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

Ernesto Friedrich de Lima Amaral (amaral@fafich.ufmg.br)

Christopher Weiss (cw2036@columbia.edu)

Vinícius do Prado Monteiro (vinics.prado@gmail.com)

POVERTY, INEQUALITY, & CCT PROGRAMS

– Brazil has one of the most unequal income distributions in the world.

– Inequality between the different strata of society began to significantly decrease in the 1990s with the creation of conditional cash transfer (CCT) programs (Barros, Carvalho, Franco, Mendonça 2006, 2007a).

– The Bolsa Família Program started in 2003, aiming to unite the existing conditional cash transfer programs.

– In 2012, the Ministry for Social Development and Combating Hunger (MDS) reported that there are 13 million families receiving some benefit from the Bolsa Família Program.

BOLSA FAMÍLIA (BF) PROGRAM

– The program targets families living in poverty (monthly per capita earnings lower than 140.00 Brazilian Reais) and in extreme poverty (<70.00 BRL).

– Families within these income thresholds, and with children up to 15 years of age, receive up to 5 benefits.

– For families in extreme poverty, each benefit equals 58.00 BRL per month.

– For families in poverty, the benefit varies depending on the family composition: 18.00 BRL plus 30.00 BRL per adolescent.

– One of the conditions for families receiving the program is to ensure school attendance rates of at least 85 percent for children (6-15 years).

RESEARCH QUESTIONS

- **Q1:** What is the impact of the Bolsa Família Program on the probability of a child dropping out of school between 2004 and 2005?

- **Q2:** What is the impact of the Bolsa Família Program on the probability of a child being absent from school within the last 30 days prior to survey?

- **HYPOTHESIS:** The Bolsa Família Program decreases dropout rates, as well as school absences.

DATA

– 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 Combating Hunger (MDS) for children aged 7-14 years.

– This database maintains household information including the social, educational, economic, health, and anthropometric characteristics of the inhabitants.

– 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.

METHODOLOGY

–   Logistical models were estimated for three groups, based on the monthly household per capita earnings:

1) Up to 50 Brazilian Reais: population with the worst socioeconomic conditions (Racchumi-Romero 2008).

2) Up to 100 Brazilian Reais: official income limit set for eligibility to participate in the Bolsa Família Program in 2005 (time of the survey).

3) Up to 200 Brazilian Reais: used to ensure representative sampling across all groups.

–   Models included independent variables relating characteristics about household, mother, and child.

DEPENDENT VARIABLES

– **Model 1:** children who attended school in 2004, but dropped out in 2005:

  – Did you attend pre-school or school last year?

  – Are you attending pre-school or school this year?

– **Model 2:** children who were absent from school within the last 30 days prior to survey:

  – Were you absent from school within the last 30 days?

INDEPENDENT VARIABLES

– **Beneficiary of Bolsa Família Program**.

– **Household variables:** (1) number of family members; (2) presence of elderly relatives; (3) regular water supply; (4) electricity; (5) garbage collection service; (6) rural/urban area; (7) region of residence.

– **Mother variables:** (1) mother head of the household; (2) race/color; (3) years of schooling; (4) age; (5) lived less than ten years in the municipality; (6) participation in social organizations; (7) weekly work hours; (8) daily hours spent on household chores.

– **Child variables:** (1) age; (2) indication if working or worked; (3) mother lives in the household.

SAMPLE DESCRIPTION
(CHILD AS UNIT OF ANALYSIS)

Beneficiary of Bolsa Família Program	50.00 BRL	100.00 BRL	200.00 BRL
Yes	68.39%	64.71%	59.75%
No	31.61%	35.29%	40.25%
Sample size (n)	3,312	6,761	9,232

– For the 200.00 BRL group:

   – Mothers: black/brown (68.67%), 35-49 years old (44.04%), 1-4 years of schooling (34.15%), don't work (53.98%), spend 7+ daily hours on household chores (31.35%).

   – Children: 4.68% worked or had previously worked.

DISTRIBUTION OF DEPENDENT VARIABLES

– Distribution of children in the household who dropped out of school between 2004 and 2005:

Income group	Control	Treatment	Difference
50.00 BRL	2.39%	1.10%	1.29%***
100.00 BRL	1.97%	1.42%	0.55%***
200.00 BRL	1.80%	1.30%	0.50%***

– Distribution of children in the household who were absent from school within the last 30 days prior to survey:

Income group	Control	Treatment	Difference
50.00 BRL	17.34%	16.19%	1.15%
100.00 BRL	17.34%	16.47%	0.87%
200.00 BRL	18.14%	16.17%	1.97%***

*Significant at $p < 0.10$; **Significant at $p < 0.05$; ***Significant at $p < 0.01$.

BOLSA FAMÍLIA AND EDUCATION (LOGISTICAL MODELS)

– Children who were living in households that received the Bolsa Família Program had less of a chance of dropping out of school, for all per capita household income thresholds:

  – 50.00 BRL: reduction of 57.2%

  – 100.00 BRL: reduction of 33.4%

  – 200.00 BRL: reduction of 34.0%

– For the 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.

BOLSA FAMÍLIA
AND FAMILIAL HUMAN CAPITAL

– The absence of the mother from the household resulted in an increased school dropout rate:

    – The children of women who worked at least 40 hours per week had a higher probability of leaving school.

– The dropout rates of children for all household income thresholds was lower if the mother lived in the same household as the child.

– Thus, the influence of familial human capital had a significant impact on the educational attainment of children.

– The community capital, measured as the mother's participation in social organizations, also resulted in a decline in dropout rates.

FINAL CONSIDERATIONS

– These results suggest that the educational conditions of the program are working as planned.

– There was a significant reduction in the dropout rate of children living in households that received Bolsa Família.

– Preliminary results from the 2010 Census indicate that children living in households benefiting from Bolsa Família are 2.3 times more likely to be attending school.

– It is important to control the school attendance of program beneficiaries in order to reduce dropout rates and increase the educational attainment of children.

– Finally, it is vital to invest in improving the quality of public education.