# Do Conditional Cash Transfers Interrupt the Cycle of Intergenerational Poverty? Lessons from a Large Administrative Data Set

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# I. INTRODUCTION

Conditional cash transfer programs (or CCTs) have proliferated throughout the Global South, intending to lift the poorest families out of indigence and interrupt the intergenerational cycle of poverty. The Brazilian social welfare program *Bolsa Família* (Family Allowance) represents the world's largest conditional cash transfer (CCT) program, providing at its peak upwards of 13.5 million needy families with monthly cash allowances, conditional on compliance with childrens' vaccinations schedules and sustained attendance in school (*Portal Brasil*, 2015). Although *Bolsa Família* (henceforth PBF for its Portuguese acronym) is the largest social redistribution program of its kind, similar CCT programs have been implemented throughout Latin America, Africa, and South East Asia, bringing direct governmental assistance to the most marginalized and destitute families throughout the developing world, and incentivizing families' investments in their long-term human capital. Successful implementation of CCT programs depends on their design, accurate targeting of beneficiaries, and effective monitoring and evaluation mechanisms (Rawlings and Rubio, 2003).

Despite substantial gains in program implementation and an aggregate reduction in the poverty rate, solid evidence that connects local program implementation to observable household improvements is either scant, conflicting, or both (Cahyadi et al., 2020).[1] We analyze here the individual records data from the *Cadastro Único*. This massive administrative dataset includes household and individual-level information on both applicants and recipients of the PBF (N=79.7 million individuals' records).[2]

We evaluate intergenerational mobility in the extent to which children outperform their parents regarding educational attainment. Intergenerational mobility measures the ability

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[1]Gains in the reduction of poverty are incontestable. de Souza et al. (2019) report that *Bolsa Família* reduced overall poverty by 15%, and extreme poverty by 25%.

[2]The *Cadastro Único* is a database developed and maintained by the federal, state, and municipal governments of Brazil, which compiles information on Brazil's poorest families to identify potential beneficiaries of *Bolsa Família* and related CCT programs.

of individuals to move up or down the socioeconomic ladder relative to their parents' position. This possibility is often cast as rare and exceptional among the very poor. More broadly, educational outperformance—comparing the educational attainment of children to that of their parents—as it is a direct indicator of a break in the cycle of intergenerational poverty: Poverty is not just a lack of means or money; it is a lack of opportunities, options, freedoms, and choices that perpetuates itself across generations (Sen, 1999; Ravallion, 2006).[3] We focus on intergenerational educational outperformance as it directly indicates social mobility at the individual and household level, which correlates strongly with income and employment opportunities. Enhancing poor children's life opportunities relative to those of their parents is precisely the sort of outcomes CCT programs seek to improve, and school attendance is a stated conditionality of the PBF CCT program, so it is of practical importance for program evaluation.

In this first-ever look into a massive administrative dataset that characterizes the life of the poorest strata of Brazilian society, we report some striking improvements in intergenerational mobility in that poor children on average outperform their parents in terms of educational attainment. We evaluate the efficacy of the PBF, and show that the beneficiary children outperform their parents' educational achievements on average more than those impoverished families who do not receive the family stipend. This is true in both the aggregate and at the level of intra-household comparisons when comparing siblings' educational attainment with differential 'treatment' of enrollment in the program based on their age. When we compare the educational attainment of children who were 15 at the time of family enrollment to that of their older siblings who were not subject to conditionalities of the program, we find that the 'treated' children in PBF recipient families outperform their

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[3]As one author describes: "Up to 420 million people (at a conservative estimate) are trapped in chronic absolute poverty...They experience deprivation over many years, often over their entire lives, and commonly pass poverty onto their children" (Braunholtz-Speight, 2007). Eradication of illiteracy and access to education is universally prioritized as a key facet of development and a first step in escaping the intergenerational transfer of poverty. This is imperative in the Global South, where access to education faces many obstacles.

parents more than their siblings in terms of their educational attainment.

Nevertheless, we find considerable cross-sectional heterogeneity in the extent to which this is true, and some differential effects for boys and girls (shown in A8 and A9). In resource-rich regions, receiving PBF is associated with marginally higher educational out-performance amongst sisters than brothers. This trend reverses in relatively resource-poor regions where poverty is more widespread and endemic. This suggests that a focus on local conditions and implementation is critical for understanding programmatic efficacy in CCTs and other poverty alleviation programs and highlights the urgency of implementing geographic-specific strategies and targeted interventions to address persistent inequalities in educational achievement.

## II. The *Bolsa Família* program and the *Cadastro Único*

The genesis of the *Cadastro Único*, which translate as "single registry," has its roots in the need to identify and register poor individuals and families. Municipal agents are charged with registering families that might qualify for the PBF or related social programs, while federal officials then evaluate family and individual eligibility for the *Bolsa Família* program. This may mean establishing local service centers to register families or update information in the *Cadastro Único*.[4] In more dispersed or rural municipalities, the CRAS may dispatch a van or cadre of local bureaucrats to actively seek out low-income individuals. The strategy for building the *Cadastro Único* is one of "active search" (Wong 2016, 9), and resources dedicated to this process have expanded considerably over the years.[5] Enrollment is voluntary, although registration with the *Cadastro Único* is required for the beneficiaries of all CCT programs. The distribution of funds is contingent on the veracity and correctness

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[4]The centers are known as *CRAS* which stands for *Centro de Referência de Assistência Social* (Reference Centers for Social Assistance)

[5]For example, the number of CRAS increased from 454 to 7,445 between 2003 and 2012, staffed by approximately 48,000 bureaucrats coordinating and supervising the program in 9,143 service stations (Brazil, 2015).

of recipients' records, and subject to routine randomized municipal audits by state and federal audit courts (Hidalgo, Canello and Lima-de Oliveira, 2016; Ferraz and Finan, 2008). Accordingly, our study presents a never before seen look into the education and family life of the very poorest cross-section of Brazilian society.

Table A1 describes the demographic composition of the *Cadastro Único* and *Bolsa Família* program, relative to the national averages. The lopsided gender balance and lower average age of both registrants and recipients reflect the PBF's effort to prioritize female heads of households and their children. Women constitute an absolute majority of both registrants in the *Cadastro Único* and recipients of the *Bolsa Família*. The strong correlation between class and race in Brazil is also visible in the racial composition of both registrants and recipients: an overwhelming majority of registrants and recipients self-identify as persons of color.[6] The PBF's official aim of targeting children and poor families is also reflected in the demographic composition, as the average age of registrants and recipients is nearly half that of the national average. A full 61% of *Cadastro Único* are under 30, a figure that rises to 75% for those under 40. 66% of heads of households in our data have not attended high school, another 30% have only a high-school degree.

## III.  SOCIAL AND POLITICAL EFFECTS OF CCTS

The full records of the *Cadastro Único* thus represent an unprecedented look into the lives of Brazil's poorest families. Similar work by Chetty et al. (2014) leveraged administrative records on the incomes of more than 40 million children and their parents to describe three features of intergenerational mobility in the United States. The authors show that intergenerational mobility varies substantially across neighborhoods, with high mobility

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[6]The table groups together individuals who self-classify as 'black', 'Asian', 'mixed' and 'indigenous,' a classification system that mirrors the official state classification of race and skin color used by the IBGE. Among these categories, people who self-identify as 'mixed' constitute by far the largest share of this group, followed by those who self-identify as 'black'.

neighborhoods correlating with (i) less residential segregation, (ii) less income inequality, (iii) better primary schools, (iv) higher social capital, and (v) overall improved family stability.

As with Chetty et al. (2014)'s work, we aim to analyze if or when (or where) *Bolsa Família* is helping to break the intergenerational cycle of poverty in Brazil. The Brazilian case is crucial for discussing poverty alleviation and social mobility because Brazil is a vast developing country that ranks among the top unequal countries globally. Despite its being the largest economy in Latin America and among the largest in the world, Brazil is also home to millions of people who live in extreme poverty, and millions more who live below the official state poverty line. As such, the implementation of *Bolsa Família* as the largest and among the most decentralized CCT in the world.

There is a consensus that the program's benefits improve nutritional outcomes, reducing food insecurity while increasing food diversification (de Almeida, de Mesquita and da Silva, 2013; de A. Melo, Starzec and Gardes, 2018). Yet, there is no similar consensus regarding the progam's impacts on educational outcomes and related conditionalities. For example, drawing on survey data from nationally representative household surveys, (*Pesquisa Nacional por Amostra de Domicílios*, or PNAD), Cacciamali, Tatei and Batista (2010) contend that the PBF increased school attendance but also child labor. In contrast, Cardoso and Souza (2004) analyzed outcomes from similar data and found the CCT to have no effect on either outcome.[7] It is all the more important to understand the impacts of the PBF on children's education, as sustained enrollment and attendance in school is a key program conditionality that families must comply with to ensure on-going enrollment in the Program and receipt of the monthly stipend. As such, while it is undeniable the PBF's progress to improve the health and well-being of Brazil's most impoverished families,

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[7]Still others argue that one or more of these outcomes might be improved, but only conditional on local and familial circumstances (Pais, de Figueiredo Silva and Teixeira, 2017; Soares, 2012). Some authors conclude that while marginal improvements have been made, these advances are not long-term solutions to endemic societal problems (Soares, 2012).

the extent to which the program is associated with improved educational outcomes also speaks directly to the program's implementation and institutional design (Lindert et al., 2007; Fenwick, 2009; Hunter and Sugiyama, 2014; Wong et al., 2016).[8] The few papers that employ the *Cadastro Único* examine only a random sample of the dataset (Brollo, Maria Kaufmann and La Ferrara, 2020; Brollo, Kaufmann and La Ferrara, 2020), giving an incomplete picture of the full scope of the data.[9]

Beyond the novelty of the data we analyze, we aim to advance the precision of our causal claims, using quasi-experimental methods to plausibly claim that *Bolsa Família* has a causal effect on children's educational attainment. Our quasi-experimental approach leverages intra-familial comparisons of educational outcomes: we center our focus on the educational outperformance of children who were 15, 16 or 17 years old when their families enrolled in the *Cadastro Único*,[10] and compare their outperformance to their older siblings who had already turned 18 at the time of program enrollment. Whereas only the youngest child would have been 'treated' by *Bolsa Família*'s conditionality requirements (for up to a maximum of three years), the family's enrollment in the program would not have affected their older siblings.[11] This difference-in-difference strategy is akin to that of Chioda, de Mello and Soares (2016)'s, whose work exploits as-if random variation in the administra-

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[8]One cause of these disparate accounts stem from two inferential constraints that previous efforts have faced: 1) the vast majority of extant research on the CCT programs relies on survey data, which may be plagued with social desirability bias or forgetfulness (Cardoso and Souza, 2004; Cacciamali, Tatei and Batista, 2010; Zucco Jr, 2013); and 2) most remaining analyses leans on assessments of aggregate data, which are prone to ecological fallacies (Freedman, 1999; Calvo and Escolar, 2003; King, Tanner and Rosen, 2004).

[9]In the Appendix, Table A3 shows our baseline results using OLS regression with the full dataset.

[10]We therefore exclude from these analyses families with a single child dependent.

[11]*Bolsa Família* provides different benefits for families at different income levels and has various conditionalities. Starting in 2008, benefits were extended to older adolescents through the creation of the Variable Youth Benefit, from an initial setting where maximum age of coverage was 15. The federal government started to pay R\$33.00 per adolescent aged between 16 and 17 (up to a maximum of two adolescents), for families with monthly per capita income below R\$140.00. The introduction of the Variable Youth Benefit was scheduled for March, 2008, but the actual inclusion of adolescents in the program was only consolidated after July, 2008 (Chioda, de Mello and Soares, 2016). We report the analyses of these comparisons for families that enrolled prior to 2008 and the fully pooled analyses in Table A6. As one would expect, we find negligible differences between 15, 16 and 17 year olds and their older siblings prior to the implementation of this rule.

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tive expansion of the PBF to 16 and 17-year-olds to explain the effect of PBF on crime. The advantage of our identification strategy over Chioda, de Mello and Soares (2016)'s is that we are not locally bounded by the years following this expansion (especially 2009 and 2010) since our data suggest that they are substantially different from other years (2002-2008 and 2011-2014). Also, as the emphCadastro Único contains information on poor families across Brazil, our study is not geographically bound and can instead consider variation within households across municipalities and subnational regions.[12]

## IV.  Sibling Comparisons

We now turn to the effect of PBF within a given household. The difference-in-differences estimator we use here is as follows:

$$Y_i = \alpha_i + \beta_1 T_i + \beta_2 D_i + \beta_3 T_i * D_i + \beta_4 X_i + \delta_t + \gamma_i + \varepsilon_{it} \tag{1}$$

where $_i = 1, ..., N$ indexes individual effects. $\alpha_i$ corresponds to the family intercept. $\beta_1 T_i$ is a dichotomous indicator 1 for the youngest child, and $\beta_2 D_i$ is the treatment variable that equals 1 for recipient families. We interact $T_i$ and $D_i$ to produce the coefficient $\beta_4$, which is the average treatment effect (ATE) of the treatment based on age and family beneficiary status on the outperformance outcome variable $Y_i$. The outcome variable is the difference in educational attainment between the parent and the youngest adult children (*outperform*) who were 15–17 when their parent enrolled. $\beta_3 X_i$ is a vector of control variables, which includes the race, mental and physical ableness, and sex of the siblings and parents. $\delta_t$

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[12]Chioda, de Mello and Soares (2016, p. 5) employ artificial school district data (assigning to a given school the area that is closer to it than to any other school) from the State of São Paulo.

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stands for Enrollment Day fixed effects. $\gamma_i$ is the ZIP Code fixed effects.[13] $\varepsilon_{it}$ is the error term, which varies across families. All models included ZIP Code-level family clustered standard errors.[14]

Our identification strategy employs a sibling comparison design to estimate the causal effect of Brazil's Bolsa Família program. The design compares younger siblings who became as-if-randomly eligible for the program with older siblings who were not eligible due to their age. The strategy controls for unobserved and observed household-level factors that may confound the relationship between program eligibility and educational outcomes.

Several placebo tests comparing older siblings before and after the program expansion are used to strengthen the study's internal validity. In our first set of placebo regressions, reported in Table A6, we compare siblings with different orders of births before 2008 in pooling regressions and across regions. These placebo regressions mainly produce null results.[15] A second placebo test reported in Table A7 compares educational attainment between older 'untreated' siblings. As one would predict, we observe no differences here.

In Table 1, columns (1), (2), and (3) compare the youngest children to their next oldest sibling (2nd youngest), with columns (2) and (3) comparing sister pairs and brother pairs, respectively. Columns (4) through (8) then report the two youngest sibling comparisons irrespective of sibling gender, across Brazil's major regions. The coefficient for the Constant corresponds to the educational attainment of older siblings (where possible treatment and *Bolsa Família* both equal zero). The positive coefficient across the board indicates a generational improvement in educational outcomes. However, this effect is pronounced for *Youngest* children compared to their older siblings: irrespective of receiving

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[13]Our high-dimensional fixed-effects models are new to the study of CCT programs, which allow us to avoid omitted variable bias attributed to location and time enrolled in the *Cadastro Único*. This approach also implies we are comparing individuals who live in the same ZIP Code and on the same day.

[14]Table A5 includes family FE. However, it drops many observations and does not allow invariant-family-level controls. The results follow the same pattern as the main paper's results.

[15]The SE region is an exception. However, the negative sign of the regression suggests we might present a conservative estimate of the effect in the main paper. The results are reassuring and help us to dismiss the argument that seasonal effects or the birth order of the children are driving our results.

Table 1: Sibling Comparisons: Differences-in-Differences of *Bolsa Família* Benefits on Educational Outperformance

| | (1) Youngest vs. 2nd Youngest Pooled | (2) Youngest vs. 2nd Youngest Sisters | (3) Youngest vs. 2nd Youngest Brothers | (4) Youngest vs. 2nd Youngest NE | (5) Youngest vs. 2nd Youngest North | (6) Youngest vs. 2nd Youngest SE | (7) Youngest vs. 2nd Youngest South | (8) Youngest vs. 2nd Youngest CW |
|---|---|---|---|---|---|---|---|---|
| Youngest × *Bolsa Família* | 0.08* | 0.07* | 0.08* | 0.08* | 0.03* | 0.11* | 0.16* | 0.10* |
| | (0.00) | (0.01) | (0.01) | (0.01) | (0.01) | (0.01) | (0.02) | (0.02) |
| Youngest | 0.03* | -0.03* | 0.08* | 0.01 | 0.09* | 0.00 | 0.02 | -0.06* |
| | (0.00) | (0.00) | (0.00) | (0.01) | (0.01) | (0.00) | (0.01) | (0.01) |
| *Bolsa Família* | -0.04* | -0.04* | -0.04* | -0.02 | 0.00 | -0.08* | -0.15* | -0.06* |
| | (0.00) | (0.01) | (0.01) | (0.01) | (0.01) | (0.01) | (0.02) | (0.02) |
| Constant | 4.91* | 5.26* | 4.84* | 4.85* | 4.87* | 5.03* | 4.80* | 5.01* |
| | (0.00) | (0.01) | (0.01) | (0.01) | (0.01) | (0.01) | (0.02) | (0.02) |
| **Controls** | | | | | | | | |
| Log Per Capita | YES | YES | YES | YES | YES | YES | YES | YES |
| Parent Highest Ed | YES | YES | YES | YES | YES | YES | YES | YES |
| Disabled Parent/Child | YES | YES | YES | YES | YES | YES | YES | YES |
| White Parent/Child | YES | YES | YES | YES | YES | YES | YES | YES |
| Gender Parent/Child | YES | YES | YES | YES | YES | YES | YES | YES |
| Day Enrolled FE | YES | YES | YES | YES | YES | YES | YES | YES |
| ZIP Code FE | YES | YES | YES | YES | YES | YES | YES | YES |
| Family Clustered SE | YES | YES | YES | YES | YES | YES | YES | YES |
| $R^2$ | 0.80 | 0.82 | 0.79 | 0.80 | 0.81 | 0.79 | 0.75 | 0.79 |
| AIC | 4169214 | 1648449 | 2329153 | 488161 | 1783874 | 1067951 | 340073 | 226741 |
| N | 1768225 | 748859 | 950923 | 197537 | 731806 | 497511 | 147451 | 98902 |

*Notes*: The analysis is based on individual-level data of parents and children enrolled in the *Cadastro Único* in Brazil as of August 2015. We measure *outperformance* as the difference between parents and children's levels of education (see Appendix Table A2). We compare the education of the *youngest* children who were 15-17 years old at the time of enrollment with their older siblings who were already 18. For the *Bolsa Família* program, non-recipients are coded as zero and recipients as one. We add *log per capita income* as a control because it is the primary factor determining eligibility for the program. *Parent highest education* is measured on a categorical scale of nine levels (0-8). For *disabled child/parents*, one indicates presence, and zero indicates absence. For *white child/parent* and *gender child/parent*, one indicates white and male, while zero indicates non-white and female, respectively. The analysis includes day and zipcode high-dimension fixed effects (HDFE), which accounts for unobserved heterogeneity. All specifications include cluster robust standard errors at the family level in parenthesis. $*p < 0.001$. Table of results with controls reported available in Table A4.

the *Bolsa Família* stipend, the *Youngest* children of poorest families outperformed their parents more, on average, than their older sibling counterparts.[16] none of whom would have been potentially 'treated' by *Bolsa Família* program.

Turning now to the main coefficient of interest, children who receive Bolsa Família have an increase of 0.08 in outperformance levels of education compared to children outside the program. The coefficients are consistently positive and statistically significant at the $p < .001$ level.[17] In columns (2) and (3), we find there are differences—albeit modest—across male and female sibling pairs. On average, the improved educational outcomes that can be attributed to enrollment in the *Bolsa Família* program is smaller for girls as opposed to boys. What is more, we show in Tables A8 and A9 that this aggregate difference masks wider variation across subnational regions.[18] Although previous research suggests found that *Bolsa Família* has a uniformly positive impact on girls' school participation (see, for instance, De Brauw et al., 2015), our data shows that girls are benefited by program enrollment more than boys in wealthier regions, but these gains are negligible or reversed in less affluent areas. In the Northeast, the youngest male siblings in PBF-recipient families outperform their brothers in educational attainment, whereas we report no differences for female siblings. In the North, we observed no statistical differences between brothers, but a lower than average educational outcomes between sister-sibling pairs in PBF-recipient households. This likely reflects the fact that the family stipend and related conditionalities are insufficient sources of assistance to the most vulnerable among the very poor.

The magnitude of the estimated effects of PBF on educational attainment are small. However, as this population has low levels of education, this marginal difference might

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[16]This trend is substantiated in our placebo tests, reported in the Appendix, in which we compare the outperformance of only the older siblings. See Table A7.

[17]Due to the size of our dataset, we present only significant results at a $p < .001$ level to avoid interpretation of false positives.

[18]To summarize those findings, program efficacy as it relates to girls educational attainment is highly contextual, with considerable gains made in regions with high levels of public goods capacities, but quite the opposite in regions where public goods are scarce.

represent the difference between basic literacy levels (reading and writing) and total illiteracy, or the difference between starting and finishing secondary school. We have narrowed our focus to intra-house hold comparisons and families where the impact of *Bolsa Família* would be minimal due to the short window (3 years maximum) of potential 'treatment' of the youngest children. Accordingly, we may consider this a conservative estimate of the real effect of *Bolsa Família* since youngest children perform better than their older siblings in our analysis. In sum, children of beneficiary families outperform their parents regarding educational attainment relative to their peers whose families do not receive the PBF benefit.

The last five columns suggest considerable cross-sectional variance for future analyses to explore. The differential effects of the *Bolsa Família* program are, perhaps unsurprisingly, highest in regions with relatively high levels of prosperity, such as the South, the South East, and the Center West. Both children and their parents' educational attainment is higher in these regions, as are public goods that would facilitate improved educational attainment. In the relatively impoverished and geographically remote North, the differential impacts of the *Bolsa Família* family stipend is relatively muted.

## V. Discussion

Our research contributes to the existing scholarly literature by investigating the impact of conditional cash transfers on poverty reduction, using the full records of Brazil's *Cadastro Único*. This extensive administrative dataset contains information on all the applicants and recipients of the *Bolsa Família* conditional cash transfer program. The PBF is the largest CCT program in the world and has been credited with lifting more than 25 million Brazilians out of abject poverty. As far as we know, ours is the first paper to examine the complete records of Brazil's *Cadastro Único*. Our quasi-experimental approach also improves the precision of our causal claims over previous research efforts, as we leverage

this massive dataset to explore granular comparisons between siblings who were and were not 'treated' by the program's benefits or conditionalities.

We found in all analyses a positive relationship between receiving the family stipend *Bolsa Família* provides and the educational attainment of children relative to their parents. The analysis suggests that children from families who received PBF conditional cash transfers outperformed their peers regarding educational attainment. This trend aligns with the overall improving trend of educational attainment in Brazil over the past decade. This result is positive news for program evaluation: insofar as improved educational outcomes are one of the core justifications and goals of the PBF and one of the stated conditionalities of program beneficiaries, this is encouraging evidence that said objectives are being met. We must be conservative, however, in the interpretation of these effects. While our results are consistently positive and estimated with very high precision, the substantive effects are modest. Still, it might represent a relevant marginal educational improvement for low-income families with shallow levels of education.

In conclusion, our research highlights the importance of tailored programmatic analysis that accounts for disaggregated variance in program implementation. Our analysis revealed that state-provided public goods in Brazil's wealthier regions positively impact girls more than boys. In other words, girls are better positioned to benefit from these services. This finding highlights the importance of considering gender disparities when designing and implementing public policies aimed at poverty alleviation and improving access to basic services. Policymakers should, then, work towards reducing gender inequalities in accessing state-provided public goods across all country regions.

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# Can Conditional Cash Transfers Interrupt the Cycle of Intergenerational Poverty? Lessons from a Large Administrative Data Set

## Supplementary Information Appendix

## Measurement of the outcome variable

The *Cadastro Único* collects information on all registrants educational levels, which we have rescored to a 9 point scale that ranges from 0 to 8. We report in table A2 characteristics of the distributions of parents higher education, adult childrens' education, and the resulting difference, our *Outperformance* variable we analyze in the rest of the paper. A score of zero reflects total lack of formal education, with an 8 corresponding to a completed college degree. The median score of '4' for parents in our data corresponds to the equivalent of completing primary education, the mean on this variable indicates that the typical parent registering in the CadUn had completed primary school, or had perhaps started their secondary education. The global generational gains are evident when we turn to the children: a median score of 6 corresponds to completing secondary education. This implies that, on average, the children of Brazil's poorest families are outperforming their parents in terms of educational attainment.

Table A1: The demographic make-up of Registrants (CadÚnico) and Recipients (BF)

| | N | Percentage | National† Metrics |
|---|---|---|---|
| ***Cadastro Único* Registrants** | **79,717,022** | | **190,732,694** |
| **Families** | **26,690,535** | | |
| Male | | 44.1% | 48.9% |
| White | | 29.4% | 47.3% |
| Non-White | | 70.6% | 52.2% |
| Average age (years)‡ | | 27 | 41 |
| Disabled | | 2.54% | 6.7% |
| Illiterate | | 23.0% | 7.7% |
| No Formal Education | | 8.8% | — |
| < High School Education | | 66.0% | 50.2% |
| High School Education | | 30.4% | 67.6% |
| College Education | | 1.62% | 9.0% |
| | | | |
| ***Bolsa Família* Recipients†** | **47,863,503** | | **190,732,694** |
| **Families** | **13,880,223** | | |
| Male | | 43.6% | 48.9% |
| White | | 24.36% | 47.3% |
| Non-white | | 75.7% | 52.2% |
| Average age (years)‡ | | 23 | 41 |
| Disabled | | 1.52% | 6.7% |
| Illiterate | | 25.2% | 7.7% |
| No Formal Education | | 7.2% | — |
| < High School Education | | 68.1% | 50.2% |
| High School Education | | 29.1% | 67.6% |
| College Education | | 0.56% | 9.0% |

All numbers and percentages taken from the *Cadastro Único* file on individual registrants, circa August 22, 2015. † Unless otherwise noted, national metrics taken from the 2010 Census conducted by the *Instituto Brasileiro de Geografia e Estatística* (IBGE). Information on illiteracy taken from the 2014 PNAD national household surveys (IBGE). Information on disability rate in Brazil is provided by the IBGE (cf. Simões and Fresneda, 2016).

Table A2:  Descriptive Statistics of Parents' and Childrens' Educational Attainment and Outperformance

|                                    | Min | Max | Median | Mean† |
|------------------------------------|-----|-----|--------|-------|
| **Cadastro Único**                 |     |     |        |       |
| Parent Highest Education           | 0   | 8   | 4      | 4.21  |
| Adult Children Highest Education   | 0   | 8   | 6      | 5.52  |
| Outperformance                     | -8  | 8   | 1      | 1.31  |
|                                    |     |     |        |       |
| **Bolsa Família**                  |     |     |        |       |
| Parent Highest Education           | 0   | 8   | 4      | 4.07  |
| Adult Children Highest Education   | 0   | 8   | 6      | 5.52  |
| Outperformance                     | -8  | 8   | 1      | 1.44  |

† All descriptive statistics characterize the distribution of parents and adult childrens educational attainment taken from the *Cadastro Único* file on individual registrants, circa August 22, 2015. We report here the self-reported educational attainment of parents enrolled in the Cadastro Único, and the educational attainment of children who were 15 or older at the time of enrollment.

## RESEARCH ETHICS ATTESTATION

This research was reviewed and cleared by the [redacted] Institutional Review Board for compliance with human subjects. We analyze the records of the administrative dataset the *Cadastro Único*, which is a dataset compiled and maintained by the Brazilian Ministry of Social Development. We obtained the data with the Brazilian equivalent of a FOIA request, and have the written permission of the Ministry to analyze these data. This is an observational, large-N research design, based on pre-existing, fully anonymized data. Although the researchers have the fully identified data, we only analyze the fully anonymized data for the purposes of this project, all identifying information has been expunged. Said dataset is stored on the computing resources of the PI provided by [redacted], the computers and folders are password protected. Further, all quantitative analyses of the data report on the observations of millions of records at aggregate levels, such that the individual records are not of immediate interest and would be feasibly impossible to discern.

Table A3: Ordinary Least Squares estimates of the effect of *Bolsa Família* benefits on Educational Performance.

| | (1) Pooled CSTS | (2) Pooled CSTS Sibling Sibling Mean | (3) North East | (4) North | (5) South East | (6) South | (7) Center West |
|---|---|---|---|---|---|---|---|
| Bolsa Família | 0.06* | 0.05* | 0.07* | 0.04* | 0.06* | 0.04* | 0.08* |
| | (0.00) | (0.00) | (0.01) | (0.00) | (0.00) | (0.00) | (0.01) |
| **Controls** | | | | | | | |
| Log Per Capita | 0.03* | 0.03* | 0.04* | 0.02* | 0.04* | 0.05* | 0.05* |
| | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) |
| Parent Highest Ed | -0.91* | -0.90* | -0.91* | -0.91* | -0.91* | -0.90* | -0.91* |
| | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) |
| Age Child | -0.03* | -0.03* | -0.03* | -0.04* | -0.03* | -0.03* | -0.03* |
| | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) |
| Disability Parent/Child | YES | YES | YES | YES | YES | YES | YES |
| Race (White) Parent/Child | YES | YES | YES | YES | YES | YES | YES |
| Gender Parent/Child | YES | YES | YES | YES | YES | YES | YES |
| Year Enrolled FE | YES | YES | YES | YES | YES | YES | YES |
| Municipality Clustered SE | YES | YES | YES | YES | YES | YES | YES |
| Constant | 5.16* | 5.24* | 4.93* | 5.28* | 5.19* | 5.01* | 5.13* |
| | (0.02) | (0.02) | (0.08) | (0.06) | (0.03) | (0.06) | (0.07) |
| $R^2$ | 0.73 | 0.73 | 0.76 | 0.76 | 0.69 | 0.65 | 0.70 |
| AIC | 17289773 | 17085428 | 1753140 | 6867598 | 5120730 | 1617370 | 945803 |
| N | 6567092 | 6578113 | 683599 | 2591144 | 1990534 | 597626 | 350025 |

* $p < 0.001$

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Table A4: Sibling Comparisons: Differences-in-Differences of *Bolsa Família* Benefits on Educational Outperformance

| | (1) Youngest vs. 2nd Youngest Pooled | (2) Youngest vs. 2nd Youngest Sisters | (3) Youngest vs. 2nd Youngest Brothers | (4) Youngest vs. 2nd Youngest NE | (5) Youngest vs. 2nd Youngest North | (6) Youngest vs. 2nd Youngest SE | (8) Youngest vs. 2nd Youngest South | (9) Youngest vs. 2nd Youngest CW |
|---|---|---|---|---|---|---|---|---|
| Youngest × *Bolsa Família* | 0.08* | 0.07* | 0.08* | 0.08* | 0.03* | 0.11* | 0.16* | 0.10* |
| | (0.00) | (0.01) | (0.01) | (0.01) | (0.01) | (0.01) | (0.02) | (0.02) |
| Youngest | 0.03* | -0.03* | 0.08* | 0.01 | 0.09* | 0.00 | 0.02 | -0.06* |
| | (0.00) | (0.00) | (0.00) | (0.01) | (0.01) | (0.00) | (0.01) | (0.01) |
| *Bolsa Família* | -0.04* | -0.04* | -0.04* | -0.02 | 0.00 | -0.08* | -0.15* | -0.06* |
| | (0.00) | (0.01) | (0.01) | (0.01) | (0.01) | (0.01) | (0.02) | (0.02) |
| Constant | 4.91* | 5.26* | 4.84* | 4.85* | 4.87* | 5.03* | 4.80* | 5.01* |
| | (0.00) | (0.01) | (0.01) | (0.01) | (0.01) | (0.01) | (0.02) | (0.02) |
| **Controls** | | | | | | | | |
| Log Per Capita | 0.03* | 0.03* | 0.02* | 0.03* | 0.02* | 0.03* | 0.04* | 0.04* |
| | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) |
| Disabled Parent | 0.04* | 0.06* | 0.03* | -0.00 | 0.03 | 0.07* | 0.05 | 0.06 |
| | (0.01) | (0.01) | (0.01) | (0.02) | (0.01) | (0.01) | (0.01) | (0.02) |
| Disabled Child | -1.68* | -1.86* | -1.60* | -1.74* | -1.94* | -1.51* | -1.50* | -1.51* |
| | (0.01) | (0.02) | (0.01) | (0.03) | (0.02) | (0.02) | (0.02) | (0.04) |
| White Parent | 0.04* | 0.04* | 0.05* | 0.04* | 0.05* | 0.04* | 0.05* | 0.03* |
| | (0.00) | (0.00) | (0.00) | (0.01) | (0.00) | (0.00) | (0.01) | (0.01) |
| White Child | 0.04* | 0.03* | 0.04* | 0.02 | 0.05* | 0.02* | 0.05* | 0.03* |
| | (0.00) | (0.00) | (0.00) | (0.01) | (0.00) | (0.00) | (0.01) | (0.01) |
| Gender Parent | 0.05* | 0.06* | 0.04* | 0.05* | 0.04* | 0.05* | 0.07* | 0.05* |
| | (0.00) | (0.00) | (0.00) | (0.01) | (0.00) | (0.01) | (0.01) | (0.01) |
| Gender Child | 0.25* | 0.00 | 0.00 | 0.22* | 0.29* | 0.19* | 0.24* | 0.22* |
| | (0.00) | (.) | (.) | (0.00) | (0.00) | (0.00) | (0.00) | (0.01) |
| Parent Highest Ed | -0.91* | -0.92* | -0.90* | -0.91* | -0.91* | -0.92* | -0.91* | -0.92* |
| | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) |
| $R^2$ | 0.80 | 0.82 | 0.79 | 0.80 | 0.81 | 0.79 | 0.75 | 0.79 |
| AIC | 4169214 | 1648449 | 2329153 | 488161 | 1783874 | 1067951 | 340073 | 226741 |
| N | 1768225 | 748859 | 950923 | 197537 | 731806 | 497511 | 147451 | 98902 |

*Notes*: The analysis is based on individual-level data of parents and children enrolled in the *Cadastro Único* in Brazil as of August 2015. We measure *outperformance* as the difference between parents and children's levels of education (see Appendix Table A2). We compare the education of the *youngest* children who were 15-17 years old at the time of enrollment with their older siblings who were already 18. For the *Bolsa Família* program, non-recipients are coded as zero and recipients as one. We add *log per capita income* as a control because it is the primary factor determining eligibility for the program. *Parent highest education* is measured on a categorical scale of nine levels (0-8). For *disabled child/parents*, one indicates presence, and zero indicates absence. For *white child/parent* and *gender child/parent*, one indicates white and male, while zero indicates non-white and female, respectively. The analysis includes day and zipcode high-dimension fixed effects (HDFE), which accounts for unobserved heterogeneity. All specifications include cluster robust standard errors at the family level in parenthesis. *$p < 0.001$.

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Table A5: Sibling Comparisons of the Effect of *Bolsa Família* Benefits on Educational Outperformance

| | (1) Youngest vs. 2nd Youngest Pooled | (2) Youngest vs. 3rd Youngest Pooled | (3) Youngest vs. 4th Youngest Pooled | (4) Youngest vs. 2nd Youngest NE | (5) Youngest vs. 2nd Youngest North | (6) Youngest vs. 2nd Youngest SE | (7) Youngest vs. 2nd Youngest South | (8) Youngest vs. 2nd Youngest CW |
|---|---|---|---|---|---|---|---|---|
| Youngest × *Bolsa Família* | 0.07* | 0.08* | 0.07* | 0.20* | -0.05 | 0.13 | 0.28 | 0.23 |
| | (0.02) | (0.01) | (0.02) | (0.05) | (0.03) | (0.04) | (0.11) | (0.11) |
| Youngest | 0.25* | 0.08* | 0.25* | 0.09 | 0.38* | 0.14* | 0.21* | 0.03 |
| | (0.01) | (0.01) | (0.01) | (0.04) | (0.02) | (0.03) | (0.06) | (0.08) |
| Constant | 1.64* | 1.52* | 1.64* | 1.59* | 1.74* | 1.51* | 1.40* | 1.47* |
| | (0.01) | (0.00) | (0.01) | (0.02) | (0.01) | (0.02) | (0.11) | (0.05) |
| Disabled Child | -2.19* | -2.00* | -2.19* | -1.93* | -2.24* | -2.21* | -2.24* | -2.16* |
| | (0.07) | (0.03) | (0.07) | (0.20) | (0.10) | (0.13) | (0.25) | (0.42) |
| White Child | -0.00 | 0.00 | -0.00 | -0.08 | 0.05 | -0.05 | 0.09 | -0.20 |
| | (0.03) | (0.01) | (0.03) | (0.08) | (0.04) | (0.05) | (0.15) | (0.10) |
| Gender Child | 0.31* | 0.28* | 0.31* | 0.19* | 0.36* | 0.25* | 0.09 | 0.24 |
| | (0.01) | (0.01) | (0.01) | (0.04) | (0.02) | (0.03) | (0.08) | (0.07) |
| Day Enrolled FE | YES | YES | YES | YES | YES | YES | YES | YES |
| Zipcode FE | YES | YES | YES | YES | YES | YES | YES | YES |
| Family FE | YES | YES | YES | YES | YES | YES | YES | YES |
| Family Clustered SE | YES | YES | YES | YES | YES | YES | YES | YES |
| $R^2$ | 0.89 | 0.90 | 0.89 | 0.89 | 0.89 | 0.88 | 0.88 | 0.87 |
| AIC | 95912.61 | 396750.30 | 95912.61 | 14319.10 | 52878.75 | 16862.47 | 2879.52 | 2755.95 |
| N | 44448 | 207490 | 44448 | 6756 | 24010 | 8520 | 1398 | 1290 |

*Notes*: The analysis is based on individual-level data of parents and children enrolled in the *Cadastro Único* in Brazil as of August 2015. We measure *outperformance* as the difference between parents and children's levels of education (see Appendix Table A2). We compare the education of the *youngest* children who were 15-17 years old at the time of enrollment with their older siblings who were already 18. For the *Bolsa Família* program, non-recipients are coded as zero and recipients as one. We add *log per capita income* as a control because it is the primary factor determining eligibility for the program. For *disabled child*, one indicates presence and zero indicates absence. For *white child* and *gender child*, one indicates white and male, while zero indicates non-white and female, respectively. The analysis includes day, zip code, and family high-dimension fixed effects (HDFE) to account for unobserved heterogeneity. The HDFE method eliminates any constant variables from the equation at the fixed effect level. The HDFE estimator also removes singletons that are solos in a cluster, such as children with no siblings or families with only one member per zip code and enrollment date. However, including family FE significantly reduces the sample size compared to other specifications, and constant variables at the family level cannot be controlled. All specifications include cluster robust standard errors at the family level in parenthesis. *$p < 0.001$.

Table A6: Placebo Test: Sibling Comparisons, differences-in-differences of the effect of *Bolsa Família* benefits on Educational Outperformance. Pre–2008.

| | (1) Youngest vs. 2nd Youngest Pooled | (2) Youngest vs. 3rd Youngest Pooled | (3) Youngest vs. 4th Youngest Pooled | (4) Youngest vs. 2nd Youngest NE | (5) Youngest vs. 2nd Youngest North | (6) Youngest vs. 2nd Youngest SE | (8) Youngest vs. 2nd Youngest South | (9) Youngest vs. 2nd Youngest CW |
|---|---|---|---|---|---|---|---|---|
| Youngest × *Bolsa Família* | 0.01 | -0.04 | 0.03 | 0.16 | 0.02 | -0.10 | -0.05 | -0.02 |
| | (0.02) | (0.05) | (0.14) | (0.07) | (0.04) | (0.04) | (0.11) | (0.12) |
| Youngest | 0.11* | 0.26* | 0.49* | 0.04 | 0.16* | 0.10* | 0.11 | 0.03 |
| | (0.01) | (0.02) | (0.05) | (0.04) | (0.02) | (0.02) | (0.04) | (0.04) |
| *Bolsa Família* | 0.03 | 0.08 | 0.01 | -0.05 | 0.05 | 0.07 | 0.04 | 0.06 |
| | (0.02) | (0.05) | (0.14) | (0.08) | (0.04) | (0.05) | (0.11) | (0.12) |
| Constant | 4.56* | 4.42* | 4.22* | 4.62* | 4.47* | 4.60* | 4.48* | 4.75* |
| | (0.02) | (0.03) | (0.05) | (0.07) | (0.04) | (0.04) | (0.08) | (0.09) |
| **Controls** | | | | | | | | |
| Log Per Capita | 0.04* | 0.04* | 0.04* | 0.04* | 0.04* | 0.04* | 0.05* | 0.03* |
| | (0.00) | (0.00) | (0.00) | (0.01) | (0.00) | (0.00) | (0.01) | (0.01) |
| Disabled Parent | 0.12* | 0.09 | 0.10 | 0.03 | 0.06 | 0.18 | 0.20 | 0.21 |
| | (0.03) | (0.03) | (0.03) | (0.11) | (0.06) | (0.06) | (0.10) | (0.11) |
| Disabled Child | -2.26* | -2.15* | -2.14* | -2.46* | -2.60* | -2.09* | -2.09* | -1.90* |
| | (0.04) | (0.05) | (0.05) | (0.16) | (0.08) | (0.07) | (0.10) | (0.18) |
| White Parent | 0.04* | 0.04 | 0.03 | 0.04 | 0.02 | 0.05 | 0.06 | 0.06 |
| | (0.01) | (0.01) | (0.01) | (0.05) | (0.02) | (0.02) | (0.05) | (0.04) |
| White Child | 0.04 | 0.04* | 0.04 | 0.09 | 0.02 | 0.02 | 0.05 | 0.07 |
| | (0.01) | (0.01) | (0.01) | (0.04) | (0.02) | (0.02) | (0.05) | (0.04) |
| Gender Parent | 0.07* | 0.07* | 0.07* | 0.07 | 0.06 | 0.12* | 0.10 | 0.08 |
| | (0.02) | (0.02) | (0.02) | (0.05) | (0.03) | (0.03) | (0.06) | (0.07) |
| Gender Child | 0.28* | 0.28* | 0.27* | 0.26* | 0.33* | 0.25* | 0.22* | 0.24* |
| | (0.01) | (0.01) | (0.01) | (0.03) | (0.01) | (0.01) | (0.03) | (0.03) |
| Parent Highest Ed | -0.89* | -0.90* | -0.90* | -0.91* | -0.88* | -0.90* | -0.90* | -0.91* |
| | (0.00) | (0.00) | (0.00) | (0.01) | (0.00) | (0.01) | (0.01) | (0.01) |
| Day Enrolled FE | YES | YES | YES | YES | YES | YES | YES | YES |
| Zipcode FE | YES | YES | YES | YES | YES | YES | YES | YES |
| Family Clustered SE | YES | YES | YES | YES | YES | YES | YES | YES |
| $R^2$ | 0.77 | 0.78 | 0.79 | 0.80 | 0.78 | 0.78 | 0.76 | 0.81 |
| AIC | 248175 | 195510 | 174912 | 21979 | 98612 | 70944 | 21130 | 11409 |
| N | 91647 | 72903 | 66573 | 8258 | 34684 | 28540 | 8312 | 4847 |

*Notes:* The analysis is based on individual-level data of parents and children enrolled in the *Cadastro Único* in Brazil as of August 2015. We measure *outperformance* as the difference between parents and children's levels of education (see Appendix Table A2). We compare the education of the *youngest* children who were 15-17 years old at the time of enrollment with their older siblings who were already 18. For the *Bolsa Família* program, non-recipients are coded as zero and recipients as one. We add *log per capita income* as a control because it is the primary factor determining eligibility for the program. *Parent highest education* is measured on a categorical scale of nine levels (0-8). For *disabled child/parents*, one indicates presence, and zero indicates absence. For *white child/parent* and *gender child/parent*, one indicates white and male, while zero indicates non-white and female, respectively. The analysis includes day and zipcode high-dimension fixed effects (HDFE), which accounts for unobserved heterogeneity. All specifications include cluster robust standard errors at the family level in parenthesis. $*p < 0.001$.

Table A7: Placebo Test: Sibling Comparisons, differences-in-differences of the effect of *Bolsa Família* benefits on Educational Outperformance, older 'untreated' sibling comparisons

|  | (1)<br>2nd Youngest<br>vs. 3rd | (2)<br>3rd Youngest<br>vs. 4th |
|---|---|---|
| Youngest × | -0.03 | -0.02 |
| *Bolsa Família* | (0.01) | (0.02) |
|  |  |  |
| Youngest | 0.11* | 0.17* |
|  | (0.01) | (0.01) |
| *Bolsa Família* | 0.00 | 0.02 |
|  | (0.01) | (0.02) |
| Constant | 4.67* | 4.43* |
|  | (0.01) | (0.03) |
| **Controls** |  |  |
| Log Per Capita | 0.01* | -0.00 |
|  | (0.00) | (0.00) |
| Disabled Parent | 0.05 | 0.06 |
|  | (0.02) | (0.03) |
| Disabled Child | -2.23* | -2.31* |
|  | (0.02) | (0.04) |
| White Parent | 0.06* | 0.08* |
|  | (0.01) | (0.01) |
| White Child | 0.04* | 0.03 |
|  | (0.01) | (0.01) |
| Gender Parent | 0.04* | 0.08* |
|  | (0.01) | (0.02) |
| Gender Child | 0.36* | 0.45* |
|  | (0.00) | (0.01) |
| Parent Highest Ed | -0.87* | -0.86* |
|  | (0.00) | (0.00) |
| Day Enrolled FE | YES | YES |
| Zipcode FE | YES | YES |
| Family Clustered SE | YES | YES |
| $R^2$ | 0.72 | 0.70 |
| AIC | 1104496 | 340900 |
| N | 383965 | 111550 |

*Notes*: The analysis is based on individual-level data of parents and children enrolled in the *Cadastro Único* in Brazil as of August 2015. We measure *outperformance* as the difference between parents and children's levels of education (see Appendix Table A2). We compare the education of the *youngest* children who were 15-17 years old at the time of enrollment with their older siblings who were already 18. For the *Bolsa Família* program, non-recipients are coded as zero and recipients as one. We add *log per capita income* as a control because it is the primary factor determining eligibility for the program. *Parent highest education* is measured on a categorical scale of nine levels (0-8). For *disabled child/parents*, one indicates presence, and zero indicates absence. For *white child/parent* and *gender child/parent*, one indicates white and male, while zero indicates non-white and female, respectively. The analysis includes day and zipcode high-dimension fixed effects (HDFE), which accounts for unobserved heterogeneity. All specifications include cluster robust standard errors at the family level in parenthesis. $*p < 0.001$.

Table A8: Sibling Comparisons, differences-in-differences of the effect of *Bolsa Família* benefits on Educational Outperformance (Sisters)

| | (1) Youngest vs. 2nd Youngest Pooled | (2) Youngest vs. 3rd Youngest Pooled | (3) Youngest vs. 4th Youngest Pooled | (4) Youngest vs. 2nd Youngest NE | (5) Youngest vs. 2nd Youngest North | (6) Youngest vs. 2nd Youngest SE | (8) Youngest vs. 2nd Youngest South | (9) Youngest vs. 2nd Youngest CW |
|---|---|---|---|---|---|---|---|---|
| Youngest × *Bolsa Família* | 0.07* | 0.03 | -0.04 | 0.06 | -0.14* | 0.13* | 0.16* | 0.10* |
| | (0.01) | (0.01) | (0.03) | (0.02) | (0.04) | (0.01) | (0.03) | (0.02) |
| Youngest | -0.03* | 0.06* | 0.25* | -0.04 | 0.32* | -0.05* | -0.01 | -0.11* |
| | (0.00) | (0.01) | (0.02) | (0.02) | (0.04) | (0.01) | (0.02) | (0.02) |
| *Bolsa Família* | -0.04* | 0.00 | 0.07 | -0.00 | 0.18* | -0.11* | -0.16* | -0.08 |
| | (0.01) | (0.01) | (0.03) | (0.02) | (0.04) | (0.01) | (0.03) | (0.02) |
| Constant | 5.26* | 5.17* | 4.99* | 5.11* | 4.97* | 5.29* | 5.07* | 5.29* |
| | (0.01) | (0.01) | (0.02) | (0.02) | (0.04) | (0.01) | (0.03) | (0.03) |
| **Controls** | | | | | | | | |
| Log Per Capita | 0.03* | 0.03* | 0.03* | 0.03* | 0.02* | 0.03* | 0.04* | 0.05* |
| | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) |
| Disabled Parent | 0.06* | 0.05* | 0.05* | 0.00 | 0.04 | 0.08* | 0.08* | 0.06 |
| | (0.01) | (0.01) | (0.01) | (0.03) | (0.01) | (0.01) | (0.02) | (0.03) |
| Disabled Child | -1.86* | -1.73* | -1.66* | -1.97* | -1.95* | -1.59* | -1.68* | -1.76* |
| | (0.02) | (0.02) | (0.02) | (0.06) | (0.03) | (0.03) | (0.04) | (0.07) |
| White Parent | 0.04* | 0.04* | 0.04* | 0.03 | 0.04* | 0.03* | 0.03 | 0.03 |
| | (0.00) | (0.00) | (0.00) | (0.01) | (0.00) | (0.00) | (0.01) | (0.01) |
| White Child | 0.03* | 0.03* | 0.03* | 0.01 | 0.03* | 0.02* | 0.06* | 0.04* |
| | (0.00) | (0.00) | (0.00) | (0.01) | (0.00) | (0.00) | (0.01) | (0.01) |
| Gender Parent | 0.06* | 0.06* | 0.07* | 0.09* | 0.06* | 0.07* | 0.06* | 0.05 |
| | (0.00) | (0.00) | (0.00) | (0.01) | (0.01) | (0.01) | (0.01) | (0.02) |
| Parent Highest Ed | -0.92* | -0.93* | -0.93* | -0.91* | -0.93* | -0.93* | -0.91* | -0.93* |
| | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) |
| $R^2$ | 0.82 | 0.83 | 0.83 | 0.81 | 0.85 | 0.81 | 0.76 | 0.80 |
| AIC | 1648449.25 | 1394620.95 | 1299821.28 | 186106.42 | 545757.48 | 433873.82 | 138061.58 | 93800.60 |
| N | 748859 | 651497 | 618769 | 79254 | 255291 | 215904 | 61318 | 42758 |

*Notes:* The analysis is based on individual-level data of parents and children enrolled in the *Cadastro Único* in Brazil as of August 2015. We measure *outperformance* as the difference between parents and children's levels of education (see Appendix Table A2). We compare the education of the *youngest* children who were 15-17 years old at the time of enrollment with their older siblings who were already 18. For the *Bolsa Família* program, non-recipients are coded as zero and recipients as one. We add *log per capita income* as a control because it is the primary factor determining eligibility for the program. *Parent highest education* is measured on a categorical scale of nine levels (0-8). For *disabled child/parents*, one indicates presence, and zero indicates absence. For *white child/parent* and *gender child/parent*, one indicates white and male, while zero indicates non-white and female, respectively. The analysis includes day and zipcode high-dimension fixed effects (HDFE), which accounts for unobserved heterogeneity. All specifications include cluster robust standard errors at the family level in parenthesis. *$p < 0.001$.

## Table A9: Sibling Comparisons: Differences-in-Differences of *Bolsa Família* Benefits on Educational Outperformance (Brothers)

| | (1) Youngest vs. 2nd Youngest Pooled | (2) Youngest vs. 3rd Youngest Pooled | (3) Youngest vs. 4th Youngest Pooled | (4) Youngest vs. 2nd Youngest NE | (5) Youngest vs. 2nd Youngest North | (6) Youngest vs. 2nd Youngest SE | (8) Youngest vs. 2nd Youngest South | (9) Youngest vs. 2nd Youngest CW |
|---|---|---|---|---|---|---|---|---|
| Youngest × | 0.08* | 0.05* | 0.01 | 0.08* | 0.03 | 0.10* | 0.15* | 0.10* |
| *Bolsa Família* | (0.01) | (0.01) | (0.02) | (0.02) | (0.01) | (0.01) | (0.02) | (0.02) |
| | | | | | | | | |
| Youngest | 0.08* | 0.24* | 0.49* | 0.04 | 0.15* | 0.05* | 0.06* | -0.01 |
| | (0.00) | (0.01) | (0.02) | (0.01) | (0.01) | (0.01) | (0.01) | (0.01) |
| *Bolsa Família* | -0.04* | -0.02 | 0.02 | -0.04 | -0.00 | -0.08* | -0.14* | -0.05 |
| | (0.01) | (0.01) | (0.02) | (0.02) | (0.01) | (0.01) | (0.02) | (0.02) |
| Constant | 4.84* | 4.69* | 4.46* | 4.84* | 4.79* | 4.95* | 4.76* | 4.97* |
| | (0.01) | (0.01) | (0.02) | (0.02) | (0.01) | (0.01) | (0.02) | (0.03) |
| **Controls** | | | | | | | | |
| Log Per Capita | 0.02* | 0.02* | 0.03* | 0.03* | 0.02* | 0.03* | 0.03* | 0.03* |
| | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) |
| Disabled Parent | 0.03* | 0.03* | 0.03* | -0.00 | 0.02 | 0.06* | 0.01 | 0.05 |
| | (0.01) | (0.01) | (0.01) | (0.02) | (0.01) | (0.01) | (0.02) | (0.03) |
| Disabled Child | -1.60* | -1.52* | -1.47* | -1.61* | -1.82* | -1.47* | -1.41* | -1.36* |
| | (0.01) | (0.01) | (0.01) | (0.04) | (0.02) | (0.02) | (0.03) | (0.05) |
| White Parent | 0.05* | 0.05* | 0.05* | 0.05* | 0.06* | 0.04* | 0.06* | 0.03 |
| | (0.00) | (0.00) | (0.00) | (0.01) | (0.00) | (0.00) | (0.01) | (0.01) |
| White Child | 0.04* | 0.04* | 0.04* | 0.03 | 0.06* | 0.03* | 0.04* | 0.03 |
| | (0.00) | (0.00) | (0.00) | (0.01) | (0.00) | (0.00) | (0.01) | (0.01) |
| Gender Parent | 0.04* | 0.05* | 0.05* | 0.03* | 0.04* | 0.05* | 0.08* | 0.06* |
| | (0.00) | (0.00) | (0.00) | (0.01) | (0.01) | (0.01) | (0.01) | (0.02) |
| Parent Highest Ed | -0.90* | -0.91* | -0.91* | -0.90* | -0.90* | -0.91* | -0.90* | -0.92* |
| | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) |
| $R^2$ | 0.79 | 0.80 | 0.81 | 0.80 | 0.80 | 0.78 | 0.76 | 0.79 |
| AIC | 2329153 | 1971129 | 1799700 | 288278 | 1048000 | 541791 | 178858 | 121714 |
| N | 950923 | 824679 | 773959 | 114907 | 410541 | 243690 | 77946 | 52677 |

*Notes*: The analysis is based on individual-level data of parents and children enrolled in the *Cadastro Único* in Brazil as of August 2015. We measure *outperformance* as the difference between parents and children's levels of education (see Appendix Table A2). We compare the education of the *youngest* children who were 15-17 years old at the time of enrollment with their older siblings who were already 18. For the *Bolsa Família* program, non-recipients are coded as zero and recipients as one. We add *log per capita income* as a control because it is the primary factor determining eligibility for the program. *Parent highest education* is measured on a categorical scale of nine levels (0-8). For *disabled child/parents*, one indicates presence, and zero indicates absence. For *white child/parent* and *gender child/parent*, one indicates white and male, while zero indicates non-white and female, respectively. The analysis includes day and zipcode high-dimension fixed effects (HDFE), which accounts for unobserved heterogeneity. All specifications include cluster robust standard errors at the family level in parenthesis. $*p < 0.001$.