

INCENTIVES FOR HUMAN CAPITAL ACCUMULATION:

Prospects of the implementation of student incentives through *Bolsa Família* as a mean to reduce the intergenerational transmission of poverty in Brazil

Research Proposal by:
Isabela Lucas Bruxellas
Student Number: 33569286

WRDS 150: Writing and Research in the Disciplines
University of British Columbia
Dr. Jonathan Otto
10.12.2020

Abstract

Extreme Poverty is one of the biggest threats to human security. Consequently, great focus has been placed on economic and humanitarian measures, intended to help people permanently overcome poverty. Conditional Cash Transfer Programs (CCTs) have been widely used in Latin America to address this issue. In Brazil, *Bolsa Família* (PBF) achieved great success with short-term poverty alleviation, however it was not as successful in decreasing the intergenerational transmission of poverty as it did not increase human capital. This paper investigates the reasons for this failure as well the main causes of educational inequality in Brazil, analyzing and cross-referencing them with the potential positive consequences of the implementation of a student incentives program. The main finding of this bibliographic research is that educational inequality is mostly reinforced by a lack of motivation from both parents and students to ensure academic success, an issue not currently addressed by PBF, and that encompasses the main objective of student incentives. Accordingly, it argues that combining the existing cash transfer program with additional payments based on the academic performance of the children of beneficiary families has the potential of strengthening human capital formation and thus reducing the intergenerational transmission of poverty.

Introduction

In 2000, the United Nations (UN) defined eight goals to accelerate global development, the Millennium Development Goals (MDGs). The first one was to eradicate extreme poverty and hunger, which reinforced the need for countries to take immediate response to the global scale of poverty (The Millenium Development Goals Report 2015). For the purposes of this paper, poverty is defined as a deficiency of resources, ranging from essential material resources such as food, shelter, water, and sanitation to social resources like education, information, health care, social status, and political power (Ebrahim 2007).

Following the MDGs, the main characteristics of poverty in Brazil were extensively studied in the beginning of the 21st century and include: i) high rates of inequality, encompassing inequality of opportunities, as well as gender and ethnic discrimination; ii) the inability to empower people from low socio-economic groups to overcome the intergenerational transmission of poverty; and iii) the lack of social capital and political participation attributed to those groups (Herrán 2005). Seeking to address the first two aspects, the government of Brazil implemented in 2003 a CCT targeting low-income families, Bolsa Família (PBF). Through the program, the government directs a monthly payment to families with a per capita income lower than R\$178.00 (Portal da Transparência 2020) while imposing a school attendance conditionality. Its goal is to alleviate poverty in the short-run, while ensuring an increase in human capital in the long-run (Hellmann 2015).

The program is supported by an abundance of research on the impacts of educational inequality. The works of Alves, Soares, and Xavier (2016), as well as Travitzki, Ferrão, and

Couto (2016) should be highlighted for establishing that social-economic level and race are the two main factors influencing the inability to succeed academically. Extensive research on the socio-economic impacts of PBF was also conducted and scholarly consensus is that while PBF was successful in fulfilling its first goal, it was inefficient in the second. De Souza, Osorio, Paiva and Soares (2018), for example, conclude that PBF was responsible for 15% to 25% of all poverty reduction since its implementation, suggesting a strong positive effect in alleviating poverty in the short-run. However, the contributions of Fiszbein and Schady (2009), Ribeiro and Cacciamali (2011) and Jones (2016), establish the program's limitations and express its inability to increase human capital formation, thus hindering long-term poverty alleviation.

Unfortunately, research on how governments can amplify the effects of CCTs is extremely limited. Therefore, this research aims to provide a first step in the development of strategies to advance the effectiveness of PBF. For this purpose, it analyzes the extent to which student incentives could constitute this advance and builds itself upon the contributions of Blankenau and Camera (2009), who argue that public policies focusing on enrollment have no impact over human capital formation and that incentives promote progression through levels of education.

Accordingly, this paper analyzes the reasons why PBF fails in increasing human capital and compares them to the potential benefits of student incentives, concluding that combining the existing cash transfer program with additional payments based on the academic performance of the children of beneficiary families has the potential of strengthening human capital formation and thus reducing the intergenerational transmission of poverty.

Findings for this research were obtained from secondary data analysis. First, scholarly- peer reviewed online articles were used to understand the current discussion on the limitations of PBF and the implications of socio-economic level on academic performance, as well as student incentive programs and their potential. Second, a bibliographic research was conducted to identify the causes for educational inequality in Brazil and PBFs failure in addressing it, as well as the main potential benefits of student incentive programs. Finally, a cross-referencing of these causes and potentials was conducted to identify whether student incentives could be suitable to address those problems.

The paper will first present the theoretical foundation of poverty reduction through human capital increase and it's relation to PBF. Later, it will present the findings that support its argument. Finally, it will provide a synopsis of the findings and suggest areas for further research.

Context

Human capital includes the knowledge and attributes of the labour force and encompasses the notion that there are investments in people and that these investments increase an individual's productivity (Goldin 2014).

This concept goes back at least to Adam Smith, who noted: "The acquisition of talents during education, study, or apprenticeship, costs a real expense, which is capital in [a] person. Those talents [are] part of his fortune [and] likewise that of society" (Smith 1776).

Furthermore, Gary Becker (1964) affirmed that human capital is similar to "physical means of production" and that investments in human capital earn proportional profits. Further studies confirmed this theory and the idea that human capital leads to personal and nationwide economic growth became a consensus within the economic community.

The Human Capital Index (World bank 2019), measures which countries are best in mobilizing the economic and professional potential of its citizens. In this report, Brazil ranks number 81 from 157, thus showing the amount of capital the country loses through the lack of education.

It is the understanding of this loss, as well the humanitarian concerns over the high rates of poverty that lead to the creation of *Bolsa Familia* in 2003. The program builds itself on the premise that people will not invest in education if they don't feel financially secure and that most uneducated people will not enforce the need for education upon their children (Hellmann 2015). The idea of the conditionality is that increased attendance will lead to an increase in human capital, but as mentioned previously the flaw of the program lies in the fact that attendance does not guarantee academic achievement or grade progression, making the program inefficient in fulfilling this objective.

Findings

Social Inequality and PBF

Educational inequality reflects itself on differences in academic level, grade progression and results in the National Examination (ENEM) between different socio-economic groups and ethnicities. Students impacted by poverty are strongly disadvantaged in concluding their education (Alves et al. 2016). This research analyzed an abundance of scholarly articles to identify the causes for this phenomena in Brazil and found that the most important ones are i) lower rates of social and cultural capital being transmitted by the parents (Souza 2009); ii) low-income students generally attend infrastructurally and financially disadvantaged schools (Felicio and Fernandes 2005); iii) lack of academic consistency and parental support on

education, as caused by the limited understanding of the importance of education (Silva and Haselbag 2000); iv) secondary and higher education being regarded as unimportant by a majority of low-income students (Costa Ribeiro 2014); and v) the lack of motivation to take advantage from increases in the quality of education (Alves et al. 2016).

While PBF aims to increase the educational level of low-income students, generating human capital, scholarly research points to a failure in achieving said goal. This paper suggests that the failure can be attributed to: i) lack of impact over grade repetition, failure or progression (De Oliveira, Soares and Sergei 2013); ii) inefficiency in reducing the age-grade lag (Ribeiro and Cacciamali 2012); and iii) increased number of PBF receiving students does not enhance the school's performance on the standardized test (Camargo and Pazello 2014).

Through the scrutinization of both the causes of social inequality and the reasons for PBFs failure, it is possible to observe that all but numbers i and ii of the causes of inequality can be traced back to the lack of motivation to succeed academically. The logic behind this is that parents from low socio-economic classes are not as effective in encouraging academic success and teaching the importance of education (Silva and Haselbag 2000). The specific reasons for this are debatable and lie outside of the scope of this research.

Low-income students themselves are also unmotivated to succeed academically due to their upbringing, discrimination or thinking that investments in education will not lead to future earnings (Blankenau and Camera, 2009).

This leads to the conclusion that the reduced motivation of low-income students and their parents are one of the main factors influencing the inability to succeed academically. PBF's

failure in recognizing and addressing this issue is what makes it mostly ineffective in increasing human capital formation.

Student Incentives

The first part of this paper's findings section showed the need for PBF to be enhanced by instituting a way to motivate students in succeeding academically and for parents to stimulate a learning environment. The incentive theory of motivation, as proposed by Ryan and Deci (2000) argues that people are motivated by incentives and reinforcement, meaning they act according to expected rewards or punishments. This theory is associated with various widely accepted educational, parenting, and professional practices and is often applied using money as a positive incentive. Even though there is no scholarly consensus on the best way to incentivize students and families, multiple researchers suggest that the theory is best applied using financial incentives. This paper argues that they have the potential to achieve the following accomplishments: i) enhance performance in standardized tests (Behrman, Parker, Todd and Kenneth 2015); ii) promote progression through levels of education and increase the achievement of academic certificates (Blankenau and Camera 2009); iii) increase academic performance, including for students with an age-grade lag (Herranz-Zarzoso and Sabater-Grande 2018); and iv) increase effort to succeed (Barrow, Richburg-Hayes, Rouse and Brock 2014).

Analyzing these potential effects we see that the causes of educational inequality and PBF's failure, as identified in the first section, could be addressed by student incentives. In a nutshell, the main cause identified is the lack of motivation of students to succeed and of their

parents to foster the opportunities and mindset for success in academics. Financial incentives address exactly this problem by using money as the positive incentive for both parties.

The findings on the causes and potentials support the argument that student incentives could increase the performance of low-income students in progressing through school and achieving higher academic levels, as well as higher results in ENEM. This suggests that student incentives have the potential of increasing human capital accumulation in Brazil.

Conclusion

Practical Implications

Currently, the only main conditionalities for a family to participate in PBF are having a low-income and ensuring that the children attend school and are seen by health professionals when needed. Given the wide scope of the program and its status quo after 17 years of existence, it would arguably be impossible to implement further conditionalities given the negative political pressure that would follow.

Furthermore, it would be unethical to use academic achievement as a conditionality since this could harm families and students that are motivated to excel but face external difficulties. Therefore, the findings presented in the previous section can be interpreted as the justification for the development of programs to complement PBF with additional payments based on the academic performance of the children of beneficiary families. This would, potentially, incentivize parents to foster a learning environment and motivate children to succeed academically, as well as students to increase their effort in school to create a better financial situation for the family.

Thus, this paper argues that a student incentive program tailored to PBF has the potential of strengthening human capital formation in low socio-economic groups and thus reducing the chances of transgenerational poverty.

Limitations

This paper used the causes of educational inequality and PBF's failure in increasing human capital, as well as the potentials of student incentive programs to contribute to the discourse on PBF, specifically on how to enhance its effect, and argued in favour of the implementation of a student incentive program tailored to PBF.

However, it must be disclosed that it resorted exclusively in the exploration of potential advantages of student incentives in PBF's efforts to reduce poverty, without providing any experimental or statistical proof of this potential success. Furthermore, it has not explored potential negative side effects or the exact format of such a program.

Therefore, further research would be necessary to predict the true effects of student incentives programs and evaluate their political and socio-economic value. One example of such research would be the analysis of experimental implementation of student incentives for low-income families on a small scale, a sandbox proposition.

Moreover, a careful financial and political analysis of the available resources for such programs would also be necessary to enhance any realistic discussion on the topic. In addition to this, it would be crucial to investigate the possible structure of the program, the amount that would be paid to families and the duration of said benefit.

Annotated Bibliography

- Alves, Maria Teresa Gonzaga, José Francisco Soares, and Flavia Pereira Xavier. "Desigualdades Educacionais no Ensino Fundamental De 2005 a 2013: Hiato Entre Grupos Sociais." *Revista Brasileira De Sociologia (Sociedade Brasileira De Sociologia.)* 4, no. 7 (2016): 49.
- Alves, Maria Teresa Gonzaga and José Francisco Soares. "Contexto Escolar e Indicadores Educacionais: Condições Desiguais Para a Efetivação De Uma Política De Avaliação Educacional." *Educação e Pesquisa* 39, no. 1 (2013): 177-194.
- Behrman, Jere R., Susan W. Parker, Petra E. Todd, and Kenneth I. Wolpin. "Aligning Learning Incentives of Students and Teachers: Results from a Social Experiment in Mexican High Schools." *The Journal of Political Economy* 123, no. 2 (2015): 325-364.
- Behrman, Jere R., Susan W. Parker, and Petra E. Todd. "Schooling Impacts of Conditional Cash Transfers on Young Children: Evidence from Mexico." *Economic Development and Cultural Change* 57, no. 3 (2009): 439-477.
- Blankenau, William and Camera, Gabriele. "Public Spending on Education and the Incentives for Student Achievement." *Economica (London)* 76, no. 303 (2009): 505-527.
- Brazilian Institute of Geography and Statistics (IBGE) 2016-2020. Continuous PNAD – Continuous National Household Sample Survey.
<https://www.ibge.gov.br/en/statistics/social/education/16809-quarterly-dissemination-pnad2.html?=&t=o-que-e>
- Camargo, Pedro Cavalcanti and Elaine Toldo Pazello. "Uma Análise do Efeito do Programa Bolsa Família Sobre o Desempenho Médio Das Escolas Brasileiras." *Economia Aplicada* 18, no. 4 (2014): 623-640.
- Castro, Henrique Carlos de Oliveira de, Walter, Maria Inez Machado Telles, Santana, Cora Maria Bender de, and Michelle Conceição Stephanou. "Percepções Sobre o Programa Bolsa Família Na Sociedade Brasileira." *Opinião Pública : Publicação do CESOP* 15, no. 2 (2009): 333-355.
- De Oliveira, Luis Felipe Batista and Soares, Sergei S.D. "O Impacto do Programa Bolsa Família sobre a Repetência: Resultados a partir do Cadastro Único, Projeto Frequência e Censo Escolar" Instituto de Pesquisa Econômica Aplicada (2013)
- Souza, Pedro H. G. Ferreira de, Osorio, Rafael Guerreiro, Paiva, Luis Henrique, and Soares, Sergei. "Os Efeitos do Programa Bolsa Família sobre a Pobreza e a Desigualdade:

Um Balanço dos Primeiros Quinze Anos" Instituto de Pesquisa Econômica Aplicada (2019)

Ferreira, Maria Elisa Caputo and Guimarães, Marly. "Educação Inclusiva. Rio de Janeiro" DP&A (2003).

Fiszbein, Ariel, Norbert Rüdiger Schady, Francisco H. G. Ferreira, Open Knowledge Repository, and World Bank e-Library. Conditional Cash Transfers: Reducing Present and Future Poverty. Washington D.C: World Bank, 2009. doi:10.1596/978-0-8213-7352-1.

Gazola Hellman, Aline. "How Does Bolsa Familia Work?: Best Practices in the Implementation of Conditional Cash Transfer Programs in Latin America and the Caribbean" Inter-American Development Bank (2015)

Glewwe, Paul, Nauman Ilias, and Michael Kremer. 2010. "Teacher Incentives." American Economic Journal: Applied Economics, 2 (3): 205-27.

Goldin, Claudia. "Human Capital" In *Handbook of Cliometrics*, edited by Diebolt, Claude, Michael Hauptert, and SpringerLINK ebooks - Economics and Finance. New York: Springer, 2015;2016;.

Diebolt, Claude, Michael Hauptert, and SpringerLINK ebooks - Economics and Finance. *Handbook of Cliometrics*. New York: Springer, 2015;2016;.

Governo Federal 2016-2020. Portal da Transparência.

<http://www.portaltransparencia.gov.br/beneficios/bolsa-familia?ordenarPor=beneficiario&direcao=as>

Hart, Paul, and Compton, Mallory. "Great Policy Successes" Oxford University Press (2019).

Herrán, Carlos. "Reducing Poverty and Inequality in Brazil" Inter-american Development Bank (2005).

Herranz-Zarzoso, Noemí and Gerardo Sabater-Grande. "Monetary Incentives and Self-Chosen Goals in Academic Performance: An Experimental Study." International Review of Economics Education 27, (2018): 34-44.

Jones, Hayley. "More Education, Better Jobs? A Critical Review of CCTs and Brazil's Bolsa Família Programme for Long-Term Poverty Reduction." Social Policy and Society: A Journal of the Social Policy Association 15, no. 3 (2016): 465-478.

- López Mero, Patricia, Asunción Barreto Pico, Eddy Rigoberto endoza Rodríguez, and del Salto Bello, Max Walter Alberto. "Bajo Rendimiento Académico En Estudiantes y Disfuncionalidad Familiar." *Medisan* 19, no. 9 (2015): 1163-1166.
- Ministério da Educação (2016-2020). O Instituto Nacional de Estudos e Pesquisas Educacionais Anísio Teixeira (Inep). <http://inep.gov.br/dados>
- Mont'Alvão Neto, Arnaldo Lopo. "Tendências Das Desigualdades De Acesso Ao Ensino Superior no Brasil: 1982-2010." *Educação & Sociedade* 35, no. 127 (2014): 417-441.
- Ribeiro, Rosana and Cacciamali, Maria Cristina. "Impactos do Programa Bolsa-Família Sobre os Indicadores Educacionais" *Revista EconomiA* 13, no. 2 (2012): 415-446.
- Roelen, Keetie. "Challenging Assumptions and Managing Expectations Moving Towards Inclusive Social Protection in Southeast Asia." *Journal of Southeast Asian Economies* 31, no. 1 (2014): 57-67.
- Romero, J.A.R. and Hermeto, A.M. "Avaliação de Impacto do Programa Bolsa Família sobre Indicadores Educacionais: Uma Abordagem de Regressão Descontínua". Encontro Nacional de Economia (2009)
- Ryan, Richard M. and Edward L. Deci. "Intrinsic and Extrinsic Motivations: Classic Definitions and New Directions." *Contemporary Educational Psychology* 25, no. 1 (2000): 54-67.
- Saad-Filho, Alfredo. "Social Policy for Neoliberalism: The Bolsa Família Programme in Brazil: Social Policy for Neoliberalism: Bolsa Família in Brazil." *Development and Change* 46, no. 6 (2015): 1227-1252.
- Silva, Nelson do Valle and Carlos Hasenbalg. "Tendências Da Desigualdade Educacional no Brasil." *Dados (Rio De Janeiro)* 43, no. 3 (2000): 423-445.
- Slavin, Robert E. "Students Motivating Students to Excel: Cooperative Incentives, Cooperative Tasks, and Student Achievement." *The Elementary School Journal* 85, no. 1 (1984): 53-63.
- Travitzki, Rodrigo, Maria Eugénia Ferrão, and Alcino Pinto Couto. "Desigualdades Educacionais e Socioeconômicas Na População Brasileira Pré-Universitária: Uma Visão a Partir Da Análise De Dados do ENEM." *Education Policy Analysis Archives* 24, (2016): 74.

UN iLibrary and United Nations Department of Economic and Social Affairs. *Millennium Development Goals Report 2015*. Place of publication not identified: United Nations, 2016.

Valiente-Barroso, Carlos, José Manuel Suárez-Riveiro, and Marta Martínez-Vicente. "Rendimiento Académico, Aprendizaje y Estrés En Alumnado De Primaria." *Revista Complutense De Educación* 31, no. 3 (2020): 365-374.

Yahn de Andrade, Cibele. "Acesso ao ensino superior no Brasil: equidade e desigualdade social" *Revista Ensino Superior Unicamp* 06 (2012): 2.