

The effects of conditional cash transfer programs on poverty reduction, human capital accumulation and wellbeing

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1. Introduction

Conditional cash transfers (CCT) are one of the most prevalent social assistance programs in low and middle-income countries. In Latin America and the Caribbean, for example, there are currently twenty-six conditional cash transfer programs in operation (Saavedra and Garcia, 2016), benefiting over 135 million people (Stampini and Tornarolli, 2012). CCTs are also expanding at a fast pace: today, over fifty countries worldwide operate CCTs, more than twice the number in 2008 (World Bank, 2014).

The first generation of CCT programs and associated impact evaluation studies produced considerable evidence suggesting that these programs demonstrably helped lift many families out of poverty and have improved short-term educational, nutritional and health outcomes of millions of children worldwide (Fiszbein and Schady 2009).

In this note, I review the most recent evidence about the impacts of CCT programs on poverty reduction, human capital accumulation and wellbeing. Section 2 reviews the evidence on the impacts of CCTs on poverty reduction. Sections 3 and 4 summarize the evidence on educational and wellbeing impacts of CCTs. Section 5 summarizes the evidence on the role of conditions. Section 6 concludes with some overall lessons from the research evidence on the effects of CCTs to date and open questions for future research.

2. Impact of CCTs on poverty reduction

Evidence from the first wave of CCTs programs in Latin America suggested that these programs might have helped reduce poverty among program participants. The Nicaraguan CCT program reduced the fraction of participating households below the poverty line (i.e. the poverty rate) by 5 percentage points after two years, and the Colombian CCT program reduced the poverty rate by 3 percentage points over 4 years. The evidence from programs in Mexico and Honduras, however, suggests no discernible impact on the poverty rate among program participants (Fiszbein and Schady 2009).

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More recent evidence from a wider array of CCT programs in Latin America indicates that CCTs may contribute to reducing poverty rates at the national level. Evidence using household data from thirteen Latin American countries suggests that relative to an internationally comparable poverty line of USD PPP 2.5/day, national poverty rates would be 1 to 2 percentage points higher—about 13 percent higher relative to average baseline rates—in the absence of CCTs (Stampini and Tornarolli, 2012).

3. Educational impacts of CCTs

a. Systematic review evidence

Saavedra and Garcia (2016) review the most comprehensive body of evidence to date on the educational impacts of CCT programs in developing countries. The authors use meta-analysis techniques to aggregate impacts across forty-two programs worldwide. These are all the existing CCT programs for which an impact evaluation study exists that reports impacts on at least one of three key educational outcomes: school enrollment, attendance or dropout.

Across these forty-two programs, aggregate educational impacts of CCTs on school enrollment—while statistically discernible from zero—are nonetheless small, on average. For example, across all available studies, the aggregate impact of CCTs on primary school enrollment is 3 percentage points.¹ One may wonder whether this small aggregate impact is due to the fact that (net) primary enrollment is now close to universal in many developing countries. In countries with rigorously evaluated CCTs this, however, is not the case. Average primary enrollment at baseline in these countries is 87 percent, implying that the average CCT program raises primary enrollment by only 3.4 percent relative to baseline.

The aggregate impact of CCTs on secondary school enrollment is not much greater either: 5 percentage points.² However, average (net) secondary school enrollment in countries with an evaluated CCT program is 52 percent—considerably lower than primary enrollment. Relative to baseline enrollment the average impact represents a 9 percent enrollment increase.

The aggregate evidence casts doubt on the notion that CCTs substantially help implementing countries reach universal secondary schooling. In particular, it suggests that constraints on the demand for schooling—such as the opportunity cost of children’s time—may not be the most pressing barrier towards universal access to education in developing countries. Saavedra and Garcia (2016) find some evidence consistent with this. Once program attributes are accounted for, secondary enrollment effect sizes of CCTs are not systematically related to transfer generosity or payment frequency.

¹ Saavedra and Garcia (2016) report similar effect size magnitudes for primary school attendance and dropout. The meta-analytic average effect size of CCTs on primary school attendance is an increase of 3 percentage points; for primary dropout the average effect size is also a 3-percentage point reduction.

² Corresponding effect size magnitudes for secondary school attendance and dropout are, respectively a 6 percentage-point increase and a 5 percentage-point reduction.

Other candidate explanations come to mind that may help explain the failure of CCTs to break universal schooling barriers. These include supply-side constraints, program (mis)-targeting, the absence of program exit rules, and savings constraints to educational investments.

Fiszbein and Schady (2009) suggest, for example, that in Mexico's *Oportunidades* program, enrollment impacts were notoriously larger in places with an abundance of schools and slack infrastructure capacity, in contrast to the enrollment effects in those places with binding capacity constraints. Across all CCT programs for which a rigorous evaluation exists, primary enrollment effects are in fact greater, holding all else constant, when CCTs offer supply-side incentives such as subsidies for infrastructure and other educational materials (Saavedra and Garcia, 2016). As the authors note, however, the p-value for the availability of supply incentives is 18 percent, casting doubt in the statistical validity of this conclusion.

With regards to program targeting, evidence from thirteen Latin American and the Caribbean CCTs suggests that a substantial portion of benefits leaks to non-target beneficiaries. Similarly, many poor families do not receive CCT benefits (Stampini and Tornarolli, 2012).

As CCTs expand to reach wider segments of the vulnerable population, benefit leakage has become more ubiquitous. *Oportunidades* in its first year of operation reached, for example, 45 percent of Mexico's poor population living under USD PPP 2.5/day. In that first year, however, 40 percent of *Oportunidades* beneficiaries were non-poor. After eight years, *Oportunidades* reached 53 percent of Mexico's poor, yet 61 percent of actual program recipients were non-poor (Stampini and Tornarolli, 2012). These authors report similar growth trends in benefit leakage for CCT programs in Argentina, Brazil, Ecuador and Peru.

The absence of program exit rules is reflected in changes over time in the composition of CCT beneficiaries. Across many CCTs, the typical program beneficiary today is more educated, has better access to formal employment and lives in better-equipped dwellings than the typical beneficiary when these programs were initially introduced (Stampini and Tornarolli, 2012). As a result, the marginal CCT beneficiary today is likely less responsive to the transfers and conditions.

A second generation of CCTs more directly addresses some potential remaining barriers to program effectiveness. For example, Barrera-Osorio et al. (2011) find that a CCT program in which a portion of payments is delayed until participants successfully complete a grade and enroll in the following school year has significantly larger secondary enrollment and attendance impacts than traditional CCT payment schemes. This finding is consistent with families also facing savings constraints—above and beyond direct and opportunity costs of schooling—that deter optimal educational investments.

In sum, while CCTs programs do seem to statistically improve enrollment, attendance and dropout, particularly for secondary schooling, overall improvements in educational access attributed to these programs are relatively small. Other barriers

besides opportunity costs of schooling hinder progress towards universal schooling in many of the countries that have mature CCT programs still in operation.

b. School achievement

Evidence on the impacts of CCTs on school achievement outcomes is considerably more limited and paints a gloomier picture than evidence for school enrollment, attendance and dropout outcomes. Very few studies exist examining the impact of CCTs on test-scores.

Part of the reason stems from methodological challenges. As CCTs have succeeded in increasing educational access, the composition of the school population has also changed, rendering invalid outcome contrasts that typically condition on being present in school. Since test-scores are typically only measured for students in school and CCTs affect the probability of attending school, test-score contrasts that compare program beneficiaries and non-beneficiaries are contaminated by a form of selection bias. The selection bias is typically negative as CCTs are likely improving access to school among infra-marginal applicants who would have had, in the absence of the program, lower achievement.

Garcia and Hill (2010), and Baez and Camacho (2011) conclude, for instance, that once selection bias is accounted for, *Familias en Accion*—Colombia’s CCT program and one of the oldest still in operation—had no impact on student test scores either during school or upon secondary school completion.

Behrman, Parker and Todd (2005) reach a similar conclusion for the case of Mexico’s *Oportunidades*. The authors conclude that early program participants with many years of program exposure scored no higher on standardized tests than participants with only few years of program exposure.

Evidence Cambodia is equally disappointing. The *Education Sector Support Program* (CESSP), which awarded scholarships to poor students conditional on school enrollment, attendance and satisfactory grade progress produced no effect on student learning in the short or medium term (Filmer and Schady, 2014). In a separate pilot project, program recipients selected through poverty-targeting mechanisms similar to most CCTs worldwide had similar scores on an achievement test than non-recipients. In contrast, recipients targeted through a merit-based screening process had better achievement outcomes than non-recipients (Barrera-Osorio and Filmer, 2014).

The only positive evidence on achievement comes from an evaluation of Nicaragua’s *Red de Proteccion Social*, which finds that boys with longer program exposure score about 0.2 standard deviations higher than those with short exposure. Among girls, however, longer program exposure does not lead to better school achievement (Barham, Macours and Malluccio 2016).

c. Long-term educational outcomes and the design of CCTs

Our current state of knowledge about the impacts of CCTs is mostly restricted to outcomes measured in the short run. We don't know much about whether these programs have impacts on human capital accumulation in the long run.

Exceptions include Behrman, Parker and Todd (2011), Baez and Camacho (2011), Filmer and Schady (2014) and Barham, Macours and Malluccio (2016).³ Some of these studies compare participants with long program exposures (early program entry) to participants with short program exposures (delayed entry). On the whole, these studies find that (longer) program exposure increases educational attainment and the probability of secondary school completion.

Barrera-Osorio, Linden and Saavedra (2016) study the long-term educational impacts of a CCT program for secondary school in Colombia. Unlike all other studies that examine long-term human capital accumulation of CCTs, the authors are able to experimentally compare program beneficiaries with up to eight years of exposure to a pure control group of participants that never received benefits. The paper is also the first to document effects on tertiary enrollment and how these long-term impacts may vary with program design features. An appealing feature of the research design is that these program design features were randomly assigned across project sites, enabling credible causal comparisons of long-term outcomes across the different program conditions.

The authors compared three different payment structures relative to a control group that receives no transfer. The first payment structure was a standard CCT payment that provided a fixed transfer every two months conditional on secondary school enrollment and continued school attendance. In the second payment structure, families were forced to save about one-third of their stipend until the start of the following school year. In the third payment structure, families also received a monetary incentive for secondary school graduation and post-secondary enrollment.

The authors find that traditional payments and the payment structure that forces families to save a portion of the stipend affect long-term educational outcomes. However, unlike traditional payments, forcing families to save a portion of their stipend induces students to enroll in college at higher rates than students in the control condition. Perhaps unsurprisingly, providing monetary incentives for high-school graduation and college enrollment also induces students to enroll in college relative to students in the control condition.

One possible interpretation of the study's results is that low-income families have difficulty saving to pay for future educational outlays. This may be particularly true in the transition to tertiary education, which for many families is a considerable expense. These results shed light on possible revenue-neutral ways in which the design of CCTs can be cost-effectively improved.

³ For a review of long-term impacts in Latin America see Molina-Millan et al. (2016).

4. Impacts on subjective wellbeing

Despite evidence that CCTs help reduce poverty and increase human capital accumulation, it is unclear whether they improve participants' subjective wellbeing. This question is important because, income and other monetary metrics traditionally employed by economists to capture improvements in the quality of life have come under close scrutiny in recent years. While appealing due to relative ease of measurement, these monetary metrics fail to capture fundamental aspects of human life such as freedom, justice and overall life satisfaction. As a result, there is growing consensus on the importance of measuring quality of life as actually experienced by people through metrics such as subjective wellbeing (Stiglitz, Sen and Fitoussi, 2009).

Galama, Morgan and Saavedra (2016) investigate the extent to which Colombia's urban conditional cash transfer program—*Familias en Accion Urbano (FAU)*—improves participants' subjective wellbeing. This is the only study to date that addresses this question using a rigorously causal research design. The authors find that three years into the program, participation increases total household income as well as satisfaction with income. Expenditures on food, satisfaction with food, formal employment and satisfaction with work also increase as a consequence of program participation. However, program participation does not appear to increase overall life satisfaction. This latter finding, in particular, is consistent with the idea that subjective perceptions of wellbeing are likely domain-specific and that subjective evaluation of life as a whole is prone to be a noise measure of wellbeing.

5. The role of conditionality

It is unclear whether CCT impacts on educational outcomes and human capital accumulation are a result of cash transfers or the conditions imposed on families. From a theoretical standpoint, in the absence of educational market failures—such as externalities—conditional transfers are suboptimal policy instruments relative to, say, unconditional transfers. Baird, McIntosh and Ozler (2011) investigate this premise by comparing educational outcomes of girls randomly assigned to receive a conditional transfer and girls assigned to an unconditional transfer. The authors find that girls assigned to the CCT had higher school attendance rates, lower dropout rates, and higher achievement than those assigned to the unconditional transfer.

Evidence from Ecuador and a meta-analysis of conditional and unconditional cash transfers reach similar conclusions. Transfer programs that are explicitly conditional, monitor compliance and penalize non-compliance have significantly higher effects on school enrollment outcomes. (Baird et al., 2014; Schady and Araujo, 2008).

The evidence in favor of imposing conditions on families suggests market failures in education provision in developing countries. Barrera-Osorio et al. (2008) finds evidence consistent with a particular type of market failure: educational externalities. The CCT program studied by Barrera-Osorio et al. (2008) created positive spillovers among school peers: friends of participating students also improved their school attendance. The

program, however, also generated negative spillovers within households, particularly girls. Sisters of participants have lower school attendance and more labor market than sisters of non-participants.

Conditionality and program targeting, however, impose heavy administrative burdens. On the other hand, relative to no-conditions and universality, conditionality and targeting seems to improve educational outcomes and redistribution effectiveness of CCTs. Given this tension between the costs and benefits of conditionality and targeting, one question is whether it is possible to retain at least some of the human capital benefits of CCTs through less onerous program rules.

In the context of a pilot project in Morocco, Benhassine et al. (2013) show that offering a small cash transfer and tying it loosely to the goal of education—without an explicit conditionality—makes the importance of education salient and increases short-term school enrollment even without formal incentives. Adding explicit conditions, in contrast, does not improve school enrollment. These results suggest that a small transfer tied to an educational “nudge” can be considerably more cost-effective than a traditional conditional cash transfer due to lower transfer amounts and reduced administrative costs. It is unclear, however, whether the educational effects of the “nudge” persist in the long run.

6. Conclusion

CCTs have substantially improved the livelihoods of millions of poor people worldwide. Countries with CCTs have lower poverty rates than what would have occurred in the absence of these programs. These programs have similarly succeeded, however modestly, in bringing more children to school and keeping them in school for longer.

Despite demonstrable successes, most countries that have introduced large-scale CCT programs have not succeeded in making schooling universally accessible. In addition, subsequent growth in the scale of these programs has over-stretched thin educational resources in many settings and has magnified the leakage of transfers to non-intended beneficiaries, substantially increasing administrative program costs. As a result, the available evidence suggests that CCTs—despite raising average educational attainment—have not produced learning gains amongst target students.

While conditions matter, other aspects of program design also seem to mediate program effectiveness. In particular, easing educational resource-constraints and helping families negotiate savings restrictions that limit long-term educational investments show promise. Similarly, while the evidence on whether the return to transfer amounts is non-decreasing is mixed, recent evidence shows that small transfers that make education more salient without explicit formal incentives or conditions can be a cost-effective innovation.

Despite much research on the effectiveness of CCT programs worldwide, important outstanding questions remain. These include: how can programs more cost-effectively improve targeting of beneficiaries? Are there ways to graduate households

without creating unintended behavioral consequences? Besides savings and educational nudges, which other revenue-neutral program innovations can make CCTs more cost-effective? How can CCTs simultaneously accomplish increased educational access and learning? To what extent do the benefits of some recent pilot program innovations persist in the long-run and under which circumstances can they be scaled-up and replicated elsewhere?

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