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Must Conditional Cash Transfer Programs be conditioned to be effective?

The impact of conditioning transfers on school enrollment in Mexico

Alan de Brauw and John Hoddinott
International Food Policy Research Institute
Washington DC

Introduction

- Conditional Cash Transfer (CCT) programs are an increasingly popular tool for poverty reduction.
- As their name implies, these programs give cash to beneficiaries that meet certain conditions or undertake certain activities or behaviors:
 - Ensuring school age children attend school
 - Pre-school children receive immunizations
 - Parents attend meetings about good health and nutrition practices
- As such, CCT programs are designed to address current poverty while laying the ground work for sustainable poverty reduction in the future.

Introduction, cont'd

- A striking, and positive, feature of many CCTs is that they have been subject to rigorous evaluation. Some (e.g. Levy) argue that these have been critical to the sustainability of these programs.
- A limitation of these evaluations is their black box nature.
 - They assess the combined effect of all of the CCT components on a given outcome, without considering which aspects of CCTs make them successful at improving target outcomes.
- As such, *relatively* less is known about which components of CCTs – such as conditionality - are most important for their success.



Introduction - Conditionality

- There are compelling reasons for the conditional component to be included in CCTs. These can broadly be thought of as either public or private.
- From the public perspective, there are three related rationales.
 - Governments may perceive that they know what actions or behaviors will benefit the poor than the poor do themselves, and that conditioning transfers can modify behavior to better match those perceptions.
 - Conditioning may also help the government overcome information asymmetries in meeting priorities. Governments may be aware of the benefits associated with immunization or screening for chronic diseases but individuals may be unaware or unconvinced of these benefits. When other approaches to such informational problems—such as public health campaigns—have failed, conditioning transfers can be seen as a means of changing behaviors.
 - Conditioning may be help required for political economy reasons.

Introduction - Conditionality, cont'd

- From the private perspective, the conditions in CCTs can also have potential benefits.
 - Disagreements may exist within the household regarding the allocation of resources. Imposing conditionality on cash transfers can strengthen the bargaining position of individuals whose preferences are aligned with the government's preferences, and who may otherwise lack bargaining power within the household.
 - Conditioning may overcome stigma effects otherwise associated with welfare payments. Stigma can discourage those with valid claims from taking them up. From the beneficiary's point of view, conditioning can be seen as part of a social contract between themselves and the state and may legitimize the transfer, overcoming the stigma.

Introduction - Conditionality, cont'd

- However, imposing conditions has drawbacks.
 - Conditionality is expensive; it increases the administrative costs and complexity of running the program.
 - Meeting conditions imposes direct costs on beneficiaries and thus reduces the benefits that would otherwise accrue to them.
 - If preferences of the poor do not align with the conditions placed on their behavior by the government, the restrictions that conditionality imposes on the poor reduce their total welfare gains.
 - Some households may find the conditions too difficult to meet, and if these households are among the poorest households in the program, imposing conditions may detract from the targeting of the CCT.
 - Finally, conditioning transfers can be perceived as being demeaning to the poor.

Introduction – Structure of Presentation

- Our paper addresses this issue empirically using data from Mexico's *PROGRESA* CCT program.
- We first explain how *PROGRESA* was designed, how conditionality was implemented and how the program was evaluated.
- Next, we describe how a “natural experiment” arises from these data.
- We then show how this natural experiment can be used to assess the effectiveness of conditionality.

PROGRESA

- *PROGRESA* was introduced by the Federal Government of Mexico as part of an effort to break the intergenerational transmission of poverty.
 - Multiple Objectives behind *PROGRESA*--
Improving...
 - Educational, health, and nutritional status of poor families
 - Particular focus on children and their mothers in poor communities

PROGRESA (cont.)

- Households were selected for inclusion on the basis of both locality and household characteristics.
- Implementation began in August 1997. By early 2000, *PROGRESA* included nearly 2.6 million families, about 40% of all rural families and one ninth of all families in Mexico.
- Subsequently, the program has been renamed (*Oportunidades*) and expanded to urban areas.

PROGRESA— Important Details

- Cash transfers received on a bi-monthly basis, and they had three components:
 - a scholarship tied to the continued attendance of children at school (the *beca*)
 - money for school supplies, and
 - a cash transfer for food (the *alimento*).
- In order to receive the *beca*:
 - School-aged children in grades three and higher had to maintain an attendance record of 85 per cent or better
 - Parents had to attend monthly meetings called *platicas*.

Monitoring School Attendance

- To ensure compliance with this condition, parents were supposed to receive a form (*the E1*) when they were inducted into *PROGRESA*.
 - The E1 was given to school officials who registered their children.
 - Parents then returned the E1 form to *PROGRESA* showing that they had registered their children while teachers kept track of children's attendance at school and submitted separate forms showing that children had attended.
 - *PROGRESA* had to match parental registration with the information provided by teachers, confirm that attendance was satisfactory, and then arrange for the payment of the *beca*.
- Without the E1 form, children's attendance **could not be monitored** by *PROGRESA*.

Data Source

- As part of the implementation of *PROGRESA*, a series of evaluation surveys (called ENCEL) were fielded in seven states in central and southern Mexico.
 - Surveys collected data on household characteristics such as demographic composition, household consumption, school enrollment and attendance.
 - One such survey was conducted in October 1998; and another in May and June, 1999.
- A supplementary survey (the *Seguimento*) was added to the ENCEL in May-June. Called the Seguimento, it asked *PROGRESA* beneficiaries a series of questions about their experiences with *PROGRESA*, including whether households had received their E1 forms.

Data Sources (cont.)

- At IFPRI, we have access to administrative data on transfers: when they took place (covering the period of approximately July 1998 - December 1999); who received them; how much was transferred and for what reason (*beca*, *alimento*).
- Common identifiers files allow us to link together all these data files.

Identification strategy

- A significant number of households received the *beca* transfer even though they did not receive the E1 form. Specifically:
 - 464 households with school age children did not receive the E1 form and received at least one *beca* payment for children's school attendance between March and August 1999
 - Call these households Group 1
 - 3919 households with school age children that received the E1 form and received at least one *beca* payment for children's school attendance between March and August 1999
 - Call these households Group 2

Identification strategy (cont.)

- Households in Groups 1 and 2 share important similarities:
 - They live in the same localities.
 - They are all beneficiaries of the *PROGRESA* program.
 - They all have school age children.
 - They all received *beca* payments from *PROGRESA* for school attendance by their children.
- The difference is that the school attendance among children in Group 1 households could not be monitored, so their transfers could not be conditioned on attendance.
 - *Comparing outcomes among children of households in Groups 1 and 2 can potentially assess the impact of conditionality on school attendance.*

Identification strategy, cont'd

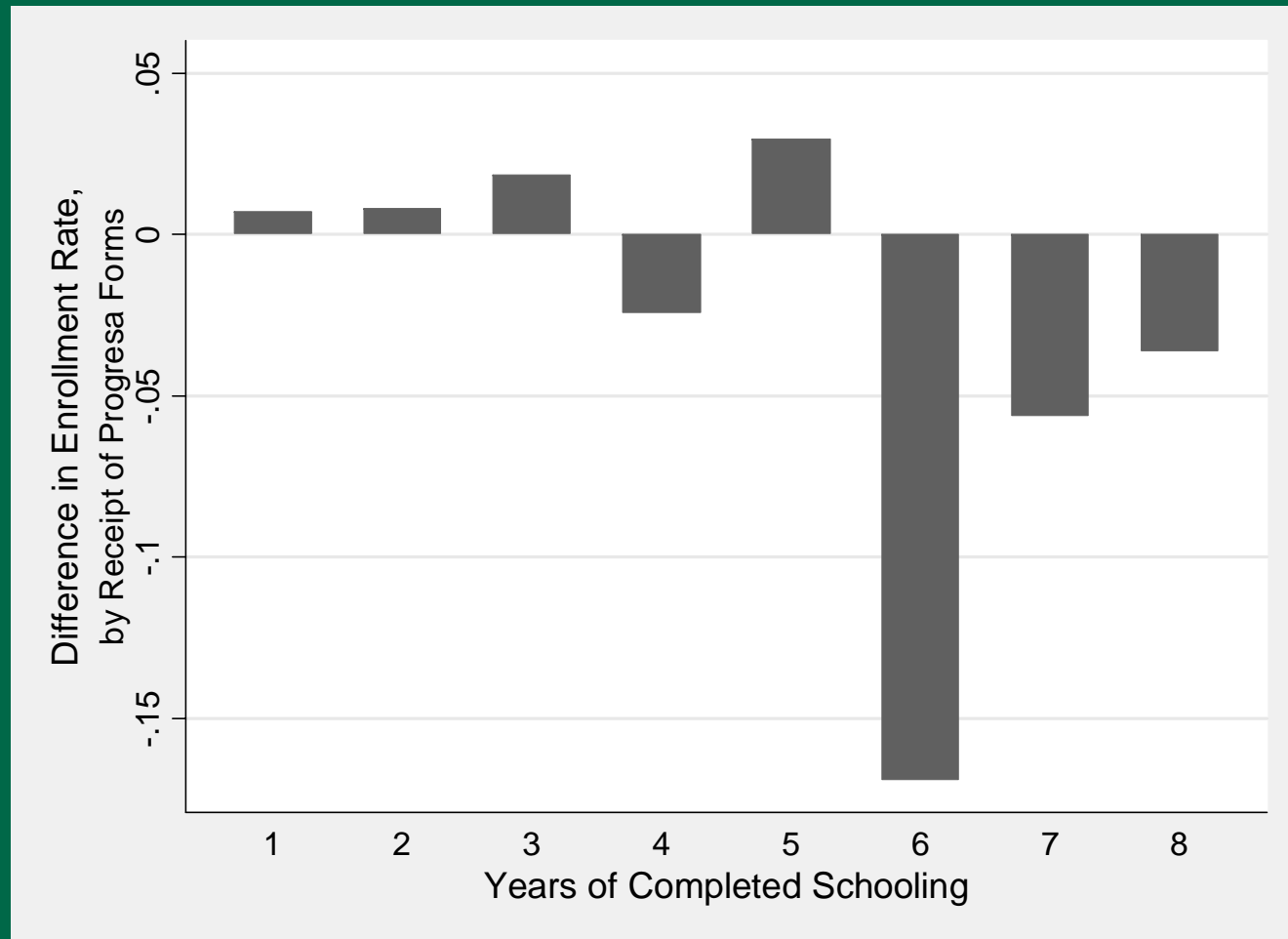
- The *Seguimento* asked beneficiary households to list the conditions that they were had to fulfill to receive the *beca*.
- Using this information, we can take households who
 - Lived in localities where *PROGRESA* provided cash transfers;
 - Were eligible for *PROGRESA* benefits;
 - Had school-age children; and
 - Received at least one *beca* between March-August 1999;
 - and create two further groups for comparison.
- Group 3 Households neither received the E1, *nor* did they know they were required to send their children to school to receive the *beca*.
 - Transfers to Group 3 households were clearly unconditional, as they neither received the form nor understood the conditions for the transfer
- Group 4 Households received the E1 *and* knew they were required to send their children to school in order to receive school benefits.

Results: Enrollment rates of children 8-16 by household receipt of E1 forms

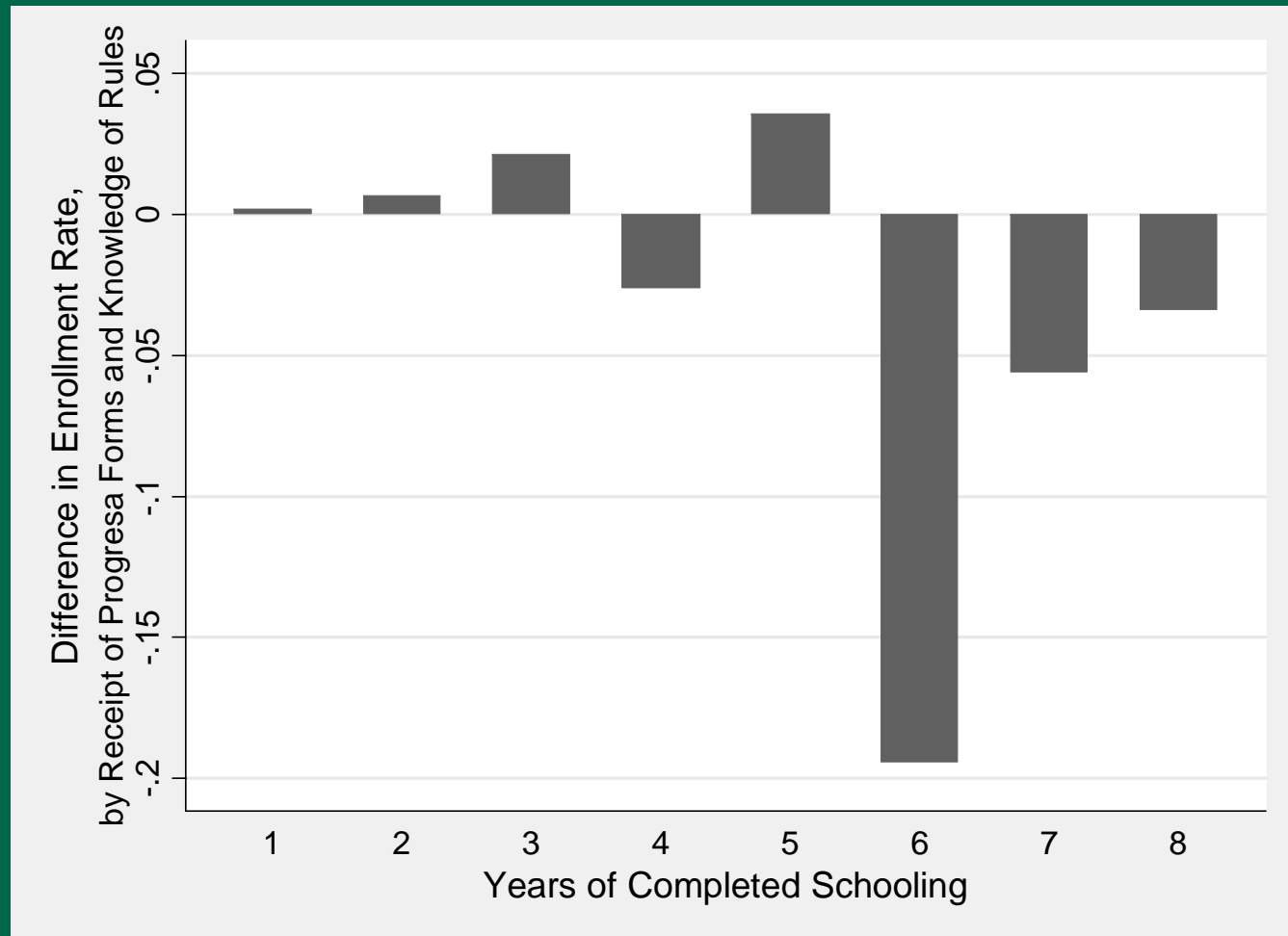
Group	1	2	3	4
Enrollment Rate	85.2	88.4	82.2	89.2
Wald Test, means equal	4.50*		15.96**	
# of obs.	786	7457	382	4159



Difference in Enrollment by years of Completed Schooling, between Groups 1 and 2



Difference in Enrollment by years of Completed Schooling, between Groups 3 and 4



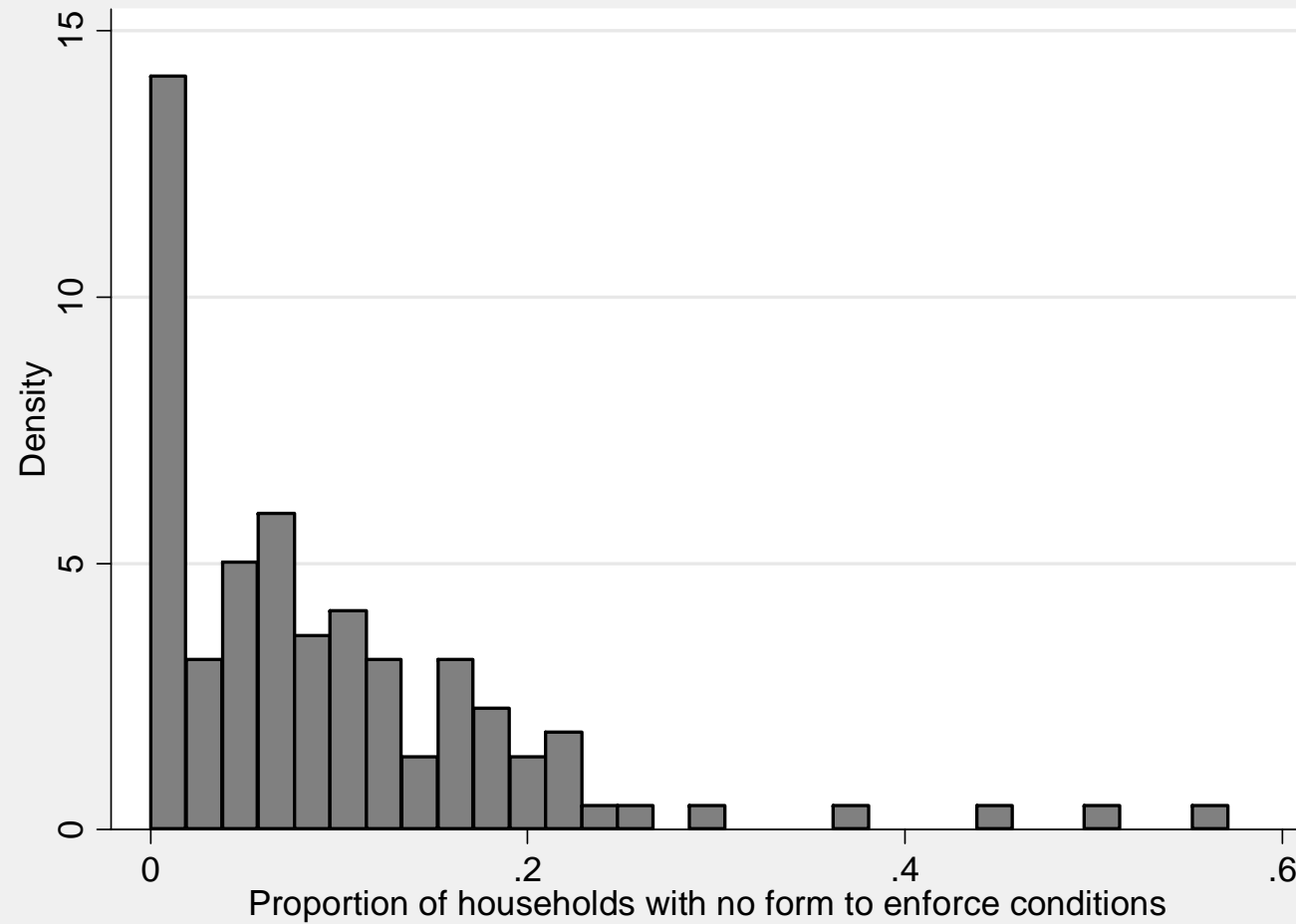
Differences in Means

- Difference in unconditional means suggest differences in behavior between Groups 1-2 and Groups 3-4
 - Stark difference for completion of Grade 6- or primary school completion
- But do not control for observable or unobservable differences
 - At community level- could be endogenous program placement bias
 - At household level- could be observables or unobservables driving differences

Estimation Strategy

1. Provide evidence that those missing E1 form not clustered in specific localities
2. Use probits to show that conditional differences do not drive differences in means
3. Use propensity score matching to attempt to control for differences in unobservables
4. Use an outcome unrelated to the *beca*, caloric intakes, to provide further evidence that unobservables do not drive main result

Endogenous Program Placement?



Probit estimates of E1 non-receipt, by completed grade

Completed Grade:	4	5	6	7
Group 1	0.003	0.014	-0.205	-0.057
Household	(0.32)	(0.88)	(3.94)**	(1.55)
# of obs.	1095	965	1346	472
Group 3	-0.013	-0.008	-0.196	-0.254
Household	(0.87)	(0.32)	(3.11)**	(3.19)**
# of obs.	581	518	727	254

Note: All regressions include child, parent, household, and state controls.

Propensity Score Matching

- To more fully control for observables, we also use propensity score matching
 - Think of Group 1 or 3 households as the “treatment” group
 - Estimate Average treatment effect on treated (ATT)
 - Assume conditional mean independence; e.g. $E(Y|X, D=1)=E(Y|X, D=0)$; and
 - Assume common support, $0 < P(X) < 1$

Propensity Score Matching (cont.)

- Estimates are reliable and low bias if:
 - Same data source used for participants and non-participants
 - Participants and non-participants have access to same markets
 - We restrict sample to PROGRESA localities and enrollees to meet this criteria
 - Data include meaningful X variables that identify receipt of E1 forms (or Group 1-3 membership)

Propensity Score Matching (cont.)

- To implement PSM, we:
 - Estimate probit and drop observations with quite high/low propensity scores (no matches)
 - Tested balancing properties; same distribution of propensity scores within quantiles of the propensity score distribution
 - Trimmed treatment observations with lowest density of comparison observations
 - 2 percent of tails
 - Used local linear regression for matching
 - Standard errors are bootstrapped

PSM estimates of E1 non-receipt, by completed grade

Completed Grade	Group 1 Household	Group 3 Household
Grades 5-8	-0.105 <i>(0.025)</i>	-0.132 <i>(0.038)</i>
Grade 5	0.021 <i>(0.022)</i>	-0.015 <i>(0.041)</i>
Grade 6	-0.180 <i>(0.044)</i>	-0.179 <i>(0.045)</i>
Grade 7	-0.067 <i>(0.061)</i>	-0.211 <i>(0.142)</i>
Grade 8	0.011 <i>(0.063)</i>	0.117 <i>(0.156)</i>

PSM estimates of E1 non-receipt, by age of child

Completed Grade	Group 1 Household	Group 3 Household
All children, age 8-16	-0.038 (0.012)	-0.069 (0.019)
All children, age 13-16	-0.078 (0.027)	-0.151 (0.040)
Age 13	0.017 (0.034)	0.043 (0.049)
Age 14	-0.158 (0.059)	-0.294 (0.101)
Age 15	-0.118 (0.072)	-0.300 (0.101)
Age 16	-0.044 (0.080)	-0.100 (0.146)

PSM estimates of the impact of E1 Forms on enrollment by literacy and indigenous status

Completed Grade	Group 1 Household	Group 3 Household
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Impact by Literacy of Household Head

Head Literate	-0.018 (0.014)	-0.041 (0.020)
Head not Literate	-0.089 (0.026)	-0.138 (0.039)

Impact by Indigenous Status of Household Head

Head Indigenous	-0.052 (0.018)	-0.059 (0.025)
Head not Indigenous	-0.018 (0.015)	-0.060 (0.023)

PSM estimates of the impact of E1 Forms on enrollment by literacy and indigenous status

Outcome Variable	Treatment: Households that did not Receive Forms	Treatment: Households did not receive forms and did not know conditions
<i>Impact by Literacy of Household Head</i>		
Head is Illiterate	-0.089 (0.026)**	-0.138 (0.039)**
Head is Literate	-0.018 (0.014)	-0.041 (0.020)*
<i>Impact by Head is Indigenous</i>		
Head is Indigenous	-0.052 (0.018)**	-0.059 (0.025)*
Head is not Indigenous	-0.018 (0.015)	-0.060 (0.023)*

PSM estimates of the impact of E1 Forms on household caloric access by type of food

Outcome Variable	Treatment: Group 1 HHs
Total Calorie Consumption	38.91 (37.61)
Calories from Grains	36.91 (36.09)
Calories from Fruits/Vegetables	-0.11 (1.74)
Calories from Animal Products	-1.92 (5.95)
Calories from other Foods	4.04 (7.92)

Concluding Remarks

- Our contribution: We assess the impact of imposing conditions on one dimension of human capital formation, school enrollment, using data from Mexico's *PROGRESA* CCT program. To do so, we exploit the fact that some *PROGRESA* beneficiaries did not receive the forms needed to monitor the attendance of their children at school.
- Using a variety of techniques, including propensity score matching, we show that:
 - The absence of these forms reduced the likelihood that children attended school.
 - This effect was most pronounced at the point where children transition to lower secondary school.
 - Receiving the form, and understanding the conditions being imposed exerts a stronger effect on enrollments.
 - There is some suggestion that imposing these conditions has a larger effect when the household head is not literate.
 - We present evidence suggesting that our findings are not driven by unobservable household characteristics.

Concluding Remarks, cont'd

- These results speak directly to policy debates regarding the merits of conditionality within CCT programs. They suggest that debates over “to condition or not to condition” are overly simplistic.
- In the case considered here, there is clearly little benefit to conditioning transfers based on enrollment in primary school. However, in terms of increased school enrollment, there are large benefits associated with conditioning at entry into lower secondary school.
- As such, these findings are consistent with the more general argument advanced in de Janvry and Sadoulet (2006), namely that there can be considerable efficiency gains to CCTs by calibrating their design more carefully.

Concluding Remarks, cont'd

- That said, additional study of this topic would be worthwhile. Two issues would seem to be particularly valuable to explore.
 - First, an experimental design – where conditionality was randomly assigned – would bolster the evidence base while removing any lingering doubts about the role of unobservables.
 - Second, an experimental design in which the intensity by which information on conditions was varied across beneficiaries would allow policy makers to assess whether the effectiveness of conditionality can be strengthened.