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Evaluating the Impact of Conditional Cash Transfer Programs

Lessons from Latin America

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Abstract

Unlike most development initiatives, conditional cash transfer programs recently introduced in the Latin America and the Caribbean region have been subject to rigorous evaluations of their effectiveness. These programs provide money to poor families, conditional on certain behavior, usually investments in human capital—such as sending children to school or bringing them to health centers on a regular basis. Rawlings and Rubio review the experience in evaluating the impact of these programs, exploring the application of experimental and quasi-experimental evaluation methods and summarizing results from programs launched in

Brazil, Honduras, Jamaica, Mexico, and Nicaragua. Evaluation results from the first generation of programs in Brazil, Mexico, and Nicaragua show that conditional cash transfer programs are effective in promoting human capital accumulation among poor households. There is clear evidence of success in increasing enrollment rates, improving preventive health care, and raising household consumption. Despite this promising evidence, many questions remain unanswered about the impact of conditional cash transfer programs, including those concerning their effectiveness under different country conditions and the sustainability of the welfare impacts.

This paper—a product of the Human Development Sector Unit, Latin America and the Caribbean Region—is part of a larger effort in the region to assess the effectiveness of social protection programs. Copies of the paper are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Maria Colchao, room I7-162, telephone 202-473-8048, fax 202-522-1202, email address mcolchao@worldbank.org. Policy Research Working Papers are also posted on the Web at <http://econ.worldbank.org>. The authors may be contacted at lrawlings@worldbank.org or gm_rubio@alumni.princeton.edu. August 2003. (25 pages)

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DRAFT FOR COMMENTS

Evaluating the Impact of Conditional Cash Transfer Programs: Lessons from Latin America

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I. Introduction

Conditional cash transfers (CCT) are part of a new generation of development programs that seek to foster human capital accumulation among the young as a means to breaking the inter-generational cycle of poverty. As their name implies, conditional cash transfers provide money to poor families conditional upon investments in human capital such as sending children to school or bringing them to health centers on a regular basis. This reliance on market principals, using demand-side interventions to directly support beneficiaries is a marked departure from traditional supply-side mechanisms such as general subsidies or investments in schools, health centers and other providers of social services.

Conditional cash transfer (CCT) programs aimed at improving children's human capital have been established in numerous countries in recent years, particularly in Latin America and the Caribbean. Mexico launched the *Programa de Educación, Salud y Alimentación (PROGRESA¹)* in 1997, the first large scale CCT program in the region. Brazil has the *Programa Nacional de Bolsa Escola and Programa de Erradicação do Trabalho Infantil*, (PETI), Colombia the *Familias en Acción* program (FA), Honduras the *Programa de Asignación Familiar* (PRAF), Jamaica the Program of Advancement through Health and Education (PATH), and Nicaragua the *Red de Protección Social* (RPS).

The implementation of conditional cash transfer programs has been accompanied by systematic efforts to measure their effectiveness and understand their broader impact on households' behavior, a marked departure from the limited attention that has been paid to rigorous impact evaluations in the past.² This paper reviews the experience in evaluating the impact of CCT programs in the Latin America and Caribbean region, exploring the application of experimental and quasi-experimental methods in the cases outlined above. Based on a review of the methodologies applied and evaluation results generated up to 2002, we draw brief conclusions about the welfare impact of this type of program, explore how these evaluations have been used to inform policy decisions and provide ideas for the future direction of evaluations of social sector programs.

The following section presents a brief overview of CCT programs in Latin America. Next, we focus on a subset CCT program evaluations that are at a more advanced stage of implementation and examine the main issues in their evaluation design and application. This review draws from program documents provided by CCT administrators, as well as evaluation reports produced by contracted research institutions. We proceed to analyze the

¹ In March 2002, *PROGRESA* changed its name to *Oportunidades* and introduced several changes to its objectives and operational features, including an expansion to urban areas. Given the recent nature of this change, and thus, the limited experience with the renewed program, this paper will concentrate primarily on examining the original *PROGRESA* program.

² From 1998 to 2000, an annual review of World Bank projects was conducted across regions and sectors to analyze the quality of impact evaluation plans incorporated into the project appraisal process. Although the percentage of projects that include comprehensive evaluation plans doubled over these years, the review revealed that only 10% of projects had adequate plans for a rigorous impact evaluation (World Bank 2001b).

evaluation results and their use to inform policy decisions, and before concluding, discuss expected new insights from forthcoming evaluations.

II. Conditional Cash Transfer Programs Overview³

Each of the CCT programs reviewed in this paper identifies human capital accumulation among poor or vulnerable families as its central objective, but the programs vary with respect to other objectives such as reducing current poverty, lessening child labor and providing a social safety net during crises. CCT programs vary also according to the inclusiveness of their objectives, with some adopting an integrated approach to human development while others focus on achieving specific outcomes among identified population groups such as working children (Table 1).

Education and Health Components

Most programs have two components: an education component and a health/nutrition component. The education component consists of a cash grant targeted to primary school-age children. In countries with higher educational attainment such as Mexico, Colombia and Jamaica, this component also seeks to benefit secondary school-age adolescents (Table 1). The receipt of education grants (and in some cases cash or in-kind support for school materials) is conditioned on school enrollment and regular school attendance (usually 80-85% of school days). Given its objective of reducing child labor, Brazil's PETI also requires participation in an after-school program.

The methodology applied to calculate the size of educational grants varies considerably across countries (see Table 2). In Mexico and Honduras, the education grant covers both direct costs (school fees, school supplies, transportation costs, etc.) as well as opportunity costs derived from the income lost as a result of sending children to school rather than work. In lower income countries, the grant size generally covers only part of the opportunity cost. In Colombia and Mexico educational grants for secondary school are higher than for primary school to reflect the increasing opportunity cost of work as children grow older. In Mexico, grants at the secondary level are higher for females to provide an added incentive for reversing a pattern of unequal gender participation in secondary education and to internalize education externalities that accrue as they raise families of their own (Skoufias, 2001).

Health and nutrition grants are targeted to newborn children up to the age of 2 or 3, and in some cases, children up to the time they enroll in primary school. In Honduras, Jamaica and Mexico, pregnant and lactating women are also among program beneficiaries. This component consists of a cash transfer aimed at food consumption, as well as health care and nutrition education for mothers. In Nicaragua and Mexico, this component explicitly stipulates the provision of a basic health care package for the target household members. Receipt of the cash transfer is conditional on compliance by participating household members with a pre-determined number of health center visits and health and nutrition

³ For a more in-depth description of CCT programs see Ilahi, et al. 2000, Legovini and Regalia 2001 and Morley and Coady 2003.

workshops.⁴ Children's health care visits are linked to growth monitoring and, often, vaccination protocols. Health care visits for pregnant and lactating women seek to ensure appropriate prenatal, childbirth and puerperal care. In Mexico and Jamaica adult household members other than pregnant and lactating women are also required to get a check-up once or twice per year (see Table 2).

As shown in Table 2, the value of the monthly cash grant per family for the health and nutrition component varies across countries. In Honduras, for example, researchers calculated the value of the nutrition and health voucher as equivalent to the value of the time invested by the mother during the trip and waiting at the health center. In Jamaica, the health grant per beneficiary per month was set at the same level as the education transfer (US\$9) which is twice the monthly expenditure per person in 1999 on health care and medicine. In Colombia, the amount of the health and nutrition grant was set equivalent to the mean income required to allow an average indigent family to reach the extreme poverty line whereby they were able to consume a nutritiously adequate amount of food.

Supply Side Support

In some countries CCT programs go beyond providing demand-side monetary incentives to families by strengthening the supply of these services. In Nicaragua, teachers receive a modest bonus per child participating in the program, half of which is intended to pay for school materials. In addition, NGOs are contracted to provide health services. In Mexico, resources are set aside to cover the costs of additional health services demanded due to the program and ensure an adequate supply of equipment, medicines and material. In Honduras, the CCT program provides grants directly to schools and health centers as part of an experiment designed explicitly to compare the effectiveness of three alternative interventions combining demand and supply incentives.

Poverty Targeting

Targeting the poor or vulnerable is a critical feature of each reviewed CCT program. Most rely on both geographic and household level targeting, with the specific targeting mechanisms utilized depending primarily on the type of data available (Table 3).

To carry out geographical level targeting, Jamaica collects annual consumption data that provide poverty incidence figures at the parish level. PATH utilizes these data to allocate program funds across parishes and to construct a scoring formula to identify poor households. In Mexico eligible communities in rural areas are selected using a marginality index based on census data, while in Honduras the Height Census of First Grade School Children provided data on the level of malnutrition is used to select program municipalities. In most countries, the criteria applied to select which communities will receive the CCT program also includes a consideration of the supply capacity to respond to the increased demand in health and education services.

⁴ In Nicaragua, at the outset of the program there was a rule that families would lose their grant if there was not adequate weight gain for malnourished children but this was dropped after the first year of operation.

At the household level, many programs are experimenting with proxy-means tests that estimate households' poverty levels as a criteria for program participation (Table 3). In Nicaragua, the results of household-level proxy means tests are being compared to results from doing geographic targeting alone. Other countries are taking advantage of economies of scale in the use of proxy means tests. In Colombia, household eligibility is based on an existing information system managed by municipalities (*Sistema de Selección de Beneficiarios para Programas Sociales*, SISBEN). This system identifies potential beneficiaries of social programs by classifying households according to an unmet basic needs index and other indicators such as average household schooling that serve as income proxies. It has been used primarily to identify eligible beneficiaries for the subsidized health regime, but its use is now being expanded to a variety of social sector initiatives, including the CCT program. In Jamaica the government is planning to expand the use of the scoring formula developed for the PATH to other safety net programs to avoid duplication of administrative systems and increase coordination across programs.

In some countries beneficiaries' eligibility is reviewed periodically. In Mexico and Jamaica, households' poverty status is re-evaluated every three years to determine their continuation in the program. In Nicaragua, the RPS is designed to last three years in a beneficiary community, after which the cash transfers will be phased out, keeping only the supply intervention for two more years without a re-assessment of eligibility.

Conditional Cash Transfer Programs' Growing Poverty Alleviation Role

As reflected by the number of beneficiaries and budget allocations, CCT programs are playing an increasingly important role in many countries' poverty reduction strategies. Mexico's PROGRESA began operations in 1997 covering 300,000 households in more than 5,000 communities. In 2002, the program reached more than four million families, representing 20 percent of the Mexican population. The program's 2002 annual budget was around Mex\$18 billion (US\$1.8 billion). In Brazil, *Bolsa Escola* program was first implemented in the mid-nineties in Campinas and Brasilia. By the end of 2001, it had evolved into a national program covering 4.8 million families in 5,469 municipalities. In Jamaica, PATH is a key element of the government's initiative to transform the social safety net into a fiscally sound and more efficient system of social assistance for the poor and vulnerable. It aims to consolidate three major income transfer programs into one, improve targeting measures, improve the cost-effectiveness of delivering benefits and adjust benefit levels to assessed needs. In Colombia, the CCT program is the flagship program of the three safety net programs introduced in 2001 to provide relief in the face of Colombia's recession. The CCT program is designed to run through 2004 with a budget of US\$455 million and is expected to reach over a million beneficiary children.

III. Evaluation of CCT Programs: Design and Implementation

This section reviews the evaluation strategies applied in the first generation of CCT programs in Brazil, Honduras, Mexico and Nicaragua. Each of these programs prioritized

the early use of robust evaluations as a key element for informing program design and expansion. Except for Brazil's PETI, each used randomized control designs as the primary evaluation methodology underpinning a fairly large-scale social experiment, carefully planned well in advance with strong support from program staff and policymakers.

The first generation of CCT evaluations aimed at assessing program impact and operational performance by examining: (1) the adequacy of CCT programs' administrative processes; (2) the extent to which CCT programs reach poor areas and poor households; (3) the existence and size of expected impacts; (4) any unanticipated effects; (5) beneficiaries and other stakeholders' perceptions about the program and; (6) the cost-effectiveness of program delivery mechanisms.

Measuring Program Impacts

The impact evaluations of early CCT programs have focused primarily on measuring changes in short and medium term indicators of human capital accumulation. In education, evaluations include an assessment of changes in school enrollment and attendance rates. In some cases, they also analyze changes in promotion and repetition rates. PRAF and PROGRESA go beyond outcome indicators and attempt to measure changes in impact indicators such as average test scores. In addition, given the PRAF evaluation objective of comparing the impact of supply and demand side interventions, evaluators will examine changes in the availability and quality of education inputs such as the percentage of teachers trained and the percentage of schools with basic teaching materials.

In health and nutrition, the evaluations included a wide range of utilization and quality of health care indicators. Variations across programs in the target population of the health and nutrition component are reflected in the diverse selection of child, maternal or adult health indicators. Child health indicators typically include participation rates in child growth and development monitoring, diarrhea incidence, vaccination coverage, and malnutrition rates. Maternal health indicators include utilization rates and satisfaction with pre and post-natal care. Honduras' PRAF evaluation attempts to measure final program impacts by analyzing changes in maternal and infant mortality.

Changes in consumption levels and patterns are also central to many CCT evaluations. Total consumption per capita disaggregated by food and non-food items such as health and education spending is frequently used as an indicator in the evaluations. In addition, given the implicit objective of reducing current poverty, Mexico's PROGRESA evaluation investigates the impact of cash transfers on the poverty headcount ratio, poverty gap and poverty severity index.

Eliminating harmful forms of child labor is an explicit objective of Brazil's PETI program. The program evaluation assesses this objective by looking into indicators such as child participation in the labor force, number of hours worked and employment in risky activities. Although not an explicit objective of the program, the PROGRESA evaluation

examines the impact on child labor by studying changes in household members' time allocation.

Development programs often have direct and indirect effects other than those specified in their objectives. Some of the CCT evaluations have analyzed these and other additional impacts. For example, the distribution of cash grants directly to mothers may have an effect on both intra-household resource allocations and power relations. Likewise, program cash transfers may crowd out remittances and other private transfers received by the households. Cash transfers may also have an impact on household work incentives and household level targeting may affect community relations when some, but not all, members of a community receive program benefits.

Evaluation Design

Measuring program impacts consists of assessing causality by determining whether a program changes the mean value of an outcome variable among participants, compared to what they would have experienced had they not participated. Thus, the central problem in impact evaluation arises from the fact that program participants cannot be simultaneously observed in the alternative state of no participation, i.e. the counterfactual situation. Evaluators typically simulate the counterfactual by comparing program participants (the treatment group) with a control or comparison group with similar characteristics, especially those relevant to program participation. The construction of the counterfactual determines the evaluation design, which can be broadly classified into two categories: experimental and quasi-experimental. These evaluation designs vary in feasibility, cost, and the degree of clarity and validity of results.

Experimental or randomized control designs involve the random assignment of individuals (or another unit of analysis) into those who receive the intervention (treatment group) and those from whom the intervention is withheld (control group). Since program participants are selected randomly, any difference with the control group is due to chance, not selection. For this reason, experimental designs are usually regarded as the most reliable evaluation method and the one yielding the easiest-to-interpret results (Freeman and Rossi, 1993; Grossman, 1994). When randomization is not feasible, a quasi-experimental design can be constructed by generating a comparison group through alternative means. Statistical matching is commonly used to select non-program participants comparable in essential characteristics to participants, on the basis of observable characteristics.

The first generation of CCT evaluations took advantage of the gradual implementation of these programs in order to randomly incorporate beneficiaries as the program expanded, taking advantage of the opportunities provided by logistical complexities, fiscal constraints and uncertainty about the magnitude of program impacts⁵. This approach reflected pragmatism and a desire to rigorously explore the impact of these new programs, leading

⁵ For example, to increase its coverage of rural areas, Mexico's PROGRESA expanded progressively in eleven phases from August 1997 to early 2000. In Nicaragua, the RPS started with a 2-year pilot phase in two departments (Madriz and Matagalpa), whereas in Honduras, funding availability limited the implementation of PRAF to a subset of municipalities.

to the explicit use of random assignment as the program expanded to generate an experimental design.

Most first generation CCT evaluation designs rely on random allocation of program benefits by geographic area (see Table 5). The broader geographic nature of some of the CCT program components such as improvements in the supply of health and education services along with the difficulties of having both treatment and control groups in the same community made randomization at the household level unpractical. In PROGRESA, evaluators randomly assigned localities into the treatment and control group. Treatment localities entered the program in November 1997 as part of phase II, while control localities were scheduled to enter the program in later phases. By December 2000, control localities started receiving PROGRESA benefits.

In Honduras and Nicaragua, randomization was implemented at the municipal and census area level respectively. In Honduras, the evaluation objectives required three different treatment groups to compare the impacts of different combinations of demand and supply incentives. Allocation by municipalities was the preferred option for randomization given their well-defined borders and the feasibility of linking each household, school or health center with a particular municipality. Program municipalities were selected using data from the School Height Census. A subset of municipalities was randomly assigned during a public event to one of four evaluation groups: G1 (demand vouchers), G2 (vouchers plus improvements in service quality), G3 (improvements in service quality only), G4 (control group). RPS in Nicaragua followed a similar process randomizing census areas into treatment and control groups.

In contrast to the other programs, PETI followed a quasi-experimental design. Since the universal implementation of the program was deemed too costly, it was first installed only in a few municipalities in the state of Pernambuco, and later expanded to other states including Bahia and Sergipe. In this case however, the evaluation was planned after the program started and it was not possible to randomly allocate the municipalities into treatment and control groups. Instead, the treatment group was composed of three participating municipalities in separate states, and the comparison group of three similar municipalities not in the program.

Data Collection

Early planning of most CCT evaluations allowed for the application of experimental designs and the collection of baseline data. This has permitted the collection of repeated observations from households in the treatment and control groups before and after program implementation. By examining changes over time within treatment and control households, the evaluation accounts for characteristics that do not change over time within treatment and comparison households, as well as for characteristics that change over time and are common to both groups. Random assignment into treatment and control groups, combined with the collection of baseline and follow up data allows difference-in-differences

estimators to be applied to measure program impact. Except for PETI, all first generation CCT evaluations have baseline data collected before program implementation.⁶

All CCT evaluations rely on household surveys as their main data collection instrument. Each questionnaire contains a core set of questions about the demographic composition of the households; household expenditures and remittances; and the socio-economic status, education, health, migration and labor market participation of household members. Other modules such as anthropometrics (height and weight), fertility, participation in other programs and time allocation are included only in some country questionnaires. In Honduras, the household survey questionnaire also incorporates two modules on the quality of health services and schools to evaluate the supply-side component of PRAF.⁷

School and health centers surveys and community questionnaires are also frequently used for evaluation. In Honduras and Mexico, student achievement test scores were applied to analyze program impact on academic performance. Beneficiaries and other stakeholders' perceptions about the program are often captured through qualitative studies. As part of the operational evaluation of the program, PROGRESA conducted semi-structured interviews with secondary school and health clinic staff, as well as focus group discussions with beneficiaries, non-beneficiaries, and community mothers who serve as local contacts for PROGRESA.

Qualitative studies have also been used to complement impact evaluations in Nicaragua. They included two parts: a study on perceptions of the program's social impact and a study on perceptions of the poverty targeting mechanism. The former is aimed at assessing beneficiaries' perceptions of the program's impact on welfare. It includes a beneficiary survey; focus groups discussions with beneficiaries and community mothers; key informant interviews with representatives from the ministries of health and education, the mayor's office, health care providers, NGO's, and local program office staff; and 6 case-studies of beneficiary families in different municipalities. The qualitative targeting assessment includes surveys and focus group discussions with beneficiaries and non-beneficiaries, as well as key informant interviews.

Implementation Issues

The application of social experiments poses a number of challenges at each stage of implementation. Experience to date in the evaluation of CCT programs reveals two

⁶ The RPS has completed follow up measurements after one and two years of program implementation and plans to conduct a third one once demand incentives are eliminated and only the supply intervention remains. Including the baseline, PROGRESA has six rounds of panel data in rural areas collected every six months. For PRAF, evaluators planned to follow up after one and two years of program implementation (see Table 5).

⁷ Although it is not strictly part of the evaluation, a census was conducted in the evaluation areas in some countries. In Mexico, it collected data to determine household eligibility. In Honduras and Nicaragua, it generated a beneficiary registry and a household listing to draw a representative sample of households in treatment and control areas, and provided information to simulate the inclusion and exclusion errors resulting from a proxy-means test targeting mechanism.

particular issues: the difficulty of coordinating the impact evaluations with the program implementation schedule, and the challenge of fostering the political support required to achieve a successful impact evaluation. Delays in program implementation occur often when implementing new programs that are logistically complex such as CCT programs. Likewise, changes in the political arena such as forthcoming political elections or changes in program administration may affect the implementation schedule, and sometimes the integrity of program design itself. Moreover, unexpected events such as recent flooding in Jamaica can also alter the program implementation schedule. Such events can effect the evaluation in a number of ways. For example, in Nicaragua, baseline data was collected during August/September 2000 and follow up data collection was scheduled during the same months a year later. However, coordinating the health care providers took longer than expected and the health component did not start until June 2001. Thus, evaluators had to postpone follow-up data collection until October. Although having a control group helps in this kind of situation, the use of panel surveys conducted at different times during the year may cause problems due to the confounding nature of seasonal effects.

Problems can also occur due to delays in developing the program Management Information System (MIS). This delay may cause deficiencies in the delivery of program benefits to go undetected, and thus, unaccounted for in the evaluation. In Mexico, PROGRESA payment records revealed that 27% of the total eligible population in the evaluation sample had not received any benefits after almost two years of program operation. This can cause a divergence between the “intention to treat” effect estimated by the evaluation and the mean effect of the program on those who actually received the benefits of the program.⁸

Finally, as revealed by the experience of PROGRESA and PRAF, implementing impact evaluations requires strong political support, particularly when a randomized control design is proposed. The incorporation of a control or comparison group in the evaluation can generate strong criticism, with attendant political and media pressure to extend program benefits to non-participants. Thus, one of the lessons from the first generation of CCT evaluations is the need to secure a solid commitment from policymakers to maintain the integrity of the program and evaluation designs. It is also important to effectively communicate the benefits of random allocation when budget constraints prevent reaching all eligible beneficiaries at once.

IV. Evaluation Results and Impact on the Ground

Evaluation results are available for PROGRESA in Mexico, PETI in Brazil and the RPS pilot in Nicaragua. These evaluations reveal that conditional cash transfers can provide effective incentives for investing in the poor’s human capital. In education⁹, CCT

⁸As discussed in Skoufias 2001, the use of the PROGRESA eligibility variable for program evaluation allows the evaluators to estimate the “intention to treat” effect. To the extent that not all eligible households actually receive program benefits, the “intention to treat” effect underestimates the program mean effect on actual program beneficiaries.

⁹For a comprehensive discussion of education impacts see Schultz, 2000a-c; Behrman, Sengupta and Todd, 2000; and IFPRI, 2002a.

programs have demonstrated a positive effect on enrollment rates for both boys and girls. In Mexico, primary school enrollment rates before PROGRESA were between 90 and 94 percent. Estimates of program impact controlling for household and community characteristics range between 0.74 and 1.07 percentage points for boys and 0.96 to 1.45 percentage points for girls (see Table 6). At the secondary level, baseline enrollment rates were 67 and 73 percent for girls and boys respectively. Estimates of program impact for girls range from 7.2 to 9.3 percentage points and from 3.5 to 5.8 for boys. In Nicaragua, program impacts are even more impressive (see Table 7). Average enrollment rates in treatment areas increased nearly 22 percentage points as a result of the program from a low starting point of 68.5 percent. Program impact on attendance rates are mixed. In Nicaragua, the evaluation indicates a higher impact on attendance than on enrollment rates; the RPS produced an increase of 30 percentage points in the percentage of children who had less than 6 unexcused school absences in a two-month period. By contrast, the evaluation of PROGRESA showed more pronounced effects on enrollment than on attendance rates.

Conditional cash transfers are also effective in reducing child labor. In Mexico, the CCT program reduced the probability of working among aged 8 to 17 by 10 to 14% relative to the level observed prior to the program. The impact is higher for boys aged 12 to 13 years old: a 15 to 20% reduction in the probability of working relative to the level prior to the program, but no significant reduction was found for boys aged 16 to 17. For girls, there was also a significant reduction in the probability of working despite their overall lower participation in the labor market (Parker and Skoufias, 2000). In Brazil, the evaluation shows that as a result of participating in the PETI program, the probability of working fell between 4-7 percentage points in Pernambuco, close to 13 percentage points in Sergipe and nearly 26 percentage points in Bahia which has the highest child labor force participation rate in Brazil – 38 percent of children aged 7 to 14 (Yap, Sedlacek and Orazem 2001). Moreover, PETI also decreased the probability of children working in higher risk activities. Nonetheless the program is less successful in limiting the probability of working 10 hours or more. Another interesting result is that even though the after-school program was available to all households in PETI municipalities, only children in households that received the cash transfer spent significantly more time in school. This suggests that demand incentives may have an important role in accelerating behavioral changes.

Child health and nutrition has also improved as a result of CCT programs. The PROGRESA evaluation shows a significant increase in nutrition monitoring and immunization rates. Infants under three years old participating in PROGRESA increased their growth monitoring visits between 30 to 60 percent, and beneficiaries aged 0 to 5 had a 12 percent lower incidence of illness compared to non-PROGRESA children (Gertler, 2000). In addition, the data suggest that PROGRESA has had a significant impact on increasing child growth and lowered the probability of child stunting for children aged 12 to 36 months old (Behrman and Hoddinott, 2000). In Nicaragua, even greater improvements were generated by the CCT program. Approximately 60 percent of children less than 3 years old participated in nutrition monitoring before the RPS was implemented. After a few months of program operation, more than 90 percent of children in RPS areas benefited from nutrition monitoring compared to only 67 percent in control areas. In terms

of immunization rates, the RPS increased timely immunization among children 12-23 months old by 18 percentage points (IFPRI 2002a).

Consumption levels have also improved as a result of participating in CCT programs. In Mexico, the average consumption level of PROGRESA households increased by 14 percent, and median food expenditures after just over a year of program operation were 11 percent higher compared to non-PROGRESA households. The increase in household consumption is in large part driven by higher expenditures on fruits, vegetables, and animal products. Median caloric acquisition in PROGRESA households increased by 7.8 percent (Hoddinott, et. al. 2000). In Nicaragua, control households experienced a sharp decline in consumption due in part to low coffee prices and a drought, whereas the average per capita annual household expenditures in RPS areas did not change (IFPRI 2002a). The net program impact translates into a 19 percent increase in per capita consumption and suggests that CCT programs may help poor people protect consumption in times of crisis, a risk management role worthy of further analysis.

In Mexico, the evaluation revealed that CCT investments are delivered in a cost-effective manner. As discussed in Coady 2000, the administrative costs of delivering cash transfers to poor households appear to be small relative to the costs of previous Mexican programs as well as to targeted programs in other countries. For every 100 pesos allocated to the program 8.9 pesos are absorbed by administrative costs. The largest components are the costs associated with targeting at the household level (nearly 30 percent), followed by the costs associated with conditioning the receipt of transfers (26 percent).

Political Economy

All three programs started with partial country coverage and have since expanded to other areas. The impact evaluations applied in Mexico and Nicaragua's CCT programs have triggered some program modifications, guided program expansion decisions, allowed the programs to survive changes in political administrations and generated interest in replicating these programs internationally. In Mexico, whereas PROGRESA was first limited to rural areas, the program's positive impacts helped prompt its expansion into urban areas. Moreover, the program has continued with relatively few alterations despite a change in government. Likewise, the continuation and expansion of the RPS in the face of change in government in Nicaragua was related to the program's achievement of a set of targets measured by the impact evaluation. The RPS evaluation showed that the program had met most of its targets and in many cases performed far better than anticipated, a finding that triggered new negotiations for program expansion.

Few development initiatives have been evaluated as rigorously as CCT programs. This has opened a debate on whether other programs with similar objectives would have performed better or worse had they too been evaluated. It has also fueled a debate about the concurrent need for promoting income generating activities among poor households. This may be seen as a natural complement and necessary condition for the sustainability of human capital investment of future generations. However, it is far from obvious that CCT programs themselves should take on this additional objective. It may well be that a better solution is to focus on the creation or strengthening of separate income generation

programs, while ensuring adequate coordination with CCT and other poverty reduction programs. So far, the tendency in Mexico as well as Nicaragua has been to expand the mandate of CCT programs to include training and other activities to promote income generation. Fortunately, both programs are planning to conduct an impact evaluation that will help inform the current debate.

V. Forthcoming Evaluations: Expected New Insights

A new round of CCT programs has recently started operating in Colombia, Jamaica and urban areas of Mexico. This second generation of CCT programs is being implemented under considerably different circumstances than the earlier programs. First, they have benefited from the operational experience accumulated by the first generation. Thus, although logistical aspects are always demanding, they are less daunting. Second, evidence of program impacts from the first generation has reduced the uncertainty of program results, and thus the need for small-scale prior experimentation and a strictly phased-in implementation approach. Finally, the socio-economic and political context in some of these countries is particularly pressing. As a result, their implementation plans include a nation-wide expansion in a relatively short time. FA in Colombia and PATH in Jamaica, for example, have had short pilots (6 months long) mostly to test the proper functioning of program processes, which have been rapidly followed by nationwide expansion.

Consequently, evaluation activities vary with respect to the first generation and new methodologies are being tested. Program pilots include only a process evaluation, whereas an impact evaluation is planned for the full-scale program. Randomized evaluation designs are more challenging when evaluating nation-wide program. Hence, the second generation of CCT programs relies on quasi-experimental evaluation designs, specifically matching methods.

In Jamaica, two alternatives are being considered for selecting a comparison group. The first one relies on a technique called propensity score matching. This technique involves predicting the probability of program participation for non-program participants based on their socio-economic characteristics and constructing a comparison group among those with a participation probability closest to program beneficiaries. The second alternative takes advantage of the proxy means test used for beneficiary selection and constructs a comparison group using those households who applied to the program but were not selected because they fell above the cut-off point in the scoring formula. Presumably, on average, households immediately above the cut-off point are very similar to program beneficiaries and can serve as a comparison group.

A similar approach will be used in the *Oportunidades* evaluation in urban areas of Mexico and will be complemented by a second comparison group drawn from eligible households in non-intervention areas, selected through propensity score matching techniques.

In Colombia, municipalities who applied to the program are classified as “green” if they meet all the selection criteria (see Table 3) or “yellow” if they fail to satisfy one or more

criterion. Evaluators plan to construct a comparison group from yellow municipalities who failed to meet criteria believed not to be relevant to program outcomes such as failure to deliver all required paperwork or having a bank in town.

By relying on quasi-experimental designs, second generation evaluations are politically less sensitive and also less demanding in terms of implementation. However, the results are likely to be less robust and transparent than those generated by carefully planned experimental designs. In addition, given the rapid expansion to national scale of these programs, there is less control over the timing of the implementation schedule and a greater need for flexibility in the evaluation plans. In Colombia, for example, some of the municipalities in the treatment group received the first payment before baseline data were collected. This prompted changes in the sampling frame of the evaluation, the inclusion of retrospective questions in the survey questionnaire and the use of additional econometric techniques to control for possible non-random selection of early participating municipalities. Fears of potential contamination of the comparison group are present in the second generation of CCT programs. In Jamaica, the option of using the households just above the cutoff point established by the proxy means test for constructing a comparison group faces the risk of contamination from premature incorporation of households into the program due to changes in the cut-off point established in the scoring formula for the proxy means test.

These evaluations address many of the same core questions regarding program impacts on school attendance, health care utilization and consumption that will help confirm the cross-program robustness of earlier results. They will also analyze new questions prompted by particular program objectives in each country, and to some extent, by a conscious effort to increase the global body of knowledge of CCT programs. In Jamaica, for instance, the evaluation plans to assess program impacts on school age adolescents, specifically teenage pregnancy and involvement in violent acts. In Honduras, the evaluation will focus on the relative importance of supply and demand factors in increasing human capital as well as program impacts on maternal and child mortality rates. In Colombia, the implementation of the CCT program as one of three emergency safety net programs will allow for a cross-program comparison of the relative effectiveness of CCT, workfare and training programs in achieving particular outcomes. Finally, in Mexico, the evaluation will examine the results of a new educational savings program that sets up a savings account for *Oportunidades* students that can be accessed upon graduation.

VI. Conclusions and Recommendations for the Future

In contrast to many development programs, the recent expansion of conditional cash transfer programs throughout the Latin America and Caribbean region is based on fairly solid evidence of program impact. Evaluation results from the first generation of CCT programs in Brazil, Mexico, and Nicaragua show that they are an effective means for promoting human capital accumulation among poor households. In particular, there is clear evidence of program success in increasing enrollment rates, improving preventive health care and raising household consumption. These evaluation results have provided policymakers with empirical evidence on efficiency and effectiveness, allowing for

programs to be scaled up geographically and expanded to new population groups and for policy design adjustments to be implemented.

The next generation of evaluations is underway. These evaluations will build on the existing body of knowledge of CCT programs by providing evidence regarding the medium-term impact of existing programs, the value of new elements being introduced as part of existing programs, and the impact of new CCT programs in Jamaica, Colombia and urban areas of Mexico. These evaluations will confirm or challenge existing evidence, shed light on questions of sustainability and medium-term impacts, and provide policymakers with a better understanding of program impacts given alternative combinations of program inputs and different regional circumstances. These results will be useful to understanding the capacity of CCT programs to fulfill the new demands imposed on them, and ensure that these do not interfere with the achievement of the program's original and primary objectives.

Even when evaluations of the new generation of CCT programs become available, some fundamental questions will remain unanswered about the effectiveness of CCT programs, including those concerning the long-term sustainability of behavioral changes, long-term welfare impacts, synergies between different program components, and trade-offs between transfer size and number of beneficiaries. There is also a need to assess the effectiveness of CCT programs as both a permanent institution for addressing chronic poverty and a temporary instrument for addressing vulnerability.

There is also a growing need for continued improvements in the development and application of evaluation instruments. Ex-ante evaluations simulating program impacts through econometric modeling are being applied to conditional cash transfer programs, providing opportunities to explore the anticipated impacts of program design alternatives such as transfer sizes and eligibility criteria. Although not a substitute for impact evaluations, these tools can be very useful, particularly at the program design stage. There is also a need to improve results-based monitoring and evaluation systems as a foundation for effective program management, and a need for cross-program evaluations to explore the development effectiveness of alternative programs and policies.

The benefits of individual program evaluations go far beyond country boundaries and constitute a global public good. The experience of CCT programs in Latin America shows the critical role of evaluations in shedding light on success and failure in the fight against poverty; the evaluations also contributed to the demonstration effect of CCT programs which have been reproduced in several countries in Latin America, as well as in Turkey. Conversely, caution should be applied in assuming that positive evaluation results from a handful of countries can be replicated in other areas, especially areas facing supply constraints in health and education or where the capacity to administer a CCT program would be limited. Nor do the positive results from one program imply that the evaluated program is necessarily the best approach to achieving a particular outcome. Ideally, program evaluations would compare alternative interventions for achieving a similar objective to determine the most effective and efficient approach.

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Table 1. Objectives, Components and Target Population of CCT Programs in Latin America and the Caribbean

Program	Objectives	Components			Target population	
		Education	Health and Nutrition	Education	Health and Nutrition	
Bolsa Escola, Brazil	<ol style="list-style-type: none"> Increase the educational attainment of school-age poor children Reduce current and future poverty 	<p>Cash grants</p>		Poor children 6-15		
PETI, Brazil	<p>Eradicate the worst forms of child labor (i.e. those involving a health risk), while increasing educational attainment and reducing poverty.</p>	<p>Income transfer</p> <p>After-school program</p>		Children 7-14		
Familias en Acción, Colombia	<ol style="list-style-type: none"> Increase the human capital investment among extreme poor families Serve as a safety net 	<p>Bi-monthly school subsidy</p>	<ol style="list-style-type: none"> Nutrition subsidy Health education 	Poor households with children 7-17 enrolled in school (2 nd - 11 th grade)	Poor households with children 0-6 not participating in other programs	
PRAF II, Honduras	<p>Increase the accumulation of human capital among children of the poorest families and thereby help to break the circle of poverty.</p>	<ol style="list-style-type: none"> Demand incentives (educational voucher) Supply incentives for primary schools <p>Education grant</p>	<ol style="list-style-type: none"> Demand incentives (nutrition and health voucher) Supply incentives for health care centers Nutrition training for mothers 	Poor households with children 6-12 who have not yet completed the 4 th grade of primary school	Poor households with pregnant women and/or children under three	
PATH, Jamaica	<ol style="list-style-type: none"> Increase educational attainment, improve health outcomes, and thus reduce poverty. Reduce current poverty Reduce child labor Serve as a safety net 	<p>Education grant</p>	<ol style="list-style-type: none"> Health grant Health education 	Poor households with children 6-17	Poor households with children 0-5; pregnant and lactating women; elderly over 65; persons with disabilities; and destitute adults under 65.	
PROGRESA¹⁰ Mexico	<p>Improve the educational, health and nutritional status of poor families, particularly children and their mothers</p>	<ol style="list-style-type: none"> Educational grants Support for school materials Strengthening the supply and quality of education services 	<ol style="list-style-type: none"> Cash grant for food consumption Basic health care services package Nutrition and health education Improved supply of health services Nutrition supplements 	Poor households with children 8-18 enrolled in primary (1 st to 3 rd grade) and secondary (3 rd grade and higher) school ¹¹	Cash grants are targeted to poor households while nutrition supplements are targeted specifically to pregnant and lactating women, children 4-24 months old and malnourished children 2-5 years old.	
Red de Protección Social Nicaragua	<p>Promote human capital accumulation among households living in extreme poverty</p>	<ol style="list-style-type: none"> Education grant Support for school materials Supply incentive 	<ol style="list-style-type: none"> Cash grant for food Nutrition and health education Basic health care package for children under 5 Supply incentive 	Poor children 6-13 enrolled in primary school grades 1 st to 4 th	Cash grants are targeted to poor households; health care services are targeted to children 0-5	

¹⁰ In March 2002, PROGRESA changed its name to *Oportunidades* and broadened its objectives. The renewed program aims to create income generating opportunities for poor households through preferential access to microcredit, housing improvements and adult education.

¹¹ Since 2001, students up to 20 years old enrolled in high school are also eligible for education grants

Table 2. Conditionality and Transfer size of CCT Programs in Latin America and the Caribbean

Program	Conditionality ¹²		Transfer size	
	Education	Health and Nutrition	Education	Health and Nutrition
<i>Bolsa Escola</i> , Brazil	At least 85% school attendance in a 3-month period		Local Currency R\$15 - R\$45 (US\$6-19) per family	Local Currency
PETI, Brazil	At least 80% school attendance and participation in the after-school program <i>Jornada Ampliada</i>		Varies across states between \$R25-39 (US\$11-17) per child per month ¹³	
<i>Familias en Acción</i> , Colombia	At least 80% school attendance in a 2-month cycle	Regular health care visits for child's growth and development monitoring	Primary: Col\$14,000 (US\$6) per child per month Secondary: Col\$28,000 (US\$12) per child per month	Col\$ 46500 (US\$20) per family per month
PRAF II, Honduras	School enrollment and maximum 7 days of school absence in a 3-month period.	Compliance with the required frequency of health center visits	Educational voucher: L\$ 828 (US\$58) per child per year Average supply incentive: L\$57,940 (US\$4,000) /school/year J\$500 (US\$9)/child/mo ¹⁴	Health voucher: L\$660 (US\$46.3) per family per year Avg. supply incentive L\$87,315 (US\$6,020)/facility/year J\$500 (US\$9) per eligible household member per month ⁷
PATH, Jamaica	Minimum school attendance of 85% (maximum 9 days of school absence per ter	Compliance with the required number of health visits per year, which varies by beneficiary age/status		
PROGRESA, Mexico	School enrollment and minimum attendance rate of 85%, both monthly and annually	Compliance by all household members with the required number of health centers visits and mother attendance at health and nutrition lectures ¹⁵	Primary: varies by grade US\$8-17/child/month + US\$11/year/child for school materials Secondary: varies by grade and gender US\$25-32/child/month + US\$20/year/child for school materials ¹⁶	Mex\$125 (US\$13) per household per month (1999) ¹⁶
<i>Red de Protección Social</i> , Nicaragua	School enrollment; less than six days of unexcused school absence in a two-month period sch.c.); and school grade promotion	Regular health care visits for child's growth monitoring; up-to-date vaccinations; and attendance to health and nutrition talks	Grant: C\$240 (US\$17) every 2 months per family School material support: C\$275 (US\$20) per child per year Supply incentive: C\$10 (US\$0.7) per student every 2 months	C\$480 (US\$34) per family every 2 months

¹² In practice, some programs have not enforced all conditions. For example, delays in the development of the PRAF MIS prevented the enforcement of program conditions during the first months of program implementation. In Nicaragua, program administrators realized that some schools had automatic grade promotion, thus they decided not to withdraw program benefits to children who failed to pass to the next grade. Likewise, they did not enforce the condition of timely vaccination.

¹³ In Bahia and Sergipe, the income transfer is R\$25/month for each participating child. In Pernambuco, the monthly income transfer is R\$50 for 1-2 participating children, R\$100 for 3-4 children and \$150 for 5 or more. The average transfer per month in this state is R\$37.8.

¹⁴ The level of monthly benefits per eligible household member will increase from J\$300 during the first year of the program, to J\$350 during the second year and J\$500 afterwards

¹⁵ At the end of 1999, educational grants for primary school varied between Mex\$80-165/child/month depending on the school grade (3rd to 6th); for secondary schools transfers varied between Mex\$240-265/boy/month and Mex\$250-305/girl/month. In addition, households received Mex\$100 per year for each child enrolled in primary school (grades 3rd to 6th) and Mex\$190 per year for each child enrolled in secondary school

¹⁶ The maximum monthly transfer per household including food support and educational grant is Mex\$750

Table 3. Selection criteria of CCT Programs in Latin America and the Caribbean

Program	Selection criteria		
	Geographic	Household level	Other
Bolsa Escola, Brazil	Participation at the municipal level is demand-driven; there is geographic targeting within municipalities	Eligible households must have a maximum income per capita of R\$90	Minimum residency requirement that varies between 1 to 5 years depending on the municipality. Some municipalities require that beneficiary households are female-headed.
PETI, Brazil	Municipalities with high incidence of child labor involving a health risk	Eligible households must have a per capita income below one-half the minimum wage (R\$65/month ≈ US\$65/month)	-
Familias en Acción, Colombia	<ol style="list-style-type: none"> Municipalities other than department capitals with less than 100,000 inhabitants Municipalities not participating in other national programs with adequate supply of education and health services and a bank Municipalities with available SISBEN database up-to-date 	Level 1 families of the SISBEN (local information system that identifies poor and vulnerable households according to a Basic Unmet Needs Index and other income and earning potential information)	-
PRAF II, Honduras	Municipalities with the lowest average height for age z-scores	None	-
PATH, Jamaica	All parishes participate in the program; funds are distributed across parishes depending on the poverty incidence	Household eligibility is determined by a scoring formula and a pre-determined cut off point	-
PROGRESA, Mexico	Rural communities with a high marginality index with more than 50 and less than 2,500 inhabitants and access within a certain distance to primary and secondary school and health care center ¹⁷	Within eligible localities, beneficiary households are identified using discriminant analysis of household income and other characteristics.	-
Red de Protección Social, Nicaragua	<ol style="list-style-type: none"> Departments and municipalities with high extreme poverty incidence, good access to schools and health care centers, good transport and communication infrastructure and local capacity Within eligible municipalities, census areas were classified in 2 groups according to a marginality index based on information on family size, access to basic sanitation and safe water, and literacy rates. The first group would participate in the pilot phase 1 while the second group would participate in the second pilot phase. 	<p>Pilot phase 1: all households in selected census areas with less than 14.1 hectares and no vehicle participate in the program</p> <p>Pilot phase 2: household eligibility is determined by a scoring formula</p>	-

¹⁷ Since 2001, urban areas with a high marginality index have been incorporated in to the program.

Table 4. Completed and Ongoing Evaluation of Conditional Cash Transfer Programs in LAC

Program	Evaluation activities			Evaluation design	Main indicators	Data sources	Sample size	
	LF	OE	QS				IE	Control
PETI, Brazil				X	School enrollment, highest grade attained, labor force participation, hours of work, sector of employment	Household survey	9 municipalities	9 municipalities
PRAF II, Honduras	X			X	Education outcomes (test scores, repetition, promotion, attendance) Availability and quality of education inputs Health outcomes (maternal and infant mortality) Utilization and satisfaction with health care services Health care practices	Census of G1 and G2 municipalities Household surveys (baseline + 2 follow ups –one and two years after program start) School and health center diagnostic surveys Standardized test scores	20 municipalities (1600 households, 80 in each municipality)	G1 = 20 municipalities (1600 hhds.) G2 = 20 municipalities (1600 hhds.) G3 = 10 municipalities (800 hhds.)
PROGRESA, Mexico		X	X	X	School enrollment and attendance Utilization of health care services and health status Child nutritional status Household consumption and caloric availability Poverty incidence Changes in fertility Women's status and intra-household relations Time allocation Private transfers	Census of evaluation localities Household surveys (baseline + 5 follow up surveys collected approx every six months) ¹⁸ School and clinic surveys Community questionnaires Test scores School and clinic administrative data	186 localities (4,682 eligible households)	320 localities (7,887 eligible households)
Red de Protección Social, Nicaragua			X	X	Targeting efficiency (leakage and coverage rates) School enrollment and attendance Consumption patterns Utilization and quality of child health care services (incl. timely immunization)	Census of program area Baseline household survey Follow up household survey Institutional assessment for schools	21 census areas (812 households) ¹⁹	21 census areas (773 households)

LF: Logical Framework; OE: Operations Evaluation; QS: Qualitative study including beneficiary assessment; IE: Impact Evaluation

¹⁸ The evaluation also benefited from data on anthropometric measures and blood samples collected separately by the National Institute of Public Health
¹⁹ Only includes the first baseline data collected.

Table 5. PROGRESA Impacts on Education, Health and Consumption

Education		Baseline	Net change/Program impact
Primary school enrollment rates	Females	90-94%	.96-1.45 % points
	Males		
Secondary school enrollment rates	Females	67%	7.2-9.3 % points
	Males		
		73%	3.5-5.8 % points

Source: Skoufias 2001

Health	Baseline	Net change/program impact ²⁰
Mean Child Aged 0-2 Growth Monitoring Visits	0.22	.182
Children Aged 0-2 Illness Rates	0.40-.41	-0.044

Source: Gertler 2000

Consumption	PROGRESA households	Control households	Net change/Program impact (%)
Mean Consumption level (Mexican pesos, per household per month)	Mex \$1049.9	Mex \$926	13.4
Median Food Consumption (Mexican pesos, per person per month)	Mex \$129.4	Mex \$117	10.6
Median caloric acquisition (per person per day)	1940	1799	7.8

Source: Hoddinott, et. al. 2000

²⁰ Based on unconditional difference-in-difference estimator at 15 months post baseline

Table 6. RPS Impacts on Education, Health and Consumption

Indicator	RPS areas		Control areas		Net change/Program impact ²¹
	Baseline 2000	Follow up 2001	Baseline 2000	Follow up 2001	
Education					
Percentage of children 7-13 enrolled in primary school (1 st to 4 th grade)	68.5	93.2	72	75.1	21.7 (2.7)
Health					
Percentage of children less than 3 years old participating in growth monitoring	55.9	91.8	60.6	67.4	29.1 (4.3)
Percentage of children 12-23 months old with complete timely immunization	35.4	81.9	40.3	68.5	18.3 (7.8)
Consumption					
Per capita annual total expenditures (Nicaraguan cordobas)	N\$4310	N\$4498	N\$3929	N\$3300	N\$817 (231)
Per capita annual food expenditures (Nicaraguan cordobas)	N\$2922	N\$3165	N\$2684	N\$2175	N\$753 (154)

Standard errors are in parenthesis
Source: IFPRI 2002a.

²¹ Difference-in-difference estimator

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