The Effect of Cash Transfer Programs on Poverty Reduction

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Abstract

The paper aims to set in a global context and examine the impact of Conditional Cash Transfers Programs (CCTP) in the Latin America & the Caribbean (LAC) region. In the context of global commitments to reduce poverty, as it is the case of the 2030 Sustainable Development Goals (SDGs) Agenda, this paper addresses the concerning of evaluating CCTPs as policy instruments. Literature built on empirical evidence at household level across LAC countries suggests that CCTPs have yielded positive and significant effects on poverty reduction, school enrollment, and access to health care services. With data over a panel of 18 LAC countries that started the operation of CCTPs at a given point during the period 1990 – 2013, I found significant effects of CCTPs on outcomes of poverty reduction, education, and health. The results obtained for a panel of LAC countries suggested that an increase of one percentage point of the population coverage of CCTPs was associated on average with a decrease of 0.04 percentage points on the poverty headcount ratio at $1.90 per day. In addition, the CCTPs led an increase of the school enrollment at primary and secondary levels by 0.12 and 0.25 percentage points, respectively. Finally, CCTPs showed to yield positive impacts on improving nutrition conditions and immunization coverage. For instance, CCTPs had an effect on decreasing the prevalence of stunting by 0.26 percentage points and increasing the HepB3 immunization coverage by 0.21 percentage points.

Introduction

This paper addresses the research question of whether or not the Conditional Cash Transfers Programs (CCTPs) in Latin America & the Caribbean (LAC) did have an impact on poverty reduction along with improvements on education and health conditions. The question arises in the framework of global commitments to reduce poverty around world. In this regard, the most recent global commitment, the Sustainable Development Goals (SDGs), targets to “eradicate extreme poverty in all its forms everywhere”, among other objectives. In comparison with other regions, LAC has reported a lower performance on reducing poverty during the period 1990 – 2013. With an amount of 33.5 million people living with less than $1.90 a day, the policy concerning is to evaluate what has worked and what has not. As instruments of safety nets to alleviate poverty, countries in LAC started the operation of CCTPs in the 1990s. CCTPs are programs aiming to grant a monetary transference to people in poverty or extreme poverty conditions under conditions of enrollment and attendance to school and health checks on vaccinations and nutrition. Literature built over empirical evidence at household level suggest that CCTPs in LAC have yielded positive impacts on poverty reduction, school enrollment, and access to health care services. Whereas these empirical strategies have focused on measuring the outcomes under a difference-and-difference approach in comparison with counterfactual groups, evidence of the CCTPs may continue growing under panel series approach. Thus, this paper contributes to the literature on impact evaluation of CCTPs in LAC by addressing an empirical strategy based on a data panel of 18 countries that ran a CCTP
at a time point during the period 1990 – 2015.

**Literature Review**

Conditional Cash Transfers Programs (CCTP) consist generally of policy instruments aiming to reduce poverty in developing countries. According to Gloria M. Rubio and Laura B. Rawlings (2005), the CCTP “... provide money to poor families contingent on certain behavior, usually investments in human capital, such as sending children to school or bringing them to healthy centers”. The authors stressed that these programs are an alternative of traditional social assistance aimed to drive a demand-side complement to the offer of education and health services.

In accordance with the Association for Childhood Education International (ACEI, 2011), the CCTPs started in 1990s with the objectives of addressing poverty and strengthening human capital and self-empowerment. ACEI emphasized that the conditionality aspect of CCTPs is tight to seeking behavior improvements on human capital. The conditions of these programs may be school attendance and routine health care. ACEI refereed that the CCTPs began in Latin America from where they have spread around the world.

The World Bank issued in 2009 the report *Conditional Cash Transfers: Reducing Present and Future Poverty* which highlighted the relevance of CCTPs on addressing smart investments in the developing world facing potential negative social impacts from the Financial Crisis of 2008-2009. The World Bank (2009) defined the CCTPs as “programs that transfer cash, generally to poor households, on the condition that those households make prespecified investment in the human capital of their children”. By investment in human capital, the CCTPs aim generally to target outcomes on health, nutrition, and education. To achieve these outcomes, the nature of CCTPs lies in conditions that engage the beneficiaries of these programs on seeking access to services related to the aforementioned outcomes. The World Bank (2009) refers that “health and nutrition conditions generally require periodic checkups, growth monitoring, and vaccinations for children less than 5 years of age; perinatal care for mothers and attendance by mothers at periodic health information talks”. In the other hand, educations conditions require school enrolment, and attendance on 80-85% of school days, and a sort measure of performance. Hence, the operation of the CCTPs consist of transferring money to the mother of the household or to student who should comply with the targeted conditions. The CCTPs operate at large-scale and pilot modes across regions in the developing world. For instance, the World Bank (2009) states that CCTPs may be large-scale programs operating in Mexico, Brazil, Bangladesh, Indonesia, and Turkey, and pilot programs in Cambodia, Malawi, Morocco, Pakistan, and South Africa.

In a more recent report, *The State of Social Safety Nets. 2015*, the World Bank conceptualized CCTPs as a type of safety nets by stating a broad definition. Regarding this, the World Bank (2015) pointed out that “CCTPs are periodic monetary benefits to poor households that require beneficiaries to comply with specific behavioral requirements to encourage investments in human capital (such as school attendance, immunizations, and health checkups)”. On this definition, the report em-

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3. Ibid.
5. Ibid.
6. Ibid.
phasizes that the conditionality component may be weakly conditioned or weakly enforced (soft conditionality). The conditions of the CCTPs range from ensuring a minimum level of school attendance by children and/or undertaking regular visits to health facilities to attending skills training programs. Besides these outcomes, the World Bank (2015) argued that CCTPs may have an effect on early childhood development (ECD). Related to this, the World Bank (2015) emphasized that “CCTPs can serve as effective vehicles for promoting early childhood nutrition, health, and development, in addition to their more traditional role of providing income support to the poor and vulnerable”.

**Background of Studies**

The research focus of this paper is on the Latin America & the Caribbean (LAC) region. In the appendix section, two graphs were included to show the trends of poverty reduction across regions in the world during the period 1990 – 2013. As these graphs show, the reduction of poverty in LAC has been among the lowest performances observed around the world during the period 1990 – 2013. While the world reduced the poverty headcount ratio at $1.90 per day in 24.3 percentage points, LAC reduced this indicator in 10.4 percentage points. Yet, 33.5 million persons live in extreme poverty conditions on income terms as referenced by the mentioned indicator.

In the previous framework, CCTPs have been explored as safety net programs and social policy strategies to reduce poverty in LAC. According with Marco Stampini and Leopoldo Tornarolli (2012), “Conditional Cash Transfers (CCTs) are an endogenous innovation from Latin America and the Caribbean (LAC) that aims to reduce current poverty while developing the human capital of the next generation”. Therefore, the research motivation of this paper lies in the question of whether or not the CCTP had a real impact poverty reduction and outcomes on school enrollment and immunization coverage in LAC.

Some authors have outlined potential constrains that may undermine the impact of CCTPs on the aforementioned outcomes. These constrains generally consist of institutional voids and political dynamics that may limit, to some extent, the scope of social benefits targeted by the CCTPs. In regards to institutional voids, ACEI (2011) referenced that the success of CCTPs depend on the quality of social services, and administrative systems capable to handle monitoring and supporting the implementation and the beneficiaries’ access to the required conditions. On the other hand, political dynamics take place when politicians operate CCTPs as a way of distributing private goods and cultivating patronage to individuals supporters as electoral strategies. In regards to this, Motoky Hayakawa, Rogier Van Den Brink, and Aleksandra Posarac (2015) referenced the case of the CCTP Pantawid Pamilyang Pilipino Program (Pantawid Pamilya or 4Ps) in which the political constrains consisted of vote buying and political dynasties that reduced the effectiveness of public service delivery and poverty reduction as part of the objective’s scope of the program.

13 Hayakawa, Motoky, Rogier Van Den Brink, and Aleksandra Posarac. How is the conditional cash transfers program changing the politics of service delivery? (2015).
In spite of the potential constrains for the execution of CCTPs, authors have found a positive impact of these programs on achieving poverty reduction, school enrollment, and immunization coverage in LAC. For instance, Hyun H. Son (2008) based on empirical evidence of the evaluation of the CCTP Progresa in Mexico conducted by Schady and Araujo (2006) highlighted the impact that this program had in terms of school enrollment and health outcomes.14 In regards to this, Son (2008) referenced that Progresa increased enrollment in secondary schools by 6 and 9 percentage points for boys and girls, respectively.15 In terms of health, the program led a 12% lower incidence of illness in children and a 19% decrease in sick or disability days on adults.16 Though, the authors emphasized that the impact of CCTPs might have a lower effect in long-term outcomes or in the targeted outcomes if the latter showed a good performance before the implementation of the program. In this sense, Son (2008) explained that in other countries, e.g, Colombia and Turkey, while the CCTPs had an impact on increasing enrollment rates, these programs “... had relatively little impact on school attendance rate, on school achievement, or in attracting dropouts to schools”.17 Furthermore, the author pointed out that in terms of school enrollment, the CCTPs are not likely to have an effect on this outcome if the countries had already higher levels of enrollment rates before the program.18 Regarding the impact of CCTPs on poverty and inequality reduction, Son (2008) stressed out that the effect of these interventions has varied by programs.

The author highlighted the case of Progresa in Mexico that had the most significant results. However, the author based on the evaluation of the CCTP Bolsa Escola in Brazil reported that this program yielded very little impact on poverty and inequality. The contrast on the evidence found in the previous two programs suggested that setting conditionality aspects on educational outcomes may be not sufficient to achieve poverty reduction through CCTPs. In relation to this, the author pointed out that the reduction of poverty based on higher earnings translated by higher education attainment cannot be taken for granted due to absorption capacity of countries on skilled labor, and the general rates of return to education. The latter fact may be a constrain present in developing countries which face low returns to education in the rural sector and a bulk of the problem of school attendance.19

In regards to a broader scope of countries from the LAC region, some authors have found evidence of the impact of CCTPs on poverty reduction and outcomes of health and education. Regarding poverty reduction, the World Bank (2009) has found positive effects of CCTPs on household consumption and poverty measured by the headcount index and income gap to a poverty line. From an evaluation based on household data, the World Bank (2009) reported that CCTPs in Colombia, Honduras, Mexico, and Nicaragua led a reduction in the poverty gap by 7.0, 2.0, 2.0, and 9.0 percentage points, respectively.20 Furthermore, Colombia, Honduras, Mexico, and Nicaragua had respective increases on the per capita consumption for the median household of 10.0%, 7.0%, 8.3%, and 20.6%.21 In terms of poverty measured by the headcount index, The World Bank (2009) showed that Colombia, Honduras, Mexico, and Nicaragua had respective increases on the per capita consumption for the median household of 10.0%, 7.0%, 8.3%, and 20.6%.21
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bria, Mexico, and Nicaragua yielded decreases of 3.0, 1.0, and 5.0 percentage points.\(^{22}\) Regarding the impact of CCTPs on reduction of the poverty headcount index, Marco Stampini and Leopoldo Tornarolli (2012) found positive effects based on an evaluation applied at a household level across 13 countries in LAC. The authors stated that on average the poverty headcount index resulted 13\% lower after the implementation of CCTPs. This impact ranged from 1\% in Paraguay to 59\% in Uruguay).\(^{23}\) The authors pointed out that “the largest effects in absolute terms were recorded in Ecuador, Brazil and Mexico, where CCTPs reduced the poverty headcount index by 3.3, 1.7 and 1.7 percentage points respectively. Only in Chile, Costa Rica, Jamaica, Panama and Paraguay, CCTs reduced the poverty headcount index by less than one percentage point”.\(^{24}\)

On education outcomes, the World Bank (2009) stated that “school enrollment rates have increased among programs’ beneficiaries, especially among those who had low enrollment rates at the beginning”.\(^{25}\) The impact of CCTs has ranged from middle-income countries to lower-income countries in LAC and in low-income countries in other regions. For instance, CCTPs in LAC middle-income countries, such as Chile and Mexico, have led an increase of 7.5 and 8.7 percentage points on school enrollment.\(^{26}\) LAC lower-income countries, such as Colombia and Nicaragua have had respective increases of 2.1 and 6.6 percentage points.\(^{27}\) Non-LAC countries, as it may be the case of Bangladesh and Pakistan, have reported an increase of school enrollment of 12.0 and 11.1 percentage points, respectively.\(^{28}\) Moreover, Juan Saavedra (2016) has emphasized over meta-analysis techniques to aggregate impacts across 42 CCTPs. This analysis suggested an average increase of 3.4 and 5.0 percentage points on primary and secondary enrollment respectively. However, the author stated that CCTPs has had lower effects in medium and long term outcomes on education, e.g., school achieving.\(^{29}\)

In regards to health outcomes, the World Bank (2009) has found positive results in the access of children to health services. Though, these results have only remained statistically significant across low-middle LAC countries. For instance, Colombia has reported an increase of 22.8 percentage points in the percentage of children taken to growth and development monitoring. Honduras obtained an increase of 20.2 percentage points in the percentage of children taken to health center at least once in past month.\(^{30}\)

Data Sources

In contrast with the impact evaluation studies referenced in the previous section, this research focuses on evaluating the impact of the

\(^{22}\) Ibid. Pp. 13.


\(^{24}\) Ibid. Pp. 11.


\(^{26}\) For Chile, the school enrollment referenced ages. 6-15. In the case of Mexico, the results was in regards to grade 6. For more information, see: World Bank. “Conditional Cash Transfers: Reducing Present and Future Poverty.” 2009. http://

\(^{27}\) The reference for Colombia is ages. 8-13 and for Nicaragua is age 7-15. Ibid. Pp. 17.

\(^{28}\) For Bangladesh and Pakistan, the reference is of girls of ages. 11-18 and girls of ages. 10-14, respectively. Ibid. Pp. 17.

\(^{29}\) Ibid. Pp. 4-5.

CCTPs in LAC based on data panel of countries for a given period. In regards to this, the data sources gathered information of 18 countries with available information on CCTPs that started at some time point during the period 1990 – 2015 and continued either active until the present date or ended in a given time point during the mentioned period. Other criteria for the selection of CCTPs data was programs that set conditionality on school enrollment and access of children to vaccinations. To obtain data regarding the CCTPs in LAC countries, it was consulted the website of Cash Transfers Programs from the Economic Commission of Latin America & the Caribbean (ECLAC).31 In the appendix section, it was included a table that indicates the name of the program(s) and starting year of operations per LAC country. Additional data sources consisted websites with information of macro variables used to conduct the empirical methodology for this paper. These websites consisted of the World Development Indicators32 and Worldwide Governance Indicators33 from the World Bank Group.

Empirical Strategy

The evaluation of CCTPs in LAC addressed by this paper lies on the extent in which these programs had a positive and statistically significant impact on poverty reduction, school enrollment, and immunization coverage. As the evaluation is focused on a panel of 18 LAC countries for the period 1990 – 2015, it was considered to run a Fixed Effects or Random Effects Ordinary Least Squares (OLS) according to the empirical suggestion obtained by the Hausman Test. The mathematical specification of the model was the following:

\[ y_{it} = \beta_0 + \beta_1 X_{it} + \beta_2 M_{it} + \phi_{it} + \epsilon_{it} \]

Where:

\( i = \text{country} \)
\( t = \text{country} \)

\( y_{it} = \) The dependent variable. The targeted outcomes of this research consist of: poverty headcount ratio, school enrollment in primary and secondary education, immunization coverage of the vaccines DPT, HepB3, and Measles.

\( X_{it} = \) the independent variable. This variable is the effective population coverage of the CCTPs.

\( M_{it} = \) A set of control variables that included social, economic, and institutional facts of the countries

\( \phi_{it} = \) the fixed effect term or random effect terms according to the case

\( \epsilon_{it} = \) The error term

A full description of the variables was included in the appendix section that details the name and code associated with each variable.

Results and Discussion

The estimated results from the regressions were included in the appendix section. The first set of tables shows the results estimated for the outcomes on poverty reduction. The tables suggest that an increase of the population coverage by CCTPs is associated on average with a reduction of 0.04 percentage points on the poverty headcount ratio at PPP $1.90 per day, holding all the other factors constant. The effect of CCTPs on poverty gap at PPP $1.90 and the household consumption had the expected positive and negative signs, respectively. However, their coefficients were non-statistically significant. Even though the population coverage of CCTPs explained to some extent poverty reduction, the Gini index, life expectancy, and urban shares reported a con-
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The second set of tables present the results estimated for the outcomes on education. The models suggested that CCTPs in LAC had a positive and statistically significant effect on increasing school enrollment at primary and secondary levels. An increase of one percentage point in the population coverage of CCTPs was associated on average with an increase in 0.12 percentage points in the net enrollment ratio at primary level and with an increase in 0.25 percentage points in the net enrollment ratio at secondary levels, holding all the other factors constant. The effect of CCTPs on education attainment at the aforementioned levels resulted non-statistically significant. Despite the mentioned impacts of CCTPs, control of corruption and the pupil-teacher ratio had a statistically significant positive and negative effect, respectively, on school enrollment at primary level. Control of corruption resulted with a positive and statistically significant effect on school enrollment at secondary level. The magnitude of these other factors resulted greater than the effect size driven by the CCTPs.

The third set of tables report the estimated results for the outcomes on health. In terms of nutritional outcomes, the tables suggest that CCTPs have driven a positive and statistically significant effect. An increase of one percentage point in the population coverage of CCTPs was associated on average with a decrease of 0.26 percentage points in the prevalence of stunting (height for age of children under 5), a decrease of 0.05 percentage points in the prevalence of undernourishment in the population, a decrease of 0.12 percentage points in the prevalence of underweight (weight for age of children under 5), and a decrease of 0.04 percentage points in the prevalence of wasting (weight for height of children under 5), keeping all the other factors constant. In regards to the immunization coverage, CCTPs yielded a statistically significant effect on increasing the immunization HepB3 coverage on children ages. 12-23 months by 0.21 percentage points. On some of the outcomes, other factors reported statistically significance, such as the rule of law and health expenditure that led an improvement in the nutritional outcomes. In contrast, the out-of-pocket health expenditure resulted with an effect of lowering these outcomes.

Conclusions

This research paper addresses a different perspective on empirical efforts to measure the impact of CCTPs on poverty reduction and the improvement of education and health conditions in LAC. While previous literature has focused on measurement techniques based on household level data, the research motivation of this paper lies on capturing the impact of CCTPs over time with a data panel of countries. Despite this, the results found are associated with the ones obtained at household level. This paper suggests that CCTPs implemented at some time point during the period 1990 – 2014 in 18 countries from LAC have had a positive and statistically significant effect on reducing the poverty headcount ratio at PPP $1.90 per day, increasing the net enrollment ratios at primary and secondary levels, and improving nutritional conditions, and expanding the access to the HepB3 immunization. Among these results, the effect of CCTPs have been of greater magnitude for health outcomes. Although the CCTPs reported the mentioned impacts to some extent, the outcomes on poverty reduction, health, and education have been explained by other institutional, supply, economic, and other factors, which reported a greater magnitude than the effect driven by CCTPs in some cases. Hence, this paper suggests that safety net strategies, such as it is the case of CCTPs, aimed to reduce poverty and improve health and education conditions in LAC countries should be accompanied of policies that reduce inequality and corruption, and increase public and private investment on health and education, urbanization, and rule of law.
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References


Appendix

Trend of Poverty Reduction across Regions in the World

Source: Author based on World Bank (2016). World Development Indicators

List of LAC CCTPs

<table>
<thead>
<tr>
<th>Country</th>
<th>Starting Point</th>
<th>CCTP Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Argentina</td>
<td>2009</td>
<td>Asignación Universal por Hijo para Protección Social (Universal Child Allowance for Social Protection)</td>
</tr>
<tr>
<td>Bolivia</td>
<td>2006</td>
<td>Bono Juancito Pinto (Juancito Pinto Grant)</td>
</tr>
<tr>
<td>Brazil</td>
<td>2003</td>
<td>Bolsa Familia</td>
</tr>
<tr>
<td>Chile</td>
<td>2002 - 2012</td>
<td>Chile Solidario (Solidarity Chile)</td>
</tr>
<tr>
<td>Colombia</td>
<td>2001</td>
<td>Más Familias en Acción (More Families in Action)</td>
</tr>
<tr>
<td>Costa Rica</td>
<td>2007</td>
<td>Red Unidos (Unidos Network formerly Juntos Network)</td>
</tr>
<tr>
<td>Costa Rica</td>
<td>2006</td>
<td>Avancemos</td>
</tr>
<tr>
<td>Dominican Republic</td>
<td>2005 - 2012</td>
<td>Programa Solidaridad (Solidarity programme)</td>
</tr>
<tr>
<td>Dominica Republic</td>
<td>2012</td>
<td>Progressing with Solidarity</td>
</tr>
<tr>
<td>Ecuador</td>
<td>2003</td>
<td>Bono de Desarrollo Humano (Human Development Grant)</td>
</tr>
<tr>
<td>El Salvador</td>
<td>2005</td>
<td>Program of Support to Communities in Solidarity in El Salvador (ex Rural Communities in Solidarity or Network of Solidarity)</td>
</tr>
<tr>
<td>Guatemala</td>
<td>2012</td>
<td>My Safety Bonus</td>
</tr>
<tr>
<td></td>
<td>2008 - 2011</td>
<td>Mi Familia Progresa</td>
</tr>
<tr>
<td>Honduras</td>
<td>2010</td>
<td>Bono Vida Mejor (ex Bono 10.000 Education, health and nutrition)</td>
</tr>
<tr>
<td></td>
<td>1990 - 2009</td>
<td>Programa de Asignación Familiar (PRAF) (Family Allowance Programme)</td>
</tr>
<tr>
<td>Jamaica</td>
<td>2001</td>
<td>Programme of Advancement Through Health and Education (PATH)</td>
</tr>
<tr>
<td>Mexico</td>
<td>1997 - 2014</td>
<td>Oportunidades (Human Development Programme, formerly “Progresaat”)</td>
</tr>
<tr>
<td>Panama</td>
<td>2006</td>
<td>Red de Oportunidades (Opportunities Network)</td>
</tr>
<tr>
<td>Paraguay</td>
<td>2005</td>
<td>Tekoporâ</td>
</tr>
<tr>
<td>Peru</td>
<td>2005</td>
<td>Juntos (National Programme of Direct Support to the Poorest)</td>
</tr>
<tr>
<td>Uruguay</td>
<td>2008</td>
<td>Asignaciones Familiares (Family allowances)</td>
</tr>
</tbody>
</table>

Source: Author based on ECLAC (2016)