Conditional Cash Transfer Programs: Are They Really Magic Bullets?

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Abstract

Conditional cash transfer programs pay recipients in exchange for an action that brings private behavior closer to the social optimum. We analyze one such program in Mexico: Progresa that pays four million poor mothers to send their children to school and health visits. We show that these programs can be made more efficient by selecting beneficiaries and calibrating transfers for maximum response per unit of transfer.

In recent years, conditional cash transfer (CCT) programs have been introduced for a wide array of different purposes. Applied, for instance, to education and child health in poor countries, they consist in giving cash to poor parents under the condition that they send their children to school and health visits. These programs have been hailed as being among the most significant innovations in promoting social development in recent years. Nancy Birdsall, president of the Center for Global Development, was thus quoted in the *New York Times* of January 3, 2004, as saying, "I think these programs are as close as you can come to a magic bullet in development. They are creating an incentive for families to invest in their own children's futures. Every decade or so, we see something that can really make a difference, and this is one of those things". In all cases, the programs have as an objective, possibly in addition to other objectives, to correct for market failures associated with non-internalized positive externalities. CCT thus seek to create incentives for individuals to adjust their behavior toward matching the social optimum. Subsidies are provided in exchange for specific actions. As such, they act like a price effect on the action: they are expected to induce individuals to increase their supply of the action by raising the price for this action via a conditional cash transfer.

This approach has been used to alter privately sub-optimal behavior in a number of fields where externalities prevail. They include the following two:

1. Learning externalities. There is private under investment in education due to positive benefits that the educated generate on others for which they are not rewarded by market forces. It has thus been observed that the educated create employment for others, that wages are higher for high school graduates in cities where the supply of college graduates is higher, and that the educated have higher civic participation and make better decisions over policy choices that affect the economy. Education creates inter-generational benefits as educated mothers have on average healthier babies. As the educated tend to take greater risks in experimenting with new technological innovations, it allows the others to learn from them. For all these reasons, local and state governments subsidize

primary and secondary education. Higher education in public universities such as Land Grant Colleges is also highly subsidized.

2. Environmental externalities. There is private under investment in forest conservation due to positive benefits associated with carbon capture, conservation of biodiversity, watershed management, landscape quality, and the preservation of open spaces that forest owners generate for others with no direct rewards to themselves through the market. This has led many countries to introduce public programs of payments for environmental services to encourage forest conservation. Notable among those are the Conservation Reserve Program in the United States and the payment to forest owners in Costa Rica. These programs are of the CCT type, as payments made are subsidies to specific actions in forest conservation.

This CCT principle has been applied massively to educational and child health programs in many developing countries to induce poor parents to increase the supply of child time to education (instead of work) and the supply of their own time to caring for the health of their children. These programs are popular with politicians and international development agencies, largely because they are efficiency oriented, and yet can also serve to transfer resources to the poor. Some of these programs have become extraordinarily large and costly. This raises the pressing issue of seeking to achieve efficiency gains in use of these funds for the stated purposes. In this paper, we first review the example of Progresa, an extensively lauded program of CCT for education, health, and nutrition that is the flagship of Mexico's social assistance. We then analyze the determinants of efficiency in this program. This is used to make recommendations that can help achieve higher efficiency levels in CCT programs.

Analysis of a CCT: Progresa

Progresa was introduced in Mexico in 1997 to offer cash transfers to poor mothers in marginal rural communities, conditional on their children using health facilities on a regular basis and attending school between third grade of primary and third grade of secondary. Children cannot miss more than three days of school per month without losing the transfer, and will not receive the transfer if they have not visited a health center. The Program was recently renamed Oportunidades, and expanded to sixth grade of secondary and to peri-urban areas. In 2003, it serviced 4 million families at an annual cost of US$2.2 billion. Extensive data were collected on the program to allow impact analysis, with randomized selection of 320 treatment and 186 control villages between 1997 and 2000. The payment schedule is tailored to grade and gender, with primary schoolers receiving from $70/year in 3rd grade to $135 in 6th grade, and secondary schoolers receiving from $200/year for boys in first grade and $210 for girls to $220 for boys in third grade and $255 for girls.

Figure 1 gives a good understanding of the problem to be solved. Attendance to primary school reaches 97% without transfers. Hence, there is very little a transfer can do in improving school enrollment, and most of the payments are leakages from an efficiency standpoint. Only one percentage point in enrollment is gained through the

transfers, and the cost of sending an additional child to school is as a consequence no less than $9,600/year. As the figure shows, the big drop in enrollment is at entry into secondary school, as 36% of the children that completed primary school fail to continue. Progresa transfers raise participation from 64% to 76%, a 12 percentage point gain that erases, in particular, the educational gap between poor and non-poor in these marginal communities, a remarkable achievement. Still, in terms of program efficiency, two facts are notable: one is that 64% of the recipients of transfers would have gone to school without a transfer, implying a leakage of resources in terms of efficiency gains; the other is that 24% of the children that qualify for the program and received an offer of a CCT failed to participate, implying a potential efficiency loss if differently calibrated transfers would have induced them to go to school.
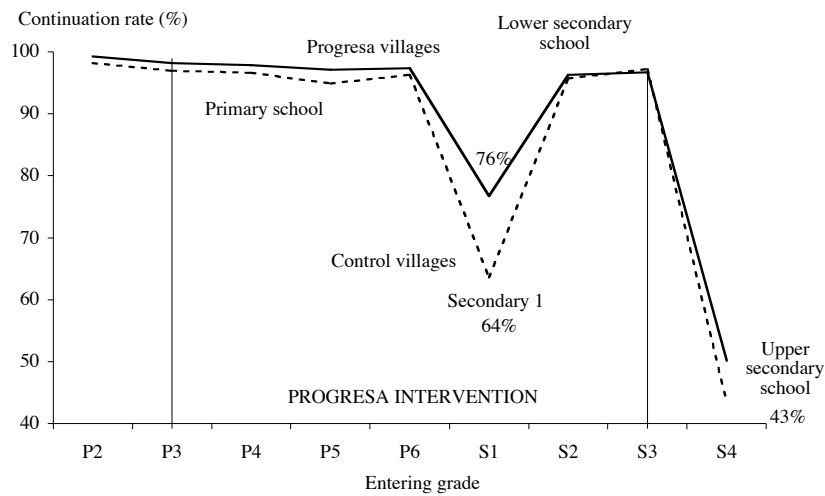

Figure 1. School continuation rates of poor children in sample villages

There is hence an important problem to be discussed: could CCT programs better target and calibrate transfers in order to increase uptake and decrease leakages? This is what we address in the following section.

Determinants of efficiency

Like Progresa, we take it that CCT programs for education are confined to the poor. The objective of a CCT program can then be conceptualized as one of selecting categories of children among the poor and calibrating the level of transfer offered to each particular category in order to maximize the increase in the probability of school attendance, subject to a budget constraint and to verification that the condition on behavior has been satisfied. Solving this problem shows that eligible children should be selected among those with a low probability of going to school without a transfer, and with a high probability of going to school if a transfer is offered to them. The transfer is calibrated to maximize this response. This requires knowing (1) what is the risk that a child of a particular type would not be going to school without a transfer, and (2) how parents of different types respond to conditional cash offers of different magnitudes in deciding to send their children to school or not.

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Running through this exercise shows how much efficiency can be gained with the same overall budget. To start with, it is clear that, from this perspective, offering cash transfers to primary schoolers is not efficient as most of the transfers end up in leakages (i.e., go to kids who are paid to do what they already do). It is better to deal with the few children who are not attending school through specialized interventions than through offer of a general cash transfer to poor parents.

Analyzing entry into secondary school shows that efficiency gains could also be achieved at that level. By calibrating transfers to the level needed to induce response and by targeting on children according to the risk that they may not be going to school but will go with a transfer, would allow to increase enrollment rates from 64% to 78%, a 14 percentage points gain instead of the previous 12 points (i.e., a 17% efficiency gain). In this case, what we find is that larger transfers should be offered to the eldest child in the family (younger siblings are more likely to go to school), to children with an indigenous father, and to children who live in villages where there is no secondary school, particularly girls. The tighter the program budget constraint, the more leeway program administrators have in selecting from among the poor for low leakages and high responses. Hence, program efficiency gains increase as budget constraints are more effective. If, for example, the budget were half the current level, the efficiency gain from targeting and calibrating for efficiency would be 30% over simply offering transfers to the poorest half of the population in the selected villages.

Conclusions

We derive four conclusions from this analysis. The first is that CCTs that are oriented at inducing a socially optimum behavior not guided by market forces should be seen as contracts with recipients for the delivery of a service, not as handout programs. In this case, the fundamental objective of the conditional payment is to increase efficiency by internalizing an externality to avoid a discrepancy between private and social supply of child time to school.

Second, CCTs should be seen as creating price effects, not income effects through the transfers. If under-investment is due to market failure, an income effect will buy almost nothing in increased schooling and health. In all cases, aligning private and social behavior will be cheaper through price effects (conditional transfers) than through income effects (unconditional cash transfers).

Third, efficiency gains from CCTs can be enhanced by calibrating transfers for increased participation, and by reducing leakages by focusing on cases where the conditionality will be most effective in altering behavior. The tighter the program's budget constraint is in selecting among qualifying beneficiaries, the larger the potential efficiency gains from selection of beneficiaries and calibration of transfers.

Finally, the principle of targeting on likelihood that a condition will be met in response to a transfer (when it would not be without) and of calibrating transfers to

increase uptake is a general principle for CCT programs. In payments for environmental services, this implies focusing on categories of resources (e.g., trees) at risk of being degraded and with high likelihood of not being degraded in response to a transfer. This expected gain in survival of the resource is then weighted by the environmental benefit from preserving this category of resource in order to maximize environmental returns per unit of subsidy paid.