headed by single-parent mothers, which would increase their vulnerability to social risks in relation to other families.

Regarding the mother's education, only the nine or more years of study category showed a statistically significant result compared to the category of mothers with zero years of education. Controlling for all other variables, a child living in a household that includes a mother with nine years or more of education had a 75 percent lower chance of dropping out than a child who lived in a household with a mother who had not completed one year of schooling.

A mother's age was only statistically significant for the 50 years of age or more category. The likelihood of dropping out of school was 94 percent lower for children whose mother was over 50 than for those whose mother was aged between 25 and 34 years. The time worked per week by the mother was only statistically significant for the 1 to 20 hours of work per week category. For these children, there was a 74 percent lower chance of dropping out compared to children living in households in which the mother did not work. Thus, the retention of children in school was higher for households of a very low income in which the mother worked for a small number of hours compared to households in which the mother did not work.

As for variables related to the children, controlling for all other variables, an increase of one year of age significantly increased the likelihood that the child would dropout by 17 percent. An important social capital variable is the presence of the mother in the home. The presence of the mother in the same household reduced the child's chance of dropping out of school by 78 percent, controlling for all other independent variables.

Finally, it is interesting to analyze the impact of the Bolsa Família Program on dropout rates for the 50 Brazilian Reais income bracket. Controlling for all independent variables in the model, children from homes that received this benefit were 57 percent less likely to drop out of school than a child who resided in a household that did not receive the benefit. This indicates that the educational conditionality was effective in reducing dropout rates between 2004 and 2005.

The results for households with a limit of 100 Brazilian Reais per capita household income (Model 2 of Table 4) are interesting because this was the eligibility criteria of the Bolsa Família Program in 2005. Regarding household characteristics, the number of family members impacted school dropout rates. The increase of one family member increased the likelihood of dropout by 12 percent, controlling for other independent variables, with statistical significance. Residing in an urban area also had a significant impact on the child's likelihood of dropping out. Children living in urban areas had 91 percent more of a chance of dropping out in comparison to those in rural areas. Regarding the region of residence, a child in the North/Central-West was 89 percent more likely to dropout from school than one living in the South/Southeast. For a child in the Northeast, the chance of dropping out was 125 percent higher than in the South/Southeast.

With respect to variables reflecting the characteristics of the mother, mother-headed households reflected a heightened dropout rate. A child living in a household in which the mother was the head was 45 percent more likely to dropout than a child who lived in a household in which the mother was not the head. Children living in households with a white mother had a 103 percent greater chance of dropping out, controlling for other independent variables. Regarding a mother's education, children of mothers with 9 or more years of study are 56 percent more likely to dropout than children of mothers with zero years of schooling. Children of mothers aged up to 24 years had dropout rates that were 376 percent higher than children of mothers between 25 and 34 years of age. These results indicate that in households in which the mother is young, the head of the household, and has little education, children are much more likely to dropout.

Two variables point to a favorable impact of social capital in reducing dropout. The first is the mother's participation in social organizations. The mother's sociability reduced the chance of child dropping out by 36 percent. The second variable refers to the number of hours worked by the mother during the week. Children of mothers who work 40 hours or more per week were 79 percent more likely to drop out of school compared to children of mothers who did not work, and this difference was statistically significant.

In relation to the characteristics of children, for each additional year of age, the likelihood of the child dropping out of school increased by 23 percent. Whether the mother resides in the home is also associated with social capital. Controlling for other independent variables, children were 54 percent less likely to drop out if the mother resided in the home.

A child who resided in a household with an income per capita of up to 100 Brazilian Reais, that also received the Bolsa Família benefit, was 34 percent less likely to dropout from school compared to a child who resided in a household that did not receive the benefit. This result shows that the educational conditionality was effective in households that were within the official limit for program eligibility, as children were less likely to drop out of school if their households received the Bolsa Família benefit.

Attention must also be focused on children in the 200 Brazilian Reais per capita household income bracket (Model 3 of Table 4). This income limit was set to ensure representative sampling in all groups. With respect to the household variables, number of family members, and whether children resided in urban areas, the group continued to present a significant and increased likelihood of dropout. More specifically, the increase of one person in the family increased the likelihood of dropout by 11 percent. Residing in an urban area increased the likelihood of the child dropping out by 131 percent when compared to those living in rural areas. Children living in homes located in the North/Central-West and Northeast regions were 64 percent and 106 percent, respectively, more likely to drop out of school than the residents of the South/Southeast. Unlike the models presented for other income levels, the

existence of a household water supply and garbage collection for those with a per capita household income of 200 Brazilian Reais, reflected a decline (31 percent and 38 percent, respectively) in the likelihood of dropout. This indicates that these services improved the quality of life and decreased the risk of vulnerability of households in this income bracket.

In this income bracket, as in the lower income level models, children living in households in which the mother was the head were more likely to dropout. On average, these children were 51 percent more likely to drop out of school compared to children in households not headed by the mother. Moreover, children living in households with white mothers were 47 percent more likely to dropout compared to children with black or brown mothers.

Regarding the mother's characteristics, however, children of mothers who studied for at least nine years were 52 percent less likely to drop out of school than children of mothers with zero years of schooling, maintaining all other factors as constant. When examining the mother's age, children living in households with a young mother (24 years or less) were 353 percent more likely to dropout than children of mothers aged between 25 and 34 years of age. Migration of the mother also increased the chance of dropping out. Children whose mothers lived in the same municipality for less than 10 years were 84 percent more likely to dropout than children of mothers who lived in the municipality longer.

Analyzing information on community social capital, children of mothers who participated in social organizations were 43 percent less likely to dropout compared to children of mothers who did not participate in these types of organizations. Regarding the mother's employment, children living in households where the mother worked 40 hours per week or more were 53 percent more likely to drop out of school than children from households in which the mother did not work. This impact may be associated with the absence of the mother from the family environment, which decreases family social capital and tends to negatively affect the child's educational variables.

In relation to the characteristics of the child, similar to the other income brackets, increasing age increased the likelihood of dropout. Controlling for other independent variables, an increase of one year in the child's age increased the likelihood of dropout by 19 percent. Regarding the presence of the mother in the home, children who resided in a household with their mothers were 39 percent less likely to drop out of school than other children.

Among households whose per capita income was up to 200 Brazilian Reais, children living in households that received the Bolsa Família benefit were 33 percent less likely to drop out of school between 2004 and 2005 than children living in households without this benefit. This result was significant and indicates that the educational conditionality of the Bolsa Família Program is effective, as it decreases the likelihood that a child will drop out from school.

6.2. Children who were absent from school in the last 30 days

While not referring directly to the educational conditionality of the Bolsa Família Program, it is interesting to analyze whether the program impacted the likelihood of a child dropping out of school in the short term. This effect was compared across three models, one for each of the household income per capita ranges used in this study. The dependent variable was whether the child stopped going to school in the 30 days prior to the survey. The number of cases in these models are slightly different than the previous ones (section 6.1), because of the change in the dependent variable.

Initially, among household characteristics (Table 5), the number of family members had a negative impact on whether a child had left school in the last 30 days for the three income brackets. Although the impact was statistically significant, the magnitude was very small (approximately 0.05 percent less likely for each extra family member). For a child in the 200 Brazilian Reais income band, for example, an increase of one family member had an average impact of 0.05 percent. The presence of a water supply and electricity had statistically significant impacts, but these were also small in magnitude.

>>> **Table 5** <<<

Unlike the pattern observed for dropout, children living in the Northeast and North/Central-West were less likely to leave school in the short term compared to children in the South/Southeast. With respect to the mother's characteristics, a child residing in a household in which the mother was identified as white was less likely to leave school in the short term than in cases in which the mother was identified as black or brown. For children with younger mothers aged up to 24 years of age, the likelihood of leaving school in the short term was greater than for children with mothers aged between 25 and 34 years. For the 50 Brazilian Reais income bracket alone, the mother's participation in social organizations had a statistically significant negative impact on the dependent variable.

Regarding the characteristics of the child, age was a factor in reducing the likelihood of leaving school within the last 30 days. Furthermore, the child labor variable became significant. Children who worked or had previously worked were more likely to leave school in the short term, especially at the higher income bracket. The mother living in the same household as the child decreased the likelihood that a child had left school in the past 30 days; however, the variable was only statistically significant for the lowest income bracket.

Finally, it is important to analyze the impact of the Bolsa Família benefit on the likelihood that the child left school in the short term. The influence of the benefit decreased the likelihood that a child would leave school in the short term and this decrease was amplified as the per capita household income level increased, with a statistically significant effect for the 200 Brazilian Reais income bracket. Therefore, a child who resided in a household that had a per capita income of up to 200 Brazilian Reais and received the benefit was 11 percent less likely to

drop out of school in the short term. This result is interesting because it shows that the conditionality of the program not only reduced absences from one year to the next but also decreased short-term absences.

7. Final Considerations

The analysis developed in this paper allowed us to verify that children who live in households that receive benefits through the Bolsa Família Program have less of a chance of dropping out of school, for all per capita household income thresholds. For the lowest income threshold (50 Brazilian Reais per capita), the program was responsible for a 57.2 percent reduction in the dropout rate. The group that represented a per capita household income of 100 Brazilian Reais, which was the official limit to participate in the program at the time of the survey, showed a 33.4 percent reduction in dropout rates. Finally, for the highest income threshold (200 Brazilian Reais per capita), children who lived in households that received the Bolsa Família Program benefit had 34 percent less of a chance of dropping out of school. For this highest income level, the program also resulted in an 11 percent reduction in the likelihood that children were absent from school for a short period. These results suggest that the educational conditions of the program are working as planned and the program indicates a significant reduction in the dropout rate of children living in households that receive the Bolsa Família stipend.

In relation to the variables about familial human capital, the absence of the mother from the household results in an increased school dropout rate. The children of women who work at least 40 hours per week have a higher probability of leaving school, for the household income thresholds of 100 and 200 Brazilian Reais per capita. Moreover, the dropout rates of children for all household income thresholds is lower if the mother lives in the same household as the child. These results confirm the hypothesis that the influence of familial human capital has a significant impact on the education of children. The community capital, measured as the mother's participation in social organizations, also results in a decline in dropout rates, mainly for the two highest income thresholds.

The results presented in this study highlight the importance of controlling the school attendance of program beneficiaries in order to reduce dropout rates and increase the educational attainment of participating children. However, an effective increase in human capital and the desired break in the intergenerational cycle of poverty will not be achieved by simply ensuring a larger number of children remain in school. It is vital that these existing policies are accompanied by an investment in quality public education, especially at the basic level. With the release of a new round of research on the Bolsa Família Program in 2010, future studies can conduct longitudinal analyses that will facilitate the study of changes in the analyzed characteristics over time.

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Table 1. Percentage distribution of children by variables of interest, Brazil, 2005.

Variables	Categories	Maximum threshold of per capita household income (Brazilian Reais)		
		50.00	**100.00**	**200.00**
Number of family members	Mean	5.76	5.65	5.51
Presence of elderly relatives in the household	Yes	6.82	9.63	12.14
	No	93.18	90.37	87.86
Regular water supply	Yes	65.91	68.82	71.57
	No	34.09	31.18	28.43
Electricity	Yes	93.36	95.12	96.14
	No	6.64	4.88	3.86
Garbage collection service	Yes	61.29	68.41	72.09
	No	38.71	31.59	27.91
Household location	Urban	73.19	79.10	81.94
	Rural	26.81	20.90	18.06
Region of residence	North/Central-West	25.75	30.05	30.57
	Northeast	42.15	34.61	30.73
	South/Southeast	32.10	35.34	38.70
Mother head of the household	Yes	41.25	38.42	38.34
	No	58.75	61.58	61.66
Mother race/color	White	27.86	29.48	31.33
	Black or brown	72.14	70.52	68.67
Mother years of schooling	Zero	25.08	23.43	21.51
	1 to 4 years	36.96	34.46	34.15
	5 to 8 years	26.44	29.04	29.79
	9+ years	11.52	13.07	14.55
Mother age	Up to 24 years	2.69	2.58	2.34
	25 to 34 years	41.57	41.53	39.10
	35 to 49 years	45.49	43.83	44.04
	50+ years	10.25	12.06	14.51
Mother lived less than ten years in the municipality	Yes	12.83	14.25	13.66
	No	87.17	85.75	86.34
Participation of mother in social organizations	Yes	33.77	33.71	34.72
	No	66.23	66.29	65.28
Mother weekly work hours	Zero	57.60	57.14	53.98
	1 to 20 hours	12.52	11.32	11.24
	21 to 39 hours	10.92	10.17	10.63
	40+ hours	18.96	21.37	24.15
Mother daily hours spent on household chores	Up to 2 hours	11.29	12.23	13.18
	3 to 4 hours	25.40	25.08	26.28
	5 to 6 hours	30.35	29.71	29.20
	7+ hours	32.96	32.97	31.35
Child age	Mean	10.27	10.32	10.39
Child work	Yes	7.13	5.24	4.68
	No	92.87	94.76	95.32
Mother lives in the household	Yes	93.27	92.06	90.63
	No	6.73	7.94	9.37
Beneficiary of "Bolsa Família" Program	Yes	68.39	64.71	59.75
	No	31.61	35.29	40.25
Sample size (n)		3,312	6,761	9,232

Table 2. Percentage distribution of children in the household who dropped out of school between 2004 and 2005.

Beneficiary of "Bolsa Família" Program	Maximum threshold of per capita household income (Brazilian Reais)		
	50.00	100.00	200.00
Yes (treatment)	1.10	1.42	1.30
No (control)	2.39	1.97	1.80
Difference	1.28***	0.55***	0.50***

*** Significant at $p < .01$.

Source: 2005 Impact Evaluation of Bolsa Família Program ("Avaliação de Impacto do Programa Bolsa Família" – AIBF), collected by the Center for Regional Development and Planning ("Centro de Desenvolvimento e Planejamento Regional" – CEDEPLAR) of the Universidade Federal de Minas Gerais (UFMG) and the Ministry of Social Development and Combating Famine ("Ministério do Desenvolvimento Social e Combate à Fome" – MDS), Brazil.

Table 3. Percentage distribution of children in the household who were absent from school within the last 30 days prior to survey, Brazil, 2005.

Beneficiary of "Bolsa Família" Program	Maximum threshold of per capita household income (Brazilian Reais)		
	50.00	100.00	200.00
Yes (treatment)	16.19	16.47	16.17
No (control)	17.34	17.34	18.14
Difference	1.15	0.87	1.96***

*** Significant at p<.01.

Source: 2005 Impact Evaluation of Bolsa Família Program ("Avaliação de Impacto do Programa Bolsa Família" – AIBF), collected by the Center for Regional Development and Planning ("Centro de Desenvolvimento e Planejamento Regional" – CEDEPLAR) of the Universidade Federal de Minas Gerais (UFMG) and the Ministry of Social Development and Combating Famine ("Ministério do Desenvolvimento Social e Combate à Fome" – MDS), Brazil.

Table 4. Odds ratios and exponentials of standard-errors estimated with logistic regression models for the dependent variable "school dropout rate between 2004 and 2005," Brazil, 2005.

Independent variables	Maximum threshold of per capita household income (Brazilian Reais)		
	Model 1 (50.00)	Model 2 (100.00)	Model 3 (200.00)
Household variables			
Number of family members	1.122	1.124***	1.108***
	(0.0805)	(0.0468)	(0.0407)
Presence of elderly relatives in the household	1.454	1.678	1.331
	(0.913)	(0.572)	(0.403)
Regular water supply	1.066	0.767	0.694*
	(0.402)	(0.186)	(0.148)
Electricity	1.270	1.106	1.293
	(1.021)	(0.554)	(0.635)
Garbage collection service	0.994	0.756	0.621**
	(0.370)	(0.188)	(0.134)
Rural	reference	reference	reference
Urban	1.729	1.910*	2.309***
	(0.947)	(0.668)	(0.733)
South/Southeast Regions	reference	reference	reference
North/Central-West Regions	2.536**	1.889**	1.630**
	(1.157)	(0.533)	(0.394)
Northeast Region	3.035**	2.248***	2.064***
	(1.332)	(0.601)	(0.473)
Mother variables			
Mother head of the household	1.974**	1.445*	1.508**
	(0.651)	(0.313)	(0.285)
Black or Brown	reference	reference	reference
White	2.248**	2.029***	1.465**
	(0.709)	(0.430)	(0.284)
Mother years of schooling: zero	reference	reference	reference
Mother years of schooling: 1 to 4 years	1.267	1.195	1.135
	(0.495)	(0.313)	(0.269)
Mother years of schooling: 5 to 8 years	0.701	0.898	0.902
	(0.332)	(0.270)	(0.241)
Mother years of schooling: 9+ years	0.251*	0.440*	0.481*
	(0.202)	(0.197)	(0.183)
Mother age: up to 24 years	1.507	4.757***	4.534***
	(1.299)	(2.028)	(1.725)
Mother age: 25 to 34 years	reference	reference	reference
Mother age: 35 to 49 years	1.170	1.111	1.109
	(0.401)	(0.265)	(0.238)
Mother age: 50+ years	0.0531***	0.532	0.645
	(0.0599)	(0.222)	(0.235)
Mother lived less than ten years in the municipality	1.325	1.411	1.838***
	(0.536)	(0.360)	(0.396)
Participation of mother in social organizations	0.731	0.643*	0.565***
	(0.267)	(0.151)	(0.120)
Mother weekly work hours: zero	reference	reference	reference
Mother weekly work hours: 1 to 20 hours	0.257*	0.920	1.177
	(0.195)	(0.344)	(0.362)
Mother weekly work hours: 21 to 39 hours	0.736	0.744	0.907
	(0.419)	(0.311)	(0.309)
Mother weekly work hours: 40+ hours	0.904	1.790**	1.529*
	(0.357)	(0.432)	(0.335)
Mother daily hours spent on household chores: up to 2 hours	reference	reference	reference

Mother daily hours spent on household chores: 3 to 4 hours	2.975	1.089	0.854
	(2.052)	(0.411)	(0.273)
Mother daily hours spent on household chores: 5 to 6 hours	2.399	1.241	1.050
	(1.665)	(0.458)	(0.326)
Mother daily hours spent on household chores: 7+ hours	2.084	1.563	1.443
	(1.479)	(0.568)	(0.439)
Child variables			
Child age	1.174**	1.226***	1.194***
	(0.0830)	(0.0581)	(0.0496)
Child work	1.417	1.177	1.465
	(0.758)	(0.471)	(0.485)
Mother lives in the household	0.218***	0.455**	0.610*
	(0.0990)	(0.142)	(0.168)
Beneficiary of "Bolsa Família" Program	0.428***	0.662**	0.666**
	(0.131)	(0.134)	(0.119)
Number of cases (children)	3,312	6,761	9,232

* Significant at p<.1. ** Significant at p<.05. *** Significant at p<.01.

Source: 2005 Impact Evaluation of Bolsa Família Program ("Avaliação de Impacto do Programa Bolsa Família" – AIBF), collected by the Center for Regional Development and Planning ("Centro de Desenvolvimento e Planejamento Regional" – CEDEPLAR) of the Universidade Federal de Minas Gerais (UFMG) and the Ministry of Social Development and Combating Famine ("Ministério do Desenvolvimento Social e Combate à Fome" – MDS), Brazil.

Table 5. Odds ratios and exponentials of standard-errors estimated with logistic regression models for the dependent variable "absence from school within the last 30 days prior to survey," Brazil, 2005.

Independent variables	Maximum threshold of per capita household income (Brazilian Reais)		
	Model 4 (50.00)	Model 5 (100.00)	Model 6 (200.00)
Household variables			
Number of family members	0.946**	0.968*	0.951***
	(0.0248)	(0.0172)	(0.0145)
Presence of elderly relatives in the household	0.863	1.200	1.159
	(0.194)	(0.158)	(0.121)
Regular water supply	0.747**	0.814**	0.839**
	(0.0941)	(0.0723)	(0.0643)
Electricity	0.681**	0.664***	0.682***
	(0.129)	(0.100)	(0.0991)
Garbage collection service	1.061	1.183*	1.165*
	(0.140)	(0.113)	(0.0971)
Rural	reference	reference	reference
Urban	1.216	1.199	1.255**
	(0.202)	(0.143)	(0.133)
South/Southeast Regions	reference	reference	reference
North/Central-West Regions	0.569***	0.447***	0.492***
	(0.0781)	(0.0411)	(0.0376)
Northeast Region	0.709***	0.658***	0.754***
	(0.0822)	(0.0537)	(0.0530)
Mother variables			
Mother head of the household	0.991	0.922	0.972
	(0.106)	(0.0682)	(0.0603)
Black or Brown	reference	reference	reference
White	0.740***	0.840**	0.802***
	(0.0846)	(0.0642)	(0.0516)
Mother years of schooling: zero	reference	reference	reference
Mother years of schooling: 1 to 4 years	1.482***	1.410***	1.396***
	(0.198)	(0.135)	(0.117)
Mother years of schooling: 5 to 8 years	1.114	1.084	1.095
	(0.170)	(0.115)	(0.100)
Mother years of schooling: 9+ years	0.961	1.154	1.123
	(0.183)	(0.145)	(0.120)
Mother age: up to 24 years	1.130	1.485**	1.563***
	(0.313)	(0.280)	(0.260)
Mother age: 25 to 34 years	reference	reference	reference
Mother age: 35 to 49 years	0.944	0.917	0.904
	(0.102)	(0.0690)	(0.0589)
Mother age: 50+ years	1.253	0.997	1.004
	(0.255)	(0.139)	(0.115)
Mother lived less than ten years in the municipality	1.141	0.996	1.006
	(0.162)	(0.0958)	(0.0840)
Participation of mother in social organizations	0.794**	0.945	0.985
	(0.0855)	(0.0684)	(0.0597)
Mother weekly work hours: zero	reference	reference	reference
Mother weekly work hours: 1 to 20 hours	1.149	1.314**	1.233**
	(0.171)	(0.140)	(0.113)
Mother weekly work hours: 21 to 39 hours	0.986	1.187	1.167
	(0.164)	(0.137)	(0.112)
Mother weekly work hours: 40+ hours	0.992	1.138	0.988
	(0.131)	(0.102)	(0.0748)
Mother daily hours spent on household chores: up to 2 hours	reference	reference	reference

Mother daily hours spent on household chores: 3 to 4 hours	1.410*	1.293**	1.180*
	(0.260)	(0.156)	(0.117)
Mother daily hours spent on household chores: 5 to 6 hours	1.225	1.163	1.134
	(0.223)	(0.140)	(0.113)
Mother daily hours spent on household chores: 7+ hours	1.220	1.178	1.096
	(0.223)	(0.142)	(0.110)
Child variables			
Child age	0.936***	0.947***	0.941***
	(0.0210)	(0.0147)	(0.0124)
Child work	0.996	1.264	1.371**
	(0.203)	(0.188)	(0.181)
Mother lives in the household	0.686*	0.857	0.893
	(0.139)	(0.119)	(0.0981)
Beneficiary of "Bolsa Família" Program	0.973	0.937	0.890**
	(0.102)	(0.0661)	(0.0521)
Number of cases (children)	3,352	6,827	9,299

* Significant at p<.1. ** Significant at p<.05. *** Significant at p<.01.

Source: 2005 Impact Evaluation of Bolsa Família Program ("Avaliação de Impacto do Programa Bolsa Família" – AIBF), collected by the Center for Regional Development and Planning ("Centro de Desenvolvimento e Planejamento Regional" – CEDEPLAR) of the Universidade Federal de Minas Gerais (UFMG) and the Ministry of Social Development and Combating Famine ("Ministério do Desenvolvimento Social e Combate à Fome" – MDS), Brazil.