

The impact of Oportunidades on school participation and child labour

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ABSTRACT

This paper attempts to shed new light on the impact of Oportunidades on the way children combine work and school. We find that Oportunidades strongly increased the probability of being “in school only” (i.e. in school but not in work). The program succeeded not only in encouraging children who would otherwise have dropped out to stay in school, but also in encouraging a substantial share of the children who would otherwise have continued working without attending school to re-enroll. We also find some evidence for spillover effects, as boys from ineligible households reduced their participation in work as a result of the program.

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1. INTRODUCTION

1. There is broad evidence that conditional cash transfer interventions augment children's school participation (e.g. Fiszbein and Schady, 2009; Rawlings and Rubio, 2005; and Saavedra and Garcia, 2012) and lower their participation in work (De Hoop and Rosati, 2013; Edmonds, 2007). The research on the effects of conditional cash transfer schemes (and perhaps also the proliferation of conditional cash transfer schemes around the world) was heavily influenced by Mexico's pioneering conditional cash transfer scheme called Oportunidades. The results of a cluster-randomized trial implemented at the start of the program were and remain particularly influential. In this paper we go back to the data from this trial in an attempt to shed new light on the impact of this program on school participation and child labour.

2. The Oportunidades conditional cash transfer scheme, known at the time under the name PROGRESA, was established in 1997 with the objective to break the intergenerational transmission of poverty among deprived families in Mexico. To this date, the program provides beneficiary households with cash transfers on the condition that children in the household attend school, that household members obtain preventive medical care, and that they attend health education talks on a regular basis. As part of the rollout of the program, 506 rural communities were randomly allocated to a treatment group that started receiving the program immediately and a control group that started receiving the program with a delay of two and a half years.

3. Previous studies exploiting this randomized rollout, such as those by Skoufias and Parker (2001) and Schultz (2004), found that Oportunidades increased school participation and reduced child labour and that these changes were heterogeneous along multiple dimensions, including age, gender, and highest grade of schooling completed at baseline. In particular, Skoufias and Parker (2001) found that boys aged 12-17 experienced modest improvements in school participation (3 to 4 percentage points) and roughly equivalent reductions in work. Girls in the same age range experienced strong improvements in school participation (8 to 10 percentage points) but limited reductions in work (1 to 2 percentage points). Both boys and girls aged 8-11 experienced very limited changes in school participation and work.

4. Schultz (2004), who examined the impact of Oportunidades by the school grade and level completed by the child at baseline, found that the impact of the program was particularly pronounced for the children who had just completed primary school and thus had to make the transition to secondary school. For instance, boys who completed the final grade of primary school experienced strong improvements in school participation (8.5 percentage points) while boys in other grades experienced only modest improvements in school participation (2 to 4 percentage points). Girls who completed the final grade of primary school experienced even stronger improvements in school participation (10

percentage points) while girls in other grades experienced no improvements in school participation.¹

5. We add to this literature as follows. We begin by re-examining the effect of Oportunidades on school participation and child labour and re-estimating heterogeneity by age and highest grade completed. We then investigate whether and how Oportunidades affected the way in which children *combine* work and school (i.e. whether they are in school only, in work only, in both activities, or in neither of the two activities) and examine the extent to which Oportunidades affected transitions from combinations of work and school before the start of the program to combinations of work and school two years after the start of the program. We also study spillover effects of Oportunidades on school participation and work carried out by children from households that are not eligible to participate in the program. Finally, we look at gender dimensions of Oportunidades' impact by separately examining its effect on boys' and girls' participation in economic activities and their participation in economic activities *or* household chores.

6. The remainder of the paper proceeds as follows. Section 2 describes the program and the cluster randomized trial. Section 3 describes the data collected as part of the trial. Section 4 discusses our estimation strategy. Section 5 presents our results and Section 6 concludes.

¹ Schultz (2004) does not examine child labor by grade completed. However, he does show that boys in primary school experienced no changes in participation in work, those in secondary school experienced reductions in what Schultz calls "market work" and "paid work" (respectively 2.5 and 2 percentage points). Girls in primary school experienced no changes in participation in work, while those in secondary school experienced reductions in what Schultz calls "market and household work" (4 percentage points).

2. THE PROGRAM AND THE CLUSTER RANDOMIZED TRIAL

2.1 The program

7. Oportunidades provides beneficiary households with a combination of benefits.² Here, we describe the two main components of the benefit package.³ First, households receive a fixed monthly health stipend conditional on regular health clinic and health talk attendance by household members (the exact attendance requirements vary with the age of individual household members). Pregnant women are required to attend five pre-natal visits and to take nutritional supplements during the pregnancy and while lactating. Households have to prove compliance to these behavioral requirements via certification at their health clinic.

8. Second, the program distributes a monthly education grant to beneficiary households conditional on sufficient school attendance (at least 85% of school days) of children younger than 18 years. The education grant transferred to the household increases with the grade level attended by the child (the amount in grade 3 of upper secondary school is roughly 6 times the amount for grade 3 of primary school). In secondary school the amount transferred is approximately 13% higher for girls than for boys, to account for the fact that girls are more likely to drop out of school at an early age.⁴ Households receive a cash transfer for each child who regularly attends school and can opt to forego some of the conditional schooling transfers by sending only a subset of their children to school.⁵ Pupils are allowed to fail and repeat a grade once. If they repeat a grade more than once they are permanently dropped from the program.

9. Households must comply with their obligations from both components to remain in the program. There is a maximum monthly cap for total food and education transfers distributed to individual households. This cap effectively limits the number of children for which education transfers can be received to three (Gertler et al., 2012). The average total amount of food and education benefits transferred to households represents roughly 20% of average total household income (Barber and Gertler, 2008; Skoufias and Parker, 2001). For most households, the school grants represent the greater part of the total income transfer. Grant amounts are adjusted for inflation on a 6-month basis (Skoufias and Parker, 2001).

² These benefits are (typically) given directly to a senior female member of the household. Details on the other components (including a nutritional component, consisting of a fixed transfer for nutritional supplements for all children up to two years old and children of 2 to 5 years old exhibiting symptoms of malnutrition) are documented in the extensive literature on the impact of PROGRESA. See, for example, Parker, Rubalcava, and Teruel (2008) and Oportunidades website: www.oportunidades.gob.mx. In 2001, ProgresA was extended to urban areas and renamed Oportunidades.

³ We describe the setup of the program in its early years, 1997-1999. Our discussion does not reflect changes implemented after this period.

⁴ Households also receive a transfer for school supplies (twice a year during primary school and once a year during secondary school).

⁵ Only children living in the household at the time of incorporation or children born in the household after incorporation are eligible for education transfers. Children fostered into the household at a later date are not eligible for participation in these grants.

10. In the period after 1997 program coverage was rapidly expanded, also into urban areas. In August 1997, the program covered approximately 300,000 households in roughly 11,000 communities in rural Mexico.⁶ At the beginning of 2012 the program reached approximately 5.8 million households (more than 20% of all households in Mexico) living in nearly 100,000 marginalized localities.

2.2 The cluster randomized trial

11. Most of the rigorous evidence on the impact of the Oportunidades cash transfer scheme is based on a cluster randomized trial specifically designed to measure the impact of the program on a broad range of outcomes. The trial was carried out in 506 rural communities distributed across 7 states.⁷ These communities were randomly phased into the program at different points in time: households in 320 intervention communities started receiving benefits in October of 1998 and households in the 186 control communities started receiving benefits by the end of 1999.⁸

12. Within the treatment areas, relatively poor households were selected for participation in the program. Household poverty was determined on the basis of a marginality index constructed using survey data (including information on the number of children per working adult, the number of persons per bedroom, schooling of the household head, characteristics of the dwelling, and possession of durable goods). The selection was reviewed at a community assembly. During this assembly, final changes to the eligibility status of individual households could be proposed to the central office. After completion of the selection, program administrators visited each eligible household and, after collecting some screening information, informed households of their eligibility status. As explained in Behrman et al. (2005) the generous benefits of the program compared to average family income ensured that most eligible households in rural areas decided to participate in the program.

⁶ See Proyecto de Apoyo para el Programa de Desarrollo Humano Oportunidades (2009).

⁷ The states are Guerrero, Hidalgo, Michoacán, Puebla, Querétaro, San Luis Potosí, and Veracruz.

⁸ Households in control villages were not informed about the fact that the cash transfer scheme would also be administered in their village until 2 months before incorporation.

3. DATA

13. As part of the randomized trial a baseline survey was conducted in November 1997 (before the start of the program) and 4 follow-up surveys were conducted every 6 months between October 1998 and November 1999. The baseline survey (called Survey of Household Socioeconomic Characteristics or ENCASEH) contains information for all of the 24,077 households (125,674 individuals) that were residing in the 506 study communities before the start of the program. The follow-up surveys (called Evaluation Surveys or ENCEL) collect information for these same households (and individuals in these households) on a number of individual, household, and community characteristics including demographics, school attendance, labor market participation, sources of income, and health care use.

3.1 Sample selection

14. In this study, we use the following data collected as part of the cluster randomized trial: the November 1997 baseline, and the October 1998, March 1999, and November 1999 follow-up surveys. We impose two main restrictions to derive our working sample. First, we restrict to children who were 8 to 14 years old at baseline. Children in this age range should, in principle, have been enrolled in a grade in which they are eligible to receive Oportunidades benefits in the year the program was rolled out (primary school grade 3 up to secondary school grade 3).⁹ We also restrict the sample to children who (i) were observed in the baseline survey and each of the 3 waves of the follow-up survey and (ii) have complete employment, attendance, and grade information.¹⁰ This procedure gives us a balanced sample of 16,785 children from 9,174 households in 493 localities (309 treated and 184 control localities).

3.2 Variable definition

15. Our analysis focuses primarily on children's participation in work and school, which were measured at baseline and as part of each of the follow-up surveys. Here, we briefly discuss our main outcomes variables:

- *School attendance*: We define school attendance based on a survey question that asks children whether they are currently attending school.¹¹
- *Work*: We classify children as participating in work if (i) they report that they worked during the previous week (in a paid or unpaid job), (ii) they did not work during the previous week but they do report to

⁹ For simplicity, we shall refer to these grades as grade 3 to 9 in the discussion of the estimation strategy (Primary school in Mexico has 6 grades).

¹⁰ We also drop a few observations for which age and/or gender are missing.

¹¹ The question is asked to everyone aged 5 or above in 1997, to children between 6 and 16 years of age in the second 1998 ENCEL and in the first 1999 ENCEL, to individuals between 6 and 18 years of age in the second round of 1999 ENCEL.

have a job, and/or (iii) they sold products, helped in a family business, made products to sell, worked in agriculture, looked after animals, or washed, cooked, or ironed for pay during the week preceding the interview.

- *Wage work*: We classify children as participating in work for pay (or wage work) if they report to be working for a wage as day workers either in agriculture ("*jornalero rural o peón de campo*") or outside agriculture ("*obrero o empleado no agropecuario*").

16. We also examine participation in household chores, but in this analysis we have to deal with two constraints: information on participation in household chores is available (i) only for children who were *not* working (according to the definition just presented) and (ii) only for the November 1998 and November 1999 follow-up survey waves. As a result of these restrictions, we are not able to analyze the impact of Oportunidades on participation in household chores as such. However, we *can* look at the impact of Oportunidades on participation in work *and/or* household chores.¹²

Children not working according to the definition of work explained above.
tly modified version of the estimation procedure that we outline in Section 4.

4. ESTIMATION STRATEGY

17. We examine the average program impact for the children in our sample and we investigate whether the effect differs by age, by highest expected grade completed before the start of the program, and by household poverty status (poor or extreme poor, as measured by the program¹³). More formally, to estimate the *average* program impact, we rely on the following linear probability model:

$$(1) Y_{it} = \alpha + \beta(\mathbf{Post} * T_i) + \gamma T_i + \sum_{j=1}^J \theta_j X_{ij} + \sum_{t=2}^4 \varphi_t + \varepsilon_{it},$$

where, Y_{it} is the outcome variable (e.g. school attendance) for child i in period t , T_i is a dummy variable taking the value 1 for treatment localities, \mathbf{Post} is a dummy taking the value 1 in any of the follow-up rounds (post-program period), and X_{ij} is a vector of J baseline control variables.¹⁴ Survey fixed effects φ_t allow outcomes to vary over each round of the survey and the coefficient γ allows the conditional mean of the outcome under consideration to be different for individuals in treatment and control localities at baseline. The coefficient β then identifies the average impact of the program.

18. To examine whether the program had a *differential* effect according to children's age at baseline (8-14), highest expected grade completed before the start of the program (2-8)¹⁵, or household's poverty status at baseline (poor vs. extreme poor), we estimate the following linear probability model:

$$(2) Y_{it} = \alpha + \beta(\mathbf{Post} * T_i) + \sum_k \delta_k (\mathbf{Z}_{ik} * \mathbf{Post} * T_i) + \gamma T_i + \sum_{j=1}^J \theta_j X_{ij} + \sum_{t=2}^4 \varphi_y + \varepsilon_{it},$$

where the \mathbf{Z}_{ik} are dummy variables that allow us to identify heterogeneity profiles taking the following values:

¹³ Eligible households include both poor and extreme poor households and were identified on the basis of a marginality index constructed using survey data and including information on the number of children to the number of working adults, the number of persons per bedroom, schooling of the household head, characteristics of the dwelling, and possession of durable goods.

¹⁴ We control for the following individual, household, and locality level baseline characteristics: children's age, highest expected grade completed by the child before the start of the program (see below for more information), the education level of the child's mother and father, the age of the mother and father, the number of children aged zero to two and aged three to five, boys and girls aged six to seven, eight to twelve, and thirteen to eighteen, men and women aged nineteen to fifty-four, and men and women aged fifty-five and older, number of rooms, whether the household owns the house where it lives, whether it owns a land plot, whether it owns livestock, whether the dwelling has a dirt floor, whether the dwelling walls are made of wood, bricks, or sun-dried bricks, whether the roof is made of metallic sheet, cardboard sheet, or concrete, whether the household has access to electricity, to piped water, and whether they own a set of small assets (blender, refrigerator, gas stove, gas heater, radio, television, washing machine, car, and truck). Finally, we include the marginality index computed by the *Consejo Nacional de Población* that was used to assign localities to treatment and aimed at measuring the level of poverty of the locality. For further details about the construction of the marginality index, see www.conapo.gob.mx.

¹⁵ To construct the highest expected grade completed before the start of the program, we couple the highest grade attained as reported in the 1997 baseline survey with information on school attendance at the moment of the baseline survey. For example, a child who reports that he attained grade 4 and is enrolled in school at the time of the baseline survey will have a highest theoretical grade of 5. The same child will have a highest theoretical grade equal to 4 if he reported not to be in school that year.

- $k = 9 \dots, 14$ for heterogeneity by age at baseline;
- $k = 1, \dots, 8$ for heterogeneity by highest expected grade completed before the start of the program;
- $k = 1$ for heterogeneity by poverty vs. extreme poverty.

19. The coefficient β now identifies the average impact of the program on children aged 8, on children who did not complete any grade before the start of the program, or on children belonging to a household in (non-extreme) poverty. The added interaction term ($Z_{ik} * Post * T_i$) captures the differential effect of the program on children's activity by age at baseline, highest expected grade completed by the child before the start of the program, or household poverty status.¹⁶

20. In order to identify possible spillover effects, we estimate model (1) and model (2) separately for children from eligible (i.e. poor) and non-eligible (i.e. non-poor) households, as the data allow us to identify these two groups in both intervention and control communities.¹⁷ ¹⁸ In all our estimations we adjust standard errors for clustering at the locality level, the level at which treatment is assigned.

¹⁶ The sum of the coefficients $\beta + \delta_k$ thus gives us the impact of the program on children with age 9 to 14 at baseline, on children with highest expected grade completed between grade 1 of primary school and grade 2 of secondary school at baseline, or on children belonging to a household in extreme poverty.

¹⁷ Technically, the estimate for eligible households provides the intent-to-treat effect of the program, as we do not know whether eligible children in intervention localities actually took up the intervention. That being said, it is likely that in practice this intent-to-treat effect is not very different from the treatment effect on the treated, as the vast majority of households (roughly 97%) that were offered the program participated (Behrman et al., 2011).

¹⁸ Of course, in the analysis of children from ineligible households, we cannot estimate the differential effect of the program on poor and extreme poor households.

5. RESULTS

5.1 Attrition, descriptive statistics, and balance

21. Table 1 examines attrition for the sample of eligible children between 8 and 14 years of age observed at baseline (1997). As indicated before, we consider as attriters individuals who could not be found in one of the 3 follow-up surveys or did not report information on at least one of our outcomes (school attendance and labor market participation). At about 27% and 29% respectively for boys and girls in the control group (Column (1)) the attrition rate is substantial. However, when we regress the dummy for being interviewed in all rounds on the dummy for living in a treatment village (Column (2)) we find that the attrition rate is similar in the treatment and the control group.

22. Panel A of Table 2 (Columns (1) and (4)) shows that the vast majority of non-attriting boys and girls in the control group (respectively 92% and 89%) were in school at baseline. Boys were nearly three times more likely to work than girls (9% versus 3%) and nearly 4 times more likely to be involved in work for pay (4% versus 1%). Panel A of Table 2 also looks at 4 mutually exclusive combinations of school and work: in school only, in work only, in school and in work, neither in school nor in work (i.e. idle). Compared to boys, girls were more than twice as likely to be idle (10% versus 5%). It is important not to interpret this category as literally idle. Girls who are neither in work nor in school are likely to be responsible for a range of domestic activities. Unfortunately, we cannot examine this issue here, as participation in household chores was not measured at baseline, but we will look at participation in chores in more detail later on.

23. Panel C of Table 2 shows that grade completion rates drop markedly after primary school grade 6, indicating that many children do not make the transition to secondary school upon the completion of primary school. About 12% of boys has completed grade 6 of primary school, whereas only about 5% has completed grade 1 of secondary school. The drop in grade completion is even more pronounced for girls: about 15% has completed grade 6 of primary school while only about 4% completed grade 1 of secondary school. We will see later that the low transition rate from primary to secondary school is particularly relevant for this study.

24. The baseline covariates displayed in Table 3 reveal that, as intended, beneficiary children come from disadvantaged backgrounds. To give some examples, over 60% of the mothers and about 75% of the fathers of beneficiary children are literate. A substantial share of the mothers (over 30%) and fathers (over 20%) has never attended school. Only about 25% of households has access to piped water, about 5% of the households has a refrigerator, and dwellings are often made of poor materials: the majority of children live in a dwelling where the floor is made of dirt, walls are often made of wood, and the roof is made of cardboard sheets in a substantial number of households.

25. Following standard practice, we test the success of the randomization by regressing the baseline characteristics on the treatment dummy (Columns (2) & (5) of Tables 2 and 3 give the regression coefficient and Columns (3) & (6) give the standard error). While we find a few violations of balance, these violations tend to be small in magnitude and the number of violations does not appear to deviate from what we would expect to find in a well-randomized experiment. This is in accordance with the findings of the wide number of other studies carried out using the experimental Oportunidades data.¹⁹ We conclude that differential attrition and (possibly resulting) violations of balance are unlikely to bias our estimation results and we have a reliable experimental setup.

5.2 Average impact and heterogeneous effects

26. We now turn to the impact of the program on (combinations of) school attendance and work. To put these results into perspective, Table 4 presents school and work participation in the control group at the final follow-up (November 1999). For both boys and girls, school participation at follow-up is strongly dependent on age and highest grade completed (at baseline). School participation drops from about 99% for boys aged 8 at baseline to 41% for boys aged 14 and from about 99% for girls aged 8 at baseline to 32% for girls aged 14.

27. Again, we find evidence that many children, particularly girls, do not continue into secondary school upon completing grade 6 of primary school. About 70% of the girls who had completed grade 5 of primary school were in school at follow-up. In contrast, the probability that girls who had completed primary school grade 6 were in school at follow-up was only about 49%. Accordingly, we observe a strong increase in participation in work upon completing primary school grade 6. The probability that boys who had completed grade 6 of primary school at baseline work at follow-up is 24% (compared to 12% for boys who completed grade 5). And the probability that girls who had completed grade 6 at baseline work at follow-up is 8% (compared to 4% for girls who completed grade 5).

28. There is no strong correlation between initial poverty level and school and work status at follow-up. School participation rates of boys from poor and extreme poor households are virtually identical at 78 and 77% respectively, while work participation rates for boys from poor and extreme poor households are 13 and 15% respectively. School participation of girls from extreme poor households (75%) appears to be somewhat higher than school participation of girls from poor households (73%) and the rate of work appears to be somewhat lower among girls from extreme poor households (3%) than among girls from poor households (6%)

29. Tables 5 and 6 examine the impact of the program on school participation, work, work for pay, and combinations of school participation and work

¹⁹ Our findings are broadly in accordance with those of Behrman and Todd (1999), who investigate whether the randomization procedure was successful by comparing the baseline characteristics of treatment and control localities and households.

respectively for boys and girls. Panel A of Table 5 (columns (1) & (2)) shows that, on average, boys experienced an increase in school participation of nearly 5 percentage points and a somewhat smaller reduction in work of 3.3 percentage points as a result of the program. Wage work was also reduced by 2.2 percentage points. Columns (3) to (7) show that the increase in school participation is the result of boys shifting from being in work only and idle to being in school only.

30. The overall impact pattern is somewhat different for girls. Panel A of Table 6 shows that girls experienced an increase in school participation of more than 6 percentage points as a result of the program. However, while girls also experienced a reduction in the probability of being in work, this reduction was markedly smaller than the increase in the probability of being in school. Moreover, Columns (3) to (7) show that most of the increase in school participation comes from girls shifting from being idle to being in school only. As we shall show below, the difference in the impact of the program on work of boys and girls is related to the fact that boys are more likely to work in the first place and hence the margin for reductions in their participation in work is higher. When household chores are incorporated in the definition of work, the impact of Oportunidades is similar for girls and boys.

31. Panels B and C of Tables 5 and 6 respectively examine heterogeneous effects of the program by age and highest grade completed. We find that boys and girls both experience increases in school participation in all age ranges (except boys aged 14). The impact on school participation tends to get stronger as children become older. For boys, the increase in school participation is accompanied with a reduction in work in all ages (again except 14), for girls this is only the case at the age of 12. Looking at the four mutually exclusive categories of school participation and work, we note that the explanation for the increase in school participation and the decrease in work is consistent across age groups. The increase in the probability that boys are in school (only) is the result of a reduction in the probability of being in work only or being idle. For girls the increase in the probability of being in school (only) is the result of a shift from idle.

32. We observe a comparatively strong increase in school participation for boys and girls who completed primary school grade 6 and were ready to transit from primary to secondary school. The increase is 8 percentage points for boys and more than 17 percentage points for girls. Interestingly, the increase in school participation at the transition moment is accompanied by a reduction in work for boys *and* girls. Importantly, Column (5) indicates that the program lowered the probability that boys and girls who completed grade 6 of primary school were in work only. Hence, we conclude that, at this crucial stage in life, the program helped children to stay out of work and in school.

33. Finally, Panel D of Tables 5 and 6 examines whether the impact of the program was stronger among households classified as poor or extremely poor at baseline. We find that, at least for boys, the impact on school participation

appears to be somewhat stronger for the less poor (difference between poor and extreme poor is statistically significant at the 10% level, $P=0.053$).

34. In sum, both boys and girls of all ages increased their school participation in response to the program. Boys also lowered their participation in work, whereas reductions in work were limited for girls (below, we shall examine whether these gender patterns are different when we account for participation in household chores). The increases in school participation and reductions in work are particularly pronounced among children who have completed primary school and have to make the transition to secondary school.

5.3 Transition patterns

35. While the aggregate changes in (combinations of) child labour and school participation discussed above are important, they may potentially hide complex changes in transition patterns from activities carried out at baseline to activities carried out at follow-up. In this section we therefore examine the impact of Oportunidades on transitions between the four mutually exclusive combinations of work and school from baseline to the final follow-up. Our regression specification for this analysis is essentially a modified version of model (1), estimated separately for each of these four subgroups.²⁰

36. Table 7 shows transition rates in the control communities: rows indicate the combination of activities in which children were involved at baseline and columns refer to the combination of activities in which the children were involved at follow-up. The vast majority of children were in school only at baseline and most of these children (over 85% of both boys and girls) were still in school only at follow-up. About two thirds of boys who were no longer in school only at follow-up, were either working only or combining work and school. Girls who were no longer in school only mostly ended up in the category idle. Most of the boys who were working only at baseline were still working only at follow-up (66%) while many of the boys who were combining work and school at baseline were in school only at follow-up (75%). At baseline, relatively few girls were working (whether in combination with school or not). More girls were idle at baseline and these girls were generally still idle at follow-up.

37. Table 8 examines how the program affected these transition rates. We note that the (relative and absolute) increase in boys' school participation (Panel A) is markedly different by baseline activities. Boys who were in school only at baseline were 4 percentage points more likely to be in school only at follow-up and less likely to be in work only or idle (both about 2 percentage points). For boys who were in work only or idle at baseline, the probability of being in school only at follow-up increased by 16 and 14 percentage points respectively.

²⁰ Formally, we estimate $Y_{it} = \alpha + \beta(Post * T_i) + \gamma T_i + \sum_{j=1}^J \theta_j X_{ij} + \phi Post + \varepsilon_{it}$, where $i = 1, \dots, N$; $j = 1, \dots, J$. In this equation, Y_{it} is the outcome variable (e.g. in school) of child i in period t , T_i is a dummy variable taking the value 1 for treatment localities, $Post$ is a dummy taking the value 1 in the (final) follow-up round, and X_{ij} is a vector of J baseline control variables. The coefficient β , as before, identifies the average impact of the program.

We observe a similar but even more pronounced pattern for girls. While the probability of being in school only at follow-up increased by 5 percentage points for girls who were in school only at baseline, it increased by 16 percentage points both for girls who were in school and in work at baseline and for girls who were idle at baseline. For girls who were in work only at baseline the probability of being in school only at follow-up increased by 45 percentage points. Clearly, the program succeeded not only in encouraging boys who would otherwise have dropped out of school to stay in school, but also in encouraging a substantial share of the boys who would otherwise have remained out of school to re-enroll.

5.4 Spillover effects

38. The effects of conditional cash transfer programs may spillover to children who are not direct beneficiaries of the cash transfer scheme. Angelucci and De Giorgi (2009) show that Oportunidades benefitted the economies of the beneficiary communities at large and increased the consumption of ineligible households in the beneficiary communities (primarily because, as risks are shared between villagers, ineligible households started receiving more gifts and loans). The changes in the local economy may, in turn, affect the school attendance and work of children from ineligible households. A priori, the direction of this effect is undetermined. Increased economic activity at the community level may, for instance, have opened up new opportunities for children (from ineligible households) to participate in the local labour market. But increased income available to ineligible households, to give a counter example, may have increased school participation and lowered child work.

39. In this section, we estimate the impact of Oportunidades on school participation and work of children from ineligible (i.e. non-poor) households. To do so, we follow the procedures outlined above and estimate models (1) and (2) for children from ineligible households.²¹ We examined attrition rates and balance of baseline characteristics to ensure that the experiment is balanced also for these children (results presented in Appendix Tables A1, A2, & A3). While we find that the attrition rates are significantly different between children from ineligible households in the treatment and control group, the baseline outcome variables and the controls we include in our regressions were similar for non-attriting children in the treatment and control group. We thus feel that, despite the differential attrition rate, this analysis gives a valuable insight into spillover effects of the program on school participation and child labour.

40. Table 9 shows school and work participation of children from ineligible households at follow-up in the control villages (i.e. the counterfactual situation observed in the absence of the program). As in the case of eligible children, school participation at follow-up was strongly correlated with age and highest grade completed at baseline. We also observe a large drop in school

²¹ Our analysis is closely related to that of Buddelmeyer and Skoufias (2004), who also investigate whether village-level spillover effects can be observed for the non-poor households in intervention villages and find no significant spillover effects on children's participation in economic activities.

participation of girls upon completing primary school grade 6. Accordingly, work participation again increases markedly upon completing primary school grade 6.

41. Tables 10 and 11 examine the impact of the program on school participation, work, work for pay, and combinations of school participation and work respectively for boys and girls from ineligible households. We find important evidence suggesting that boys from ineligible households reduced their participation in work as a result of the program by about 4 percentage points. This effect is observed mainly, but not exclusively, among younger boys (aged 8-11). Younger boys from ineligible households also appear to have increased their school participation. Accordingly, looking at the 4 mutually exclusive combinations of school participation and child labour, we find that at follow-up boys are less likely to be in work only and more likely to be in school only at follow-up as a result of the program.

42. For girls, we observe similar spillover effects in the lowest grades of primary school. Girls who completed primary school grade 2 before the start of the program, in particular were more likely to be in school (7.6 percentage points) and less likely to work (3.6 percentage points) as a result of the program. The pattern of spillover effects thus appears to be similar for girls and boys, even if the results in higher grades are less convincing (and we even observe a somewhat surprising reduction in school participation for girls who completed grade 5 of primary school prior to the start of the program).

Together, these results suggests that the increase in the income available to ineligible households found by Angelucci and De Giorgi (2009), helped lower these households' dependence on child labour. It also suggests that the mitigation of shocks plays a role in increasing school participation and lowering child labour (presumably the gifts and loans received by ineligible households are related to idiosyncratic shocks they experienced). This finding is also consistent with the results of De Janvry et al. (2006), who find that Oportunidades lowered the risk that children from beneficiary households would permanently drop out of school when the household is hit by a severe and unexpected shock, such as illness of the household head and locality level natural disasters.

5.5 Household chores

43. The results we presented thus far indicate that the program resulted in comparatively strong reductions in boys' participation in work. Girls, on the other hand, experienced stronger reductions in the probability of being idle. As mentioned earlier, these estimates do not account for program impact on household chores, which are likely to be particularly relevant for girls. Although we cannot examine the impact of the program on participation in household chores as such, we can examine the impact of the program on participation in work *and/or* household chores (as explained in the description of our outcome variables). As this outcome variable was not measured at baseline, but only in

the November 1998 and November 1999 survey rounds, we estimate the impact of the program on this outcome using cross-section versions of models (1) & (2) outlined above.²²

44. Table 12 displays participation in work *and/or* household chores among eligible and ineligible boys and girls from control municipalities at the November 1999 follow-up. The comparison with participation in work (Table 4 and Table 9) is interesting. Whereas we observed that boys are more likely to participate in work than girls at virtually every age, the pattern is the opposite when we focus on participation in work *and/or* household chores: at virtually every age girls are more likely to be involved in work *and/or* household chores than boys. We also again observe a strong jump in participation in work *and/or* household chores among children (both boys and girls) who completed primary school grade 6 before the start of the program.

45. Table 13 shows the impact of the program on participation in work *and/or* household chores, again both for eligible and ineligible boys and girls. The overall effect of the program on participation in work *and/or* household chores is not statistically significant. We do find significant reductions for a few age groups (eligible boys aged 8 and 10, eligible girls aged 11 and 12, and ineligible girls aged 12). We also find significant reductions for some of the lowest grades completed, but there is no evidence that the impact of the program on participation in work *and/or* household chores is stronger for children who completed grade 6 of primary school.

46. In general reductions in work for eligible boys (displayed in Table 5) appear to be somewhat stronger than reductions in participation in work *and/or* household chores. Possibly, this result indicates that while eligible boys were less likely to be involved in economic activities as a result of the program, this

²² Specifically, we estimate $Y_{it} = \alpha + \beta T_i + \sum_{j=1}^J \theta_j X_{ij} + \varphi_{1999} + \varepsilon_{it}$ to obtain the average effect of the program, where $i = 1, \dots, N; j = 1, \dots, J; t = 1, \dots, 4$. In this equation, Y_{it} is the outcome variable (involvement in work and/or chores) of child i in period t , T_i is a dummy variable taking the value 1 for treatment localities, X_{ij} is a vector of J baseline control variables, and φ_{1999} is a fixed effect for the November 1999 follow-up survey. As before, in model (4) the coefficient β identifies the average post-program impact of the treatment.

We estimate $Y_{it} = \alpha + \beta T_i + \sum_k \delta_k (Z_{ik} * T_i) + \sum_{j=1}^J \theta_j X_{ij} + \varphi_{1999} + \varepsilon_{it}$ to obtain the heterogeneous effect of the program by age and grade, where $i = 1, \dots, N; j = 1, \dots, J; t = 1, \dots, 4$; and in addition $k = 9, \dots, 14$ in case we examine heterogeneity by age at baseline; or $k = 1, \dots, 8$ in case we examine heterogeneity by highest expected grade completed before the start of the program. The coefficient β now identifies the average impact of the program on children aged 8 (in case the variable Z_{ik} identifies age), on children who did not complete any grade before the start of the program (in case the variable Z_{ik} identifies the highest theoretical grade completed by the child at baseline), or on children belonging to a household in (non-extreme) poverty (in case the variable Z_{ik} identifies poverty status). The sum of the coefficients $\beta + \delta_k$ gives us the impact of the program on children with age 9 to 14 at baseline ($\forall k = 9, \dots, 14$), on children with highest expected grade completed between grade 1 of primary school and grade 2 of secondary school at baseline ($\forall k = 1, \dots, 8$), or on children belonging to a household in extreme poverty ($k = 1$).

effect was dampened by an increase in participation in household chores. However, without information on hours worked and hours in household chores, it is hard to verify this claim. Importantly, we do have compelling evidence that the impact of the program was no different for boys and girls once we account for participation in household chores.

6. CONCLUSION

47. In this paper, we re-examined the impact of Oportunidades on school participation and child labour. Previous studies by Skoufias and Parker (2001) and Schultz (2004) found that Oportunidades increased school participation and reduced child labour and that these changes were strongest for older children and especially children who had completed the final grade of primary school and thus had to decide whether they would transfer to secondary school or not. Our findings are broadly consistent with, but not equivalent to the findings of Skoufias and Parker (2001) and Schultz (2004).

48. We find that Oportunidades increased school participation of boys aged 8 to 14 at baseline by 5 percentage points and decreased their participation in work by 3 percentage points. Girls in this age range experienced a slightly more pronounced increase in school participation (6 percentage points), but a weaker reduction in work (2 percentage points). Boys shifted either from being in work only or from being idle to being in school only. Girls shifted almost entirely from being idle to being in school only.

49. In contrast to Skoufias and Parker (2001), we observe an increase in school participation also for younger children (8-11). Young boys also lowered their participation in work, while girls did not. In accordance with Schultz (2004), we find that the impact on school participation was particularly pronounced for children who completed the final grade of primary school (8 percentage points for boys and 17 percentage points for girls). Both boys and girls who completed the final grade of primary school also experienced a reduction in participation in work. However, in particular for girls this reduction in work (3 percentage points) was markedly weaker than the increase in school participation.

50. The impact of Oportunidades differed markedly by the baseline activities carried out by children. The increase in the probability of being in school at follow-up was much stronger for children (both boys and girls) who were not in school at baseline (i.e. idle or in work only) than for children who were in school at baseline. Apparently, the program succeeded not only in encouraging children who would otherwise have dropped out to stay in school, but also in encouraging a substantial share of the children who would otherwise have continued working and remained out of school to re-enroll.

51. We also find evidence for spillover effects, as boys from ineligible households reduced their participation in work as a result of the program. This finding corresponds with Angelucci and De Giorgi (2009), who show that Oportunidades benefitted the economies of the beneficiary communities at large and increased the consumption of ineligible households in the beneficiary communities.

52. Finally, and importantly for others examining the impact of policy interventions on child labour, our findings change markedly when we look at participation in work *and/or* household chores rather than work as such. The effects of the program on participation in work *and/or* household chores are not significant either for boys or girls. Given that we did find significant effects on participation in work, especially for boys, it appears that children to some extent

substituted participation in work for participation in household chores. Moreover, the marked differences in the effect of the program for boys and girls when we examine participation in work (excluding household chores) are lost when we examine participation in work *and/or* household chores. The latter suggests that important program effects on girls may be missed by focusing purely on work.

REFERENCES

Angelucci, M. and G. De Giorgi. 2009. "Indirect Effects of an Aid Program: How Do Cash Transfers Affect Ineligibles' Consumption?", *American Economic Review*, 99(1): 486-508.

Attanasio, P.A., C. Meghir, and A., Santiago. 2011. "Education Choices in Mexico: Using a Structural Model and a Randomized Experiment to Evaluate PROGRESA.", *Review of Economic Studies*, 79: 37-66.

Barber, S. L. and P. J. Gertler. 2008. "The Impact of Mexico's Conditional Cash Transfer Programme, Oportunidades, on Birthweight." *Tropical Medicine and International Health*, 13 (11): 1405-1414.

Behrman, J. R., J. Gallardo-García, S. W. Parker, P. E. Todd and V. Vélez-Grajales. 2011. "Do Conditional Cash Transfers for Schooling Generate Lasting Benefits? A Five-Year Follow-up of PROGRESA/Oportunidades." *Journal of Human Resources*, 46 (1): 93-122.

Behrman, J. R., S. W. Parker, and P. E. Todd. 2005. "Medium Term Impacts of the Oportunidades Conditional Cash Transfer Program on Rural Youth in Mexico." in *Poverty, Inequality and Policy in Latin America*, eds. Stephan Klasen and Felicitas Nowak-Lehman, 219-70 Cambridge, MA, MIT Press, 2009.

Behrman, J. R. and P. E. Todd. 1999. "Randomness in the Experimental Samples of PROGRESA." International Food Policy Research Institute Report, Washington DC, March.

Buddelmeyer, H. and E. Skoufias. 2004. "An Evaluation of the Performance of Regression Discontinuity Design on PROGRESA." IZA Discussion Paper 827 and World Bank Policy Research Working Paper 3386.

De Hoop, J. and F. C. Rosati. 2013. "Cash Transfers and Child Labour." Understanding Children's Work Working Paper.

De Janvry, A., F. Finan, E. Sadoulet, and R. Vakis. 2006. "Can Conditional Cash Transfer Programs Serve as Safety Nets in Keeping Children at School and from Working when Exposed to Shocks?" *Journal of Development Economics*, 79 (2): 349-373.

Djebbari, H. and J. Smith. 2008. "Heterogeneous Impacts in PROGRESA.", *Journal of Econometrics*, 145: 64-80.

Fiszbein, A. and N. Schady. 2009. *Conditional Cash Transfers: Reducing Present and Future Poverty*. The World Bank, Washington D.C.

Gertler, P. J., S. W. Martinez, and M. Rubio-Codina. 2012. "Investing Cash Transfers to Raise Long-Term Living Standards." *American Economic Journal: Applied Economics*, 4 (1): 164-192.

Parker, S. W., Rubalcava, L., and G. Teruel (2008) "Evaluating Conditional Schooling and Health Programs." In Schultz, T. P. and J. Strauss (edt.) *Handbook of Development Economics*, Vol.4, North-Holland.

Proyecto de Apoyo para el Programa de Desarrollo Humano Oportunidades. 2009. "Evaluación social y Plan de acción para la definición del modelo alternativo de la operación y gestión del Programa Oportunidades para población indígena.", Febrero, Versión Preliminar.

Rawlings, L. B. and G. M. Rubio. 2005. "Evaluating the Impact of Conditional Cash Transfer Programs." *World Bank Research Observer* 20(1): 29-55.

Saavedra, J. E. and S. Garcia. 2012. "Impact of Conditional Cash Transfer Programs on Educational Outcomes in Developing Countries: A Meta Analysis." Rand Working Paper WR-921-1.

Schultz, T. P. 2004. "School Subsidies for the Poor: Evaluating the Mexican Progresa Poverty Program." *Journal of Development Economics*, 74 (1), 199-250.

Skoufias, E. and S. W. Parker (2001). "Conditional Cash Transfers and Their Impact on Child Work and Schooling: Evidence from the PROGRESA Program in Mexico." *Economia*, 2 (1), 45-96.

TABLES

Table 1. Interview rate at follow-up – Eligible children

	Control	Treatment	Treatment - control	P-value	N
	(1)	(2)	(3)	(4)	(5)
Boys	0.731	0.742	0.011	0.602	8251
Girls	0.714	0.724	0.011	0.580	7726

Notes: The table examines whether the attrition rate in our working sample differs between treatment and control communities. Column (1) depicts the average attrition rate in the control group, Column (2) shows the unconditional difference in the average attrition rate between the treatment and the control group, and Column (3) gives the P-value for this comparison.
Source: Authors' calculations based on 1997 ENCASEH, 1998, and 1999 ENCEL data.

Table 2. Balance of child level outcome variables and covariates at baseline – Eligible children

	Boys				Girls			
	Control	Treatment	Treatment - control	P-value	Control	Treatment	Treatment - control	P-value
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Panel A: Outcome variables								
In school	0.916	0.913	-0.003	0.777	0.886	0.891	0.005	0.650
In work	0.094	0.110	0.016	0.231	0.033	0.051	0.018	0.091
In wage work	0.042	0.044	0.002	0.757	0.011	0.011	0.001	0.880
In school only	0.859	0.847	-0.011	0.432	0.868	0.854	-0.014	0.347
In work only	0.037	0.045	0.007	0.258	0.016	0.014	-0.001	0.767
In work and in school	0.057	0.066	0.009	0.453	0.018	0.037	0.019	0.026
Idle	0.047	0.042	-0.005	0.455	0.098	0.094	-0.004	0.700
Panel B: Age								
8	0.154	0.172	0.018	0.069	0.166	0.161	-0.004	0.639
9	0.140	0.150	0.010	0.279	0.151	0.170	0.019	0.079
10	0.172	0.161	-0.012	0.241	0.167	0.166	-0.001	0.893
11	0.150	0.144	-0.006	0.530	0.165	0.162	-0.003	0.771
12	0.159	0.147	-0.012	0.174	0.140	0.141	0.001	0.913
13	0.122	0.123	0.002	0.835	0.123	0.119	-0.004	0.611
14	0.103	0.103	0.000	0.989	0.087	0.081	-0.007	0.365
Panel C: Highest grade completed								
Primary 2	0.171	0.179	0.009	0.413	0.181	0.182	0.001	0.956
Primary 3	0.198	0.191	-0.007	0.494	0.186	0.204	0.019	0.093
Primary 4	0.183	0.175	-0.008	0.429	0.173	0.171	-0.001	0.889
Primary 5	0.139	0.139	-0.001	0.948	0.151	0.149	-0.002	0.825
Primary 6	0.117	0.131	0.014	0.172	0.146	0.147	0.001	0.931
Secondary 1	0.052	0.051	-0.002	0.772	0.043	0.035	-0.008	0.195
Secondary 2	0.024	0.019	-0.004	0.294	0.021	0.018	-0.003	0.502

Notes: The table examines whether average child level outcome variables and baseline covariates differ between treatment and control communities. Columns (1) & (4) respectively depicts the average child level outcome variables and baseline covariates for boys and girls in the control group, Column (2) shows the unconditional difference in the average child level outcome variables and baseline covariates between the treatment and the control group for boys and girls, and Column (3) gives the P-value for this comparison.

Source: Authors' calculations based on 1997 ENCASEH, 1998, and 1999 ENCEL data.

Table 3. Balance of household level covariates at baseline – Eligible children

	Boys				Girls			
	Control	Treatment	Treatment - control	P-value	Control	Treatment	Treatment - control	P-value
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Panel A: Mother's characteristics								
Mother not in household (or missing characteristics)	0.052	0.041	-0.011	0.112	0.044	0.038	-0.006	0.371
Age	36.829	36.907	0.078	0.778	36.992	36.854	-0.137	0.627
Literate	0.620	0.644	0.024	0.416	0.632	0.658	0.026	0.362
No education	0.336	0.328	-0.007	0.806	0.333	0.310	-0.023	0.413
Primary education completed	0.627	0.644	0.017	0.539	0.641	0.662	0.021	0.424
Secondary and higher	0.037	0.027	-0.010	0.143	0.027	0.028	0.002	0.802
Panel B: Father's characteristics								
Father not in household (or missing characteristics)	0.097	0.106	0.009	0.382	0.107	0.091	-0.016	0.162
Age	41.203	41.227	0.024	0.950	41.650	41.211	-0.439	0.232
Literate	0.756	0.747	-0.009	0.709	0.753	0.763	0.009	0.707
No education	0.233	0.249	0.016	0.486	0.236	0.232	-0.004	0.883
Primary education completed	0.717	0.710	-0.007	0.757	0.727	0.721	-0.007	0.782
Secondary and higher	0.050	0.041	-0.009	0.308	0.037	0.047	0.011	0.221
Panel C: Age distribution of household members								
n children aged 0-2	0.492	0.518	0.026	0.364	0.499	0.516	0.016	0.535
n children aged 3-5	0.688	0.689	0.002	0.956	0.701	0.730	0.029	0.356
n female 6-7	0.265	0.272	0.008	0.658	0.277	0.279	0.002	0.906
n male 6-7	0.277	0.274	-0.004	0.829	0.277	0.285	0.008	0.653
n female 8-12	0.534	0.544	0.009	0.712	1.374	1.351	-0.023	0.518
n male 8-12	1.325	1.330	0.005	0.856	0.523	0.582	0.058	0.026
n female 13-18	0.548	0.537	-0.011	0.668	0.790	0.765	-0.025	0.455
n male 13-18	0.798	0.819	0.021	0.507	0.592	0.614	0.022	0.431
n female 19-54	1.149	1.140	-0.009	0.668	1.139	1.131	-0.008	0.681
n male 19-54	1.063	1.068	0.004	0.843	1.042	1.069	0.027	0.178
n female 55 and above	0.147	0.120	-0.026	0.054	0.128	0.102	-0.025	0.047
n male 55 and above	0.152	0.142	-0.010	0.426	0.147	0.129	-0.018	0.146

Notes: See Table 2.

Source: Authors' calculations based on 1997 ENCASEH, 1998, and 1999 ENCEL data.

Balance of household level covariates at baseline – Eligible children (cont.)

	Control	Treatment	Treatment - control	P-value	Control	Treatment	Treatment - control	P-value
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Panel D: Dwelling characteristics								
N. rooms	1.696	1.713	0.017	0.719	1.736	1.716	-0.020	0.717
House owner	0.952	0.961	0.009	0.333	0.954	0.958	0.004	0.630
Electricity	0.709	0.678	-0.031	0.467	0.712	0.681	-0.031	0.465
Piped water	0.258	0.349	0.091	0.041	0.304	0.364	0.060	0.191
Agriculture land owner	0.656	0.674	0.018	0.560	0.644	0.671	0.027	0.378
Animal owner	0.415	0.432	0.017	0.583	0.388	0.418	0.029	0.306
Floor made of dirt	0.736	0.695	-0.041	0.195	0.709	0.696	-0.014	0.663
Walls made of wood (<i>madera</i>)	0.307	0.287	-0.020	0.612	0.281	0.295	0.014	0.734
Walls made of bricks (<i>tabique</i>)	0.228	0.211	-0.016	0.583	0.246	0.216	-0.030	0.317
Walls made of sun-dried bricks (<i>adobe</i>)	0.174	0.259	0.085	0.028	0.195	0.256	0.061	0.115
Roof made of metallic sheet (<i>lamina metallica</i>)	0.269	0.283	0.014	0.654	0.250	0.293	0.042	0.177
Roof made of cardboard sheet (<i>lamina de carton</i>)	0.220	0.187	-0.034	0.267	0.211	0.179	-0.032	0.242
Roof made of concrete (<i>losa de concreto</i>)	0.093	0.076	-0.016	0.330	0.119	0.083	-0.037	0.057
Panel E: Assets								
Blender	0.252	0.206	-0.045	0.089	0.277	0.202	-0.075	0.006
Refrigerator	0.052	0.060	0.008	0.574	0.058	0.054	-0.004	0.772
Gas stove	0.182	0.176	-0.006	0.828	0.212	0.184	-0.028	0.350
Gas heater	0.013	0.021	0.008	0.133	0.019	0.020	0.002	0.784
Radio	0.613	0.590	-0.022	0.376	0.623	0.601	-0.022	0.340
TV	0.435	0.376	-0.059	0.071	0.438	0.387	-0.051	0.120
Washing machine	0.020	0.021	0.001	0.922	0.019	0.022	0.002	0.765
Car	0.004	0.007	0.003	0.253	0.002	0.010	0.007	0.047
Truck	0.029	0.024	-0.006	0.546	0.027	0.023	-0.003	0.697
Marginality index	0.610	0.531	-0.080	0.350	0.580	0.524	-0.056	0.504

Source: Authors' calculations based on 1997 ENCASEH, 1998, and 1999 ENCEL data.

Table 4. Outcome variables in the control group at follow-up (November 1999) – Eligible children

	In school	In work	N
	(1)	(2)	(3)
Boys			
Panel A: All aged 8-14	77.4	14.0	2,210
Panel B: By age at baseline			
8	98.5	0.6	340
9	95.1	3.2	309
10	89.0	4.2	381
11	81.9	9.6	332
12	68.8	16.8	352
13	50.9	33.5	269
14	40.5	44.5	227
Panel C: By grade completed at baseline			
Primary 2	87.2	6.4	234
Primary 3	89.7	6.6	380
Primary 4	89.9	7.1	435
Primary 5	73.3	12.3	400
Primary 6	60.8	24.1	378
Secondary 1	77.5	17.4	178
Secondary 2	50.0	41.1	112
Panel D: By poverty level			
Poor	77.9	12.7	942
Extreme poor	77.1	15.0	1,268
Girls			
Panel A: All aged 8-14	73.9	4.0	2,127
Panel B: By age at baseline			
8	98.9	0.8	353
9	95.7	1.9	322
10	84.2	1.1	355
11	70.4	2.0	351
12	65.8	4.7	298
13	43.5	8.8	262
14	31.7	15.6	186
Panel C: By grade completed at baseline			
Primary 2	90.3	2.7	186
Primary 3	89.8	2.0	402
Primary 4	89.8	1.9	374
Primary 5	71.4	3.5	374
Primary 6	48.8	7.8	475
Secondary 1	78.0	1.4	141
Secondary 2	52.7	4.3	93
Panel D: By poverty level			
Poor	72.9	6.0	902
Extreme poor	74.6	2.6	1,225

Notes: Mean outcomes in control group at follow-up (November 1999), presented by age, expected grade and poverty status.

Source: Authors' calculations based on 1997 ENCASEH and 1999 ENCEL data.

Table 5. Impact on eligible boys

	In school	In work	In wage work	In school only	In work only	In work and in school	Idle	N
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Panel A: All	0.049*** (0.009)	-0.033** (0.014)	-0.023*** (0.008)	0.052*** (0.014)	-0.030*** (0.006)	-0.003 (0.012)	-0.019** (0.008)	24,356
Panel B: Heterogeneous effects by age at baseline								
8	0.045*** (0.008)	-0.030** (0.014)	-0.019** (0.008)	0.045*** (0.014)	-0.030*** (0.006)	-0.000 (0.012)	-0.016** (0.007)	4,028
9	0.048*** (0.009)	-0.031** (0.014)	-0.021*** (0.008)	0.047*** (0.015)	-0.033*** (0.006)	0.002 (0.012)	-0.016** (0.008)	3,564
10	0.061*** (0.010)	-0.031** (0.015)	-0.022*** (0.009)	0.057*** (0.016)	-0.034*** (0.007)	0.004 (0.014)	-0.026*** (0.008)	4,016
11	0.051*** (0.016)	-0.035** (0.017)	-0.019* (0.010)	0.052** (0.021)	-0.034*** (0.008)	-0.000 (0.014)	-0.017 (0.013)	3,568
12	0.046** (0.019)	-0.035* (0.019)	-0.029** (0.013)	0.060*** (0.022)	-0.021 (0.013)	-0.014 (0.015)	-0.025* (0.014)	3,688
13	0.080*** (0.025)	-0.042* (0.022)	-0.033* (0.018)	0.079*** (0.026)	-0.043** (0.018)	0.001 (0.014)	-0.037** (0.016)	2,992
14	0.006 (0.029)	-0.033 (0.027)	-0.019 (0.022)	0.023 (0.032)	-0.015 (0.023)	-0.018 (0.014)	0.009 (0.020)	2,500
Panel C: Heterogeneous effects by grade completed at baseline								
Primary 2	0.064*** (0.013)	-0.037** (0.016)	-0.033*** (0.010)	0.060*** (0.018)	-0.041*** (0.009)	0.004 (0.014)	-0.023** (0.010)	4,418
Primary 3	0.060*** (0.010)	-0.031** (0.014)	-0.020** (0.010)	0.057*** (0.015)	-0.034*** (0.007)	0.003 (0.012)	-0.026*** (0.009)	4,592
Primary 4	0.038*** (0.010)	-0.041*** (0.016)	-0.025*** (0.009)	0.049*** (0.016)	-0.030*** (0.008)	-0.011 (0.014)	-0.007 (0.008)	4,098
Primary 5	0.024* (0.014)	-0.024 (0.016)	-0.016 (0.011)	0.028 (0.019)	-0.019** (0.008)	-0.005 (0.013)	-0.004 (0.011)	3,986
Primary 6	0.075*** (0.024)	-0.034* (0.019)	-0.018 (0.016)	0.077*** (0.026)	-0.032** (0.015)	-0.002 (0.013)	-0.043** (0.018)	1,842
Secondary 1	0.041* (0.025)	-0.030 (0.022)	-0.024 (0.015)	0.043 (0.028)	-0.027* (0.016)	-0.002 (0.016)	-0.013 (0.016)	1,027
Secondary 2	-0.005 (0.031)	-0.022 (0.029)	-0.028 (0.021)	-0.008 (0.034)	-0.025 (0.024)	0.003 (0.017)	0.030 (0.019)	363
Panel D: Heterogeneity by poverty level								
Poor	0.065*** (0.012)	-0.039** (0.015)	-0.033*** (0.009)	0.066*** (0.017)	-0.038*** (0.008)	-0.001 (0.013)	-0.027*** (0.010)	10,036
Extreme poor	0.042*** (0.010)	-0.031** (0.014)	-0.018* (0.009)	0.046*** (0.015)	-0.027*** (0.007)	-0.004 (0.012)	-0.015* (0.009)	14,320

Notes: Mean impact of the programme estimated by fitting model (1). Heterogeneous program effects estimated by fitting model (2). Standard errors in parentheses clustered at community level. Grade 0 is the reference category, grade 1 is not reported in the table. *** p<0.01, ** p<0.05, * p<0.1

Source: Authors' calculations based on 1997 ENCASEH, 1998, and 1999 ENCEL data.

Table 6. Impact on eligible girls

	In school	In work	In wage work	In school only	In work only	In work and in school	Idle	N
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Panel A: All	0.064*** (0.010)	-0.017* (0.010)	-0.006 (0.004)	0.076*** (0.013)	-0.005 (0.004)	-0.012 (0.009)	-0.059*** (0.011)	22,256
Panel B: Heterogeneous effects by age at baseline								
8	0.036*** (0.011)	-0.007 (0.011)	-0.004 (0.003)	0.041*** (0.014)	-0.002 (0.004)	-0.005 (0.009)	-0.035*** (0.010)	3,632
9	0.040*** (0.011)	-0.011 (0.010)	-0.004 (0.004)	0.049*** (0.014)	-0.002 (0.004)	-0.009 (0.009)	-0.038*** (0.010)	3,624
10	0.050*** (0.012)	-0.015 (0.010)	-0.004 (0.004)	0.064*** (0.015)	-0.001 (0.004)	-0.014 (0.008)	-0.049*** (0.011)	3,696
11	0.095*** (0.019)	-0.010 (0.011)	-0.004 (0.004)	0.105*** (0.021)	-0.000 (0.005)	-0.010 (0.009)	-0.095*** (0.018)	3,636
12	0.075*** (0.022)	-0.034*** (0.011)	-0.013** (0.006)	0.096*** (0.023)	-0.013** (0.007)	-0.020** (0.009)	-0.062*** (0.022)	3,132
13	0.097*** (0.025)	-0.023 (0.015)	-0.003 (0.008)	0.117*** (0.027)	-0.003 (0.009)	-0.020* (0.011)	-0.094*** (0.024)	2,680
14	0.065** (0.032)	-0.028 (0.020)	-0.017 (0.016)	0.073** (0.032)	-0.021 (0.017)	-0.008 (0.012)	-0.045 (0.030)	1,856
Panel C: Heterogeneous effects by grade completed at baseline								
Primary 2	0.035** (0.016)	-0.012 (0.011)	-0.005 (0.004)	0.044** (0.018)	-0.003 (0.005)	-0.009 (0.009)	-0.031* (0.016)	
Primary 3	0.052*** (0.012)	-0.013 (0.011)	-0.005 (0.004)	0.062*** (0.015)	-0.003 (0.004)	-0.010 (0.009)	-0.049*** (0.012)	4,181
Primary 4	0.022* (0.012)	-0.015 (0.011)	-0.005 (0.005)	0.035** (0.015)	-0.002 (0.005)	-0.013 (0.009)	-0.020* (0.012)	4,177
Primary 5	0.020 (0.013)	-0.012 (0.011)	-0.002 (0.005)	0.036** (0.016)	0.005 (0.005)	-0.016* (0.009)	-0.025** (0.012)	3,706
Primary 6	0.173*** (0.026)	-0.029** (0.013)	-0.015** (0.006)	0.184*** (0.027)	-0.018** (0.008)	-0.011 (0.010)	-0.154*** (0.026)	4,462
Secondary 1	0.038 (0.031)	0.000 (0.014)	0.014* (0.007)	0.054* (0.032)	0.016** (0.008)	-0.016 (0.012)	-0.054* (0.028)	1,418
Secondary 2	0.004 (0.035)	-0.011 (0.016)	-0.006 (0.010)	0.009 (0.037)	-0.006 (0.012)	-0.005 (0.011)	0.002 (0.032)	744
Panel D: Heterogeneity by poverty level								
Poor	0.068*** (0.013)	-0.018 (0.012)	-0.009** (0.004)	0.078*** (0.015)	-0.008 (0.005)	-0.010 (0.010)	-0.060*** (0.013)	8,976
Extreme poor	0.066*** (0.012)	-0.017* (0.010)	-0.004 (0.004)	0.080*** (0.015)	-0.003 (0.004)	-0.014* (0.008)	-0.063*** (0.012)	13,280

Notes: See Table 5.

Standard errors in parentheses clustered at community level. Grade 0 is the reference category, grade 1 is not reported in the table.

*** p<0.01, ** p<0.05, * p<0.1

Source: Authors' calculations based on 1997 ENCASEH, 1998, and 1999 ENCEL data.

Table 7. Transition patterns in the control group – Eligible children

	In school only	In work only	In work and in school	Idle	Observations
	(1)	(2)	(3)	(4)	(5)
Panel A: Boys					
In school only	86.7	4.7	3.2	5.3	1,898
In work only	7.3	65.9	4.9	22.0	82
In work and school	74.6	10.3	7.1	7.9	126
Idle	34.6	31.7	3.8	29.8	104
Panel B: Girls					
In school only	87.6	0.9	0.9	10.6	1,847
In work only	18.2	21.2	6.1	54.5	33
In work and school	73.7	5.3	5.3	15.8	38
Idle	22.5	5.7	0.5	71.3	209

Notes: Mean outcomes in the control group follow-up (November 1999), reported for each of four baseline subgroups: children in school, children not in school, children in work, and children not in work.

Source: Authors' calculations based on 1997 ENCASEH and 1999 ENCEL data.

Table 8. Impact on transition patterns – Eligible children

	In school only	In work only	In work and in school	Idle	N
	(1)	(2)	(3)	(4)	(5)
Panel A: Boys					
In school only	0.038*** (0.012)	-0.022*** (0.006)	0.001 (0.007)	-0.017** (0.007)	5,185
In work only	0.163*** (0.048)	-0.229*** (0.070)	-0.019 (0.035)	0.084 (0.076)	255
In work and in school	0.010 (0.062)	-0.031 (0.031)	0.072 (0.046)	-0.052* (0.027)	381
Idle	0.140* (0.075)	-0.105 (0.075)	0.036 (0.034)	-0.071 (0.067)	268
Panel B: Girls					
In school only	0.046*** (0.012)	-0.002 (0.003)	0.011** (0.005)	-0.055*** (0.010)	4,783
In work only	0.445** (0.224)	-0.245 (0.168)	0.054 (0.147)	-0.255 (0.187)	82
In work and in school	0.160* (0.090)	-0.006 (0.045)	0.017 (0.040)	-0.171** (0.073)	166
Idle	0.157*** (0.046)	0.005 (0.024)	0.012 (0.009)	-0.175*** (0.048)	533

Notes: Mean impact of the programme on transitions accomplished by children between November 1997 and November 1999 estimated by fitting model (3).

Source: Authors' calculations based on 1997 ENCASEH, 1998, and 1999 ENCEL data.

Table 9. Outcome variables in the control group at follow-up - Ineligible children (November 1999)

	In school	In work	N
	(1)	(2)	(3)
Boys			
Panel A: All aged 8-14	76.4	14.6	1,097
Panel B: By age at baseline			
8	97.9	2.8	144
9	96.7	2.0	151
10	90.8	7.2	152
11	85.0	9.3	140
12	74.4	12.3	195
13	52.8	23.9	180
14	40.0	45.9	135
Panel C: By grade completed at baseline			
Primary 2	90.5	11.1	63
Primary 3	92.5	6.1	147
Primary 4	94.2	6.9	173
Primary 5	81.8	8.9	192
Primary 6	60.1	23.6	258
Secondary 1	79.2	13.8	130
Secondary 2	50.6	27.3	77
Girls			
Panel A: All aged 8-14	73.9	4.5	1,073
Panel B: By age at baseline			
8	97.8	2.9	136
9	98.1	1.3	158
10	90.9	2.9	175
11	74.0	4.0	150
12	71.1	3.9	152
13	50.3	6.2	177
14	30.4	11.2	125
Panel C: By grade completed at baseline			
Primary 2	89.4	4.3	47
Primary 3	92.2	2.6	153
Primary 4	92.3	4.4	181
Primary 5	77.2	2.8	180
Primary 6	50.6	6.3	255
Secondary 1	82.5	3.9	103
Secondary 2	63.2	3.4	87

Notes: See Table 4.

Source: Authors' calculations based on 1997 ENCASEH and 1999 ENCEL data.

Table 10. Impact on ineligible boys

	In school	In work	In wage work	In school only	In work only	In work and in school	Idle	N
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Panel A: All aged 8-14								
All	0.017 (0.013)	-0.038** (0.018)	-0.001 (0.009)	0.045** (0.020)	-0.009 (0.009)	-0.029** (0.014)	-0.008 (0.010)	10,436
Panel B: Heterogeneous effects by age at baseline								
8	0.024* (0.013)	-0.043** (0.019)	-0.015 (0.009)	0.049** (0.020)	-0.018** (0.009)	-0.025 (0.016)	-0.006 (0.011)	1,324
9	0.026* (0.014)	-0.045** (0.020)	-0.014* (0.008)	0.051** (0.022)	-0.020** (0.009)	-0.025 (0.016)	-0.006 (0.012)	1,400
10	0.055*** (0.015)	-0.065*** (0.022)	-0.013 (0.011)	0.093*** (0.025)	-0.027*** (0.010)	-0.038** (0.017)	-0.027** (0.012)	1,576
11	0.000 (0.022)	-0.041* (0.022)	-0.007 (0.012)	0.026 (0.027)	-0.015 (0.013)	-0.026 (0.017)	0.015 (0.015)	1,460
12	-0.011 (0.026)	-0.023 (0.024)	0.002 (0.015)	0.027 (0.031)	0.015 (0.017)	-0.038** (0.017)	-0.004 (0.019)	1,808
13	-0.007 (0.033)	0.002 (0.029)	0.021 (0.018)	0.008 (0.036)	0.017 (0.024)	-0.015 (0.016)	-0.010 (0.023)	1,632
14	0.037 (0.036)	-0.058* (0.031)	0.021 (0.025)	0.071* (0.039)	-0.023 (0.028)	-0.035* (0.021)	-0.014 (0.022)	1,236
Panel C: Heterogeneous effects by grade completed at baseline								
Primary 2	0.002 (0.027)	-0.039 (0.024)	-0.014 (0.013)	0.011 (0.031)	-0.030** (0.014)	-0.008 (0.021)	0.028 (0.024)	804
Primary 3	0.040*** (0.015)	-0.061*** (0.019)	-0.017* (0.010)	0.069*** (0.022)	-0.031*** (0.010)	-0.030* (0.017)	-0.009 (0.011)	1,510
Primary 4	0.011 (0.017)	-0.032 (0.020)	-0.001 (0.011)	0.046** (0.022)	0.003 (0.012)	-0.035** (0.015)	-0.014 (0.013)	1,769
Primary 5	-0.014 (0.017)	-0.033 (0.022)	0.008 (0.012)	0.027 (0.024)	0.008 (0.013)	-0.041** (0.018)	0.006 (0.013)	1,873
Primary 6	0.028 (0.033)	-0.037 (0.025)	-0.003 (0.017)	0.054 (0.036)	-0.011 (0.020)	-0.026* (0.014)	-0.017 (0.022)	2,138
Secondary 1	0.027 (0.031)	-0.044 (0.031)	0.002 (0.019)	0.047 (0.037)	-0.023 (0.022)	-0.021 (0.020)	-0.004 (0.018)	1,126
Secondary 2	-0.067** (0.034)	0.029 (0.030)	0.039* (0.021)	-0.043 (0.038)	0.053** (0.023)	-0.025 (0.020)	0.014 (0.026)	684

Notes: See Table 5.

Standard errors in parentheses clustered at community level. Grade 0 is the reference category, grade 1 is not reported in the table. *** p<0.01, ** p<0.05, * p<0.1

Source: Authors' calculations based on 1997 ENCASEH, 1998, and 1999 ENCEL data.

Table 11. Impact on ineligible girls

	In school	In work	In wage work	In school only	In work only	In work and in school	Idle	N
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Panel A: All aged 8-14								
All	0.004 (0.014)	-0.004 (0.008)	-0.000 (0.005)	0.007 (0.015)	0.000 (0.005)	-0.004 (0.006)	-0.004 (0.013)	10,092
Panel B: Heterogeneous effects by age at baseline								
8	0.010 (0.014)	-0.020** (0.010)	-0.004 (0.005)	0.030* (0.017)	-0.001 (0.005)	-0.020** (0.008)	-0.010 (0.014)	1,284
9	0.022 (0.014)	-0.001 (0.011)	-0.006 (0.006)	0.023 (0.017)	-0.001 (0.006)	-0.000 (0.009)	-0.021 (0.013)	1,388
10	0.020 (0.019)	-0.001 (0.010)	-0.004 (0.005)	0.018 (0.021)	-0.003 (0.005)	0.001 (0.008)	-0.017 (0.018)	1,592
11	0.053** (0.026)	-0.010 (0.011)	-0.012** (0.006)	0.054** (0.027)	-0.008 (0.007)	-0.001 (0.009)	-0.044* (0.025)	1,548
12	-0.030 (0.029)	0.006 (0.012)	0.004 (0.008)	-0.029 (0.029)	0.007 (0.009)	-0.001 (0.008)	0.024 (0.027)	1,524
13	-0.016 (0.033)	-0.005 (0.014)	-0.001 (0.010)	-0.015 (0.033)	-0.003 (0.011)	-0.002 (0.009)	0.020 (0.031)	1,540
14	-0.042 (0.039)	0.005 (0.020)	0.026* (0.015)	-0.035 (0.040)	0.012 (0.019)	-0.007 (0.009)	0.030 (0.037)	1,216
Panel C: Heterogeneous effects by grade completed at baseline								
Primary 2	0.076*** (0.027)	-0.036** (0.015)	-0.021** (0.008)	0.092*** (0.027)	-0.021* (0.011)	-0.015 (0.011)	-0.055** (0.027)	677
Primary 3	0.039** (0.016)	-0.002 (0.011)	-0.007 (0.006)	0.036** (0.018)	-0.005 (0.007)	0.003 (0.009)	-0.035** (0.015)	1,419
Primary 4	0.022 (0.016)	-0.011 (0.011)	-0.007 (0.006)	0.028 (0.018)	-0.005 (0.006)	-0.006 (0.008)	-0.017 (0.015)	1,634
Primary 5	-0.034* (0.019)	0.003 (0.012)	0.000 (0.007)	-0.031 (0.021)	0.005 (0.007)	-0.002 (0.008)	0.028 (0.018)	1,755
Primary 6	0.044 (0.032)	-0.010 (0.012)	0.001 (0.008)	0.045 (0.032)	-0.009 (0.009)	-0.001 (0.007)	-0.035 (0.031)	2,322
Secondary 1	-0.046 (0.037)	0.006 (0.013)	0.002 (0.008)	-0.039 (0.037)	0.012 (0.009)	-0.007 (0.010)	0.033 (0.033)	1,031
Secondary 2	-0.076** (0.031)	0.008 (0.018)	0.005 (0.012)	-0.079** (0.033)	0.005 (0.013)	0.003 (0.012)	0.071** (0.030)	721

Notes: See Table 5.

Standard errors in parentheses clustered at community level. Grade 0 is the reference category, grade 1 is not reported in the table. *** p<0.01, ** p<0.05, * p<0.1

Source: Authors' calculations based on 1997 ENCASEH, 1998, and 1999 ENCEL data.

Table 12. Outcome variables in the control group at follow-up (November 1999) – Eligible and ineligible children

	Eligible children				Ineligible children			
	In work and/or chores	N	In work and/or chores	N	In work and/or chores	N	In work and/or chores	N
	Boys (1)	(2)	Girls (3)	(4)	Boys (5)	(6)	Girls (7)	(8)
Panel A: All	18.7	2,197	21.6	2,121	18.9	1,093	22.1	1,070
Panel B: By age at baseline								
8	3.8	338	8.3	351	9	144	9.6	136
9	8.5	305	10.9	322	7.3	150	7	158
10	11.1	379	11.9	353	11.8	152	12	175
11	13.9	330	20.9	350	12.9	139	20.7	150
12	21.1	351	27.9	298	16.6	193	25.2	151
13	37.5	269	38.7	261	27.2	180	37.3	177
14	48.0	225	51.1	186	48.9	135	45.5	123
Panel C: By grade completed at baseline								
Primary 2	9.1	231	15.1	186	15.9	63	10.6	47
Primary 3	11.4	378	12.7	402	12.2	147	11.1	153
Primary 4	11.1	431	11.9	371	11	173	15.5	181
Primary 5	19.5	400	22.0	373	15.3	190	19.4	180
Primary 6	28.6	377	35.2	474	27.1	258	32.5	252
Secondary 1	20.0	175	21.4	140	15.5	129	22.3	103
Secondary 2	43.8	112	32.3	93	28.9	76	28.7	87
Panel D: By poverty level:								
Poor	18.5	935	22.7	899				
Extreme poor	18.8	1,262	20.8	1,222				

Notes: Mean participation in work or chores in the control group at follow-up (November 1999), presented by age, expected grade and poverty status at baseline.

Source: Authors' calculations based on 1997 ENCASEH, and 1999 ENCEL data.

Table 13. Impact on in work and/or chores of eligible and ineligible children

	Eligible children		Ineligible children	
	Boys (1)	Girls (2)	Boys (3)	Girls (4)
Panel A: All	-0.020 (0.018)	-0.028 (0.022)	0.002 (0.025)	-0.028 (0.030)
Panel B: Heterogeneous effects by age at baseline				
8	-0.050*** (0.019)	-0.014 (0.025)	-0.036 (0.030)	-0.057 (0.036)
9	-0.033 (0.021)	-0.044 (0.027)	-0.012 (0.034)	-0.047 (0.036)
10	-0.044** (0.022)	-0.024 (0.025)	-0.030 (0.030)	0.003 (0.037)
11	-0.023 (0.024)	-0.053* (0.027)	-0.019 (0.034)	-0.051 (0.040)
12	-0.019 (0.023)	-0.058** (0.029)	0.020 (0.034)	-0.073* (0.043)
13	0.008 (0.028)	0.012 (0.034)	0.061 (0.038)	0.062 (0.049)
14	0.055 (0.035)	0.015 (0.040)	0.028 (0.047)	-0.031 (0.053)
Panel C: Heterogeneous effects by grade completed at baseline				
Primary 2	-0.028 (0.028)	-0.047 (0.031)	-0.007 (0.046)	-0.065 (0.050)
Primary 3	-0.047** (0.020)	-0.034 (0.026)	-0.036 (0.031)	-0.004 (0.043)
Primary 4	-0.054*** (0.020)	-0.027 (0.026)	-0.016 (0.030)	-0.100*** (0.038)
Primary 5	-0.007 (0.024)	-0.027 (0.027)	0.007 (0.033)	0.031 (0.040)
Primary 6	0.022 (0.024)	-0.033 (0.028)	-0.000 (0.036)	-0.061 (0.040)
Secondary 1	-0.038 (0.028)	-0.047 (0.034)	-0.018 (0.031)	-0.051 (0.045)
Secondary 2	0.080* (0.045)	0.133** (0.054)	0.169*** (0.055)	0.102* (0.058)
Panel D: Heterogeneity by poverty level:				
Poor	-0.024 (0.021)	-0.049** (0.024)		
Extreme poor	-0.017 (0.018)	-0.014 (0.024)		

Notes: Mean impact of the programme on participation in work or chores estimated by fitting model (4).

Heterogeneous program effects estimated by fitting model (5).

Standard errors in parentheses clustered at community level. Grade 0 is the reference category, grade 1 is not reported in the table. *** p<0.01, ** p<0.05, * p<0.1

Source: Authors' calculations based on 1997 ENCASEH, 1998, and 1999 ENCEL data.

APPENDIX

Table A 1. Interview rate at follow-up- Ineligible children

	Control	Treatment - control	P-value	N
	(1)	(2)	(3)	(4)
Boys	0.737	-0.092	0.000	3832
Girls	0.709	-0.066	0.014	3767

Notes: See Table 1.

Source: Authors' calculations based on 1997 ENCASEH, 1998, and 1999 ENCEL data.

Table A 2. Balance of child level outcome variables and covariates at baseline – Ineligible children

	Boys			Girls		
	Control	Treatment - control	P-value	Control	Treatment - control	P-value
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A: Outcome variables:						
In school	0.918	0.021	0.101	0.895	0.010	0.498
In work	0.076	0.022	0.206	0.021	0.010	0.184
In wage work	0.032	-0.009	0.266	0.008	0.002	0.656
In school only	0.881	-0.013	0.505	0.886	-0.001	0.961
In work only	0.038	-0.011	0.182	0.013	-0.001	0.895
In work and in school	0.037	0.033	0.017	0.008	0.011	0.040
Idle	0.044	-0.009	0.259	0.092	-0.010	0.501
Panel B: Age						
8	0.131	-0.008	0.559	0.127	0.001	0.952
9	0.138	-0.006	0.668	0.147	-0.017	0.178
10	0.139	0.021	0.111	0.163	-0.009	0.534
11	0.128	0.021	0.101	0.140	0.024	0.085
12	0.178	-0.008	0.581	0.142	0.016	0.229
13	0.164	-0.013	0.312	0.165	-0.022	0.141
14	0.123	-0.008	0.523	0.116	0.007	0.611
Panel C: Highest grade completed						
Primary 2	0.132	0.010	0.440	0.138	-0.009	0.550
Primary 3	0.157	0.014	0.349	0.169	-0.016	0.256
Primary 4	0.177	0.004	0.800	0.168	0.005	0.736
Primary 5	0.176	0.003	0.863	0.160	0.025	0.071
Primary 6	0.180	-0.026	0.094	0.177	0.013	0.427
Secondary 1	0.070	0.007	0.502	0.083	-0.002	0.879
Secondary 2	0.044	-0.006	0.451	0.054	-0.015	0.105

Notes: See Table 2.

Source: Authors' calculations based on 1997 ENCASEH, 1998, and 1999 ENCEL data.

Table A 3. Balance of household level covariates at baseline – Ineligible children

	Boys			Girls		
	Control	Treatment - control	P-value	Control	Treatment - control	P-value
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A: Mother's characteristics						
Mother not in household (or missing characteristics)	0.066	0.009	0.445	0.058	0.007	0.518
Age	40.460	-0.182	0.679	40.371	-0.181	0.658
Literate	0.736	0.002	0.938	0.750	-0.009	0.722
No education	0.235	0.002	0.927	0.223	0.003	0.898
Primary education completed	0.697	-0.028	0.282	0.709	-0.012	0.662
Secondary and higher	0.068	0.026	0.071	0.068	0.008	0.524
Panel B: Father's characteristics						
Father not in household (or missing characteristics)	0.139	0.001	0.964	0.128	0.012	0.460
Age	45.492	-0.068	0.903	44.988	-0.098	0.845
Literate	0.833	0.007	0.753	0.828	0.003	0.895
No education	0.176	0.009	0.710	0.183	0.000	0.995
Primary education completed	0.738	-0.028	0.309	0.722	0.006	0.831
Secondary and higher	0.086	0.019	0.291	0.095	-0.006	0.715
Panel C: Age distribution of household members						
n children aged 0-2	0.253	-0.008	0.796	0.280	-0.075	0.012
n children aged 3-5	0.391	-0.039	0.257	0.427	-0.065	0.102
n female 6-7	0.146	-0.006	0.746	0.175	-0.010	0.637
n male 6-7	0.156	-0.034	0.095	0.166	-0.005	0.799
n female 8-12	0.397	0.004	0.887	1.137	-0.004	0.932
n male 8-12	1.097	0.017	0.664	0.378	0.038	0.189
n female 13-18	0.600	-0.032	0.387	0.891	-0.038	0.370
n male 13-18	0.984	-0.034	0.469	0.704	-0.026	0.556
n female 19-54	1.289	-0.068	0.068	1.299	-0.061	0.083
n male 19-54	1.268	-0.050	0.279	1.284	-0.055	0.263
n female 55 and above	0.181	0.000	0.981	0.151	0.008	0.668
n male 55 and above	0.199	0.046	0.031	0.220	-0.005	0.790

Notes: See Table 3.

Source: Authors' calculations based on 1997 ENCASEH, 1998, and 1999 ENCEL data.

Balance of household level covariates at baseline – Ineligible children (cont.)

	Control	Treatment - control	P-value	Control	Treatment - control	P-value
	(1)	(2)	(3)	(4)	(5)	(6)
Panel D: Dwelling characteristics						
N. rooms	2.381	-0.010	0.893	2.318	0.051	0.491
House owner	0.966	0.004	0.648	0.966	-0.003	0.763
Electricity	0.936	-0.045	0.027	0.938	-0.049	0.020
Piped water	0.414	0.101	0.073	0.412	0.115	0.042
Agriculture land owner	0.711	0.004	0.903	0.706	0.014	0.666
Animal owner	0.513	-0.014	0.696	0.521	-0.018	0.614
Floor made of dirt	0.356	0.026	0.480	0.350	0.010	0.793
Walls made of wood (<i>madera</i>)	0.146	0.000	0.995	0.150	-0.011	0.724
Walls made of bricks (<i>tabique</i>)	0.494	-0.025	0.546	0.509	-0.034	0.407
Walls made of sun-dried bricks (<i>adobe</i>)	0.160	0.035	0.323	0.154	0.044	0.232
Roof made of metallic sheet (<i>lamina metallica</i>)	0.300	0.004	0.918	0.342	-0.026	0.517
Roof made of cardboard sheet (<i>lamina de carton</i>)	0.103	-0.010	0.646	0.093	-0.010	0.615
Roof made of concrete (<i>losa de concreto</i>)	0.233	0.017	0.601	0.238	0.006	0.851
Panel E: Assets:						
Blender	0.663	-0.064	0.041	0.664	-0.075	0.017
Refrigerator	0.362	-0.03	0.403	0.381	-0.039	0.272
Gas stove	0.52	-0.025	0.533	0.543	-0.039	0.378
Gas heater	0.048	-0.01	0.392	0.036	0.004	0.735
Radio	0.857	-0.05	0.006	0.846	-0.041	0.045
TV	0.789	-0.033	0.182	0.785	-0.025	0.359
Washing machine	0.110	-0.005	0.832	0.114	-0.002	0.935
Car	0.067	0.001	0.96	0.063	-0.007	0.636
Truck	0.184	-0.008	0.762	0.219	-0.038	0.184
Marginality index	0.185	-0.028	0.686	0.15	0.030	0.668

Source: Authors' calculations based on 1997 ENCASEH, 1998, and 1999 ENCEL data.