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ABSTRACT

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Cash transfer programs are widely used in settings where child labour is prevalent. Even if many of these programs are explicitly implemented to improve children's welfare, in theory their impact on child labour is undetermined. This paper systematically reviews the empirical evidence on the impact of cash transfers, conditional and unconditional, on child labour. We find no evidence that cash transfer interventions increase child labour in practice. On the contrary, there is broad evidence that cash transfers, conditional and unconditional, lower both the extensive and intensive margin of child labour. Our findings underline the usefulness of cash transfers as a relatively safe policy instrument to improve child welfare, but also point to knowledge gaps that would need to be addressed in future evaluations to provide detailed policy advice.

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The International Labour Office (2010) estimates that there were some 153 million 5-14 year old children involved in labour in 2008, accounting for almost 13 percent of the children in this age group. Child labour violates the basic rights of these children and may have detrimental short and long-run effects on their lives: it potentially lowers their school participation and learning in school and possibly affects their mental and physical health. Beyond its direct effects on the children concerned, child labour may result in negative externalities affecting society as a whole. The economic literature assumes that parents determine child labour supply by weighing its harmful effects against its potential benefits (primarily contributions to current household income). This literature illustrates that child labour supply is likely to be inefficiently high, also if parents are altruistic and externalities are absent, and thus provides a rationale for policy intervention (see, among others, Cigno and Rosati, 2005, Edmonds, 2007, and Udry, 2004).

This paper aims to add to our understanding of the role of policy interventions by systematically reviewing the evidence on the impact of cash transfers, conditional and unconditional, on child labour. Cash transfers are a particularly relevant category of interventions. They are widely used in settings where child labour is prevalent and, even if many of these programs are explicitly implemented to improve children's welfare, in theory their impact on child labour is undetermined. When consumption and human capital investment decisions are not separable because households are credit constrained, households may supply an inefficiently high amount of child labour. In that case, the additional income provided by cash transfer programs, both conditional and unconditional, may allow households to increase investment in education and reduce the supply of child labour. By reducing the relative price of education, cash transfers provided conditional on school participation might increase investment in education and reduce the supply of child labour also when households are not credit constrained.

However, because of possible changes in leisure time and non-convexities in the time budget (e.g. a minimum amount of time to be spent attending school), an increase in income does not necessarily imply a reduction of child labour supply, even for credit constrained households (see

De Hoop and Rosati, 2012). Moreover, cash transfers may generate incentives to increase child labour. There is evidence that households use the transferred resources not only for consumption and investment in children's human capital, but also for investment in productive assets (e.g. Gertler, Martinez, and Rubio-Codina, 2012; Ravallion and Chen, 2005; Sadoulet, de Janvry, and Davis, 2001). These investments potentially open up new opportunities for the use of children in household production, either directly in the enterprise or substituting for adult work within the household.

Several reviews document the effect of cash transfer programs on education outcomes (e.g. Fiszbein and Schady, 2009; Rawlings and Rubio, 2005; and Saavedra and Garcia, 2012). Broadly, these reviews find that cash transfer programs improve school participation. However, these studies provide little guidance as to the effects of cash transfer programs on child labour, as school participation and child labour are not mutually exclusive activities. Children can participate in both activities on the same day or in the same week and can adjust leisure to accommodate a change in the time spent in either of these activities. It is therefore not obvious that increased school participation will be accompanied by an equivalent decrease in child labour. The present paper aims to fill this gap by reviewing the available impact evaluations, discussing their implications for policy and identifying the main research gaps.

A key challenge for our discussion, which needs to be emphasized from the outset, is that child labour is not a concept that easily translates into statistical indicators. As briefly mentioned above, child labour can affect children in different ways and, as a result, its consequences for children's welfare cannot be captured by a single indicator.[1] Damage to child health, for instance,

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[1] The three principal international conventions on child labour recognize this complexity and set the legal boundaries that define children's work targeted for elimination. The ILO Convention No. 138 determines the minimum age below which children should not work and minimum ages for light and hazardous work. The ILO Convention No. 182 specifies the worst forms of child labour that are prohibited to all children under the age of 18. The United Nations Convention on the Rights of the Child aims, also, to protect children from economic exploitation and from performing any work that is likely to be hazardous or to interfere with the child's education, or to be harmful to the child's health or physical, mental, spiritual, moral or social development. The international legal standards

will depend on participation in - and length of exposure to - hazardous activities and occupations. Similarly, effects on the accumulation of human capital will depend on participation in work, work schedule and hours worked, sector of employment, and occupation. Detailed information would thus have to be captured to fully understand how policy interventions affect children's welfare.[2] Such detailed information, however, is seldom available and most studies instead focus on participation in work, with a few discussing also the impact on working hours. To complicate matters further, there is substantial variation in the way participation in work is defined across different studies. Some studies focus on specific activities (such as work in agriculture) whereas others use a more general definition (such as work in economic activities, household chores, etc.).[3]

To ensure consistency and at the same time incorporate evidence from the largest possible number of studies, we mainly discuss program impact on children's participation in economic activities. To the extent possible, we complement this discussion with separate analyses of the impact of cash transfers on hours worked. Despite its limitations, the literature's focus on participation in work provides important insights. First, impact on participation serves as a useful first order approximation to examine whether cash transfers affect the working behavior of children. Second, keeping children out of work is a sufficient condition to prevent any detrimental effects on outcomes such as health and human capital accumulation.[4] Third, participation in work is typically the key outcome in policy discussions and is also an important outcome from a legal perspective (most countries in the world have adopted child labour laws that set a minimum age below which

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contain a number of flexibility clauses left to the discretion of the competent national authority in consultation (where relevant) with worker and employer organizations (e.g., minimum ages, scope of application). This means that there is no single legal definition of child labour across countries and concomitantly there is no single standard statistical measure of child labour consistent with national legislation across countries.

[2] Moreover, we need to keep in mind that schooling, work and other activities including leisure and sleep are jointly determined.

[3] There is also variation in the reference period. Some studies look at work in the 7 days prior to the household survey, some studies look at work in the past 12 months etc. Finally, some studies present results for a few separate categories of activities instead of focusing on a comprehensive indicator for participation in work.

[4] Underlining the relevance of this point, we find that the impact of cash transfers on school participation and work participation is negatively (although not perfectly) correlated.

children are not allowed to work). Finally, by focusing on participation in work we are able to highlight some of the limitations of the research carried out to date and the main questions that remain to be answered by future evaluations.[5]

The remainder of this review is organized as follows. Section 1 provides a description of the procedure we used to identify relevant studies for this review. Section 2 discusses the impact of two subsets of *unconditional* cash transfers: programs aimed to support poor household's investments in children's human capital and old age pension schemes. Section 3 discusses the average impact of *conditional* cash transfer schemes on the intensive and extensive margin of child labour, the impact of conditional cash transfers on child labour compared to their impact on school participation, heterogeneity by poverty, age, and gender, spillover effects, long-run effects, determinants of program effects, protection from shocks, and variations on the basic conditional cash transfer scheme. Section 4 discusses and concludes.

1.   Identifying Relevant Studies

To identify potentially relevant studies that evaluate the impact of cash transfer interventions on children's work outcomes we started with an extensive literature search.[6] This literature search covered Google Scholar's electronic bibliographical database, the World Bank Development Impact Evaluation Initiative (DIME) database, the Poverty Action Lab, the Social Science Research Network (SSRN), Network of Networks for Impact Evaluation (NONIE), and the

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[5] Initially most evaluations of the impact of cash transfer interventions on human capital accumulation focused on school enrollment or attendance. A new generation of studies focuses on more elaborate outcomes such as performance on standardized tests. A similar development has not taken place for child labour and we hope that this review can serve as a starting point.

[6] The literature search was initially conducted by Understanding Children's Work (UCW) to build a comprehensive database of child labour impact evaluations. As part of building this database, relevant papers were reviewed by multiple UCW researchers and summaries were made available online. The database is updated regularly and can be found at http://www.ucw-project.org/impact-evaluation/inventory-impact-evaluations.aspx. For the purpose of this paper we included all impact evaluations identified by the summer of 2012 (there is no restriction on the start date of the search). Of course, relevant impact evaluations will continue to appear after this date. Authors of relevant papers not included in this database are invited to share their papers.

International Initiative for Impact evaluation (3IE). To determine which of the identified papers to include in our discussion, we split the full population of papers up into two subgroups: peer reviewed papers and non-reviewed papers. We decided to automatically include all of the peer reviewed papers in our discussion. We include non-reviewed studies only if they apply a plausible strategy to deal with endogenous program placement and self-selection into the program.[7] We do not limit our overview to randomized controlled trials (RCTs), but also consider other methodologies such as regression discontinuity designs, natural experiments, and propensity score matching studies.[8]

Table 1 provides an overview of the studies on which we draw in this review: 7 studies of unconditional cash transfer schemes and 23 studies of conditional cash transfer schemes. The majority of studies, 23 in total, focuses on cash transfer programs implemented in Latin America and the Caribbean. A total of 12 studies is based on a RCT. Five studies focus on Mexico's flagship conditional cash transfer scheme, Oportunidades, 4 of them exploiting the well-known cluster randomized trial implemented at the start of the program in rural areas. The age range covered differs substantially across studies, an issue that should be taken into account when interpreting our discussion. In most studies, the main outcome variable on which we focus includes economic activities for pay or for the household, although in some cases the main impact estimate is for a more narrow outcome variable (economic activities for pay) or for a more broad outcome variable (economic activities or household chores).[9]

2. Unconditional Cash Transfers

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[7] Sometimes doubts arise regarding the strategy used to deal with endogenous program placement and self-selection in both peer reviewed and non-reviewed papers. In those cases we discuss these doubts in the text.

[8] We exclude simulation studies, such as Bourguignon, Ferreira, and Leite (2003) for Brazil's Bolsa Escola. We also exclude studies that capture the effect of multiple programs at once, such as Cardoso and Portela Souza (2003) for Brazil.

[9] De Hoop and Rosati (2013) contains a table with the exact definition of the outcome variable for each individual study.

2.1 Unconditional Cash Transfer Programs Targeted at Poor Households with Children

Unconditional cash transfers are used by many governments around the world as an instrument to reduce poverty and address household vulnerability. In this section, we start by discussing the relatively scarce evidence (summarized in Figure 1) on the impact of unconditional cash transfer programs targeted at "poor" households partly with the aim to encourage investment in the human capital of their children.

Ecuador's Bono de Desarollo Humano provides means tested income transfers equivalent to roughly 7% of monthly household expenditures to households in the poorest two quintiles of the Ecuadorian population. IV estimates using randomly assigned eligibility status as an instrument for participating in the program indicate that take-up of the transfer scheme substantially lowered children's participation in economic activities. Estimates range from a reduction of 17 percentage points (Schady and Araujo, 2006, for 6-17 year old children) to a reduction of 25 percentage points (Edmonds and Schady, 2011, for 11 to 16 year old children). Edmonds and Schady (2011) find that participation in economic activities for pay was reduced by 10 percentage points. Because there was substantial non-compliance with the treatment status assigned in the randomized trial (the probability of participating in the intervention was roughly 40% in the control group and roughly 70% in the intervention group) both studies also provide reduced form estimates comparing all children in households assigned to the intervention group to all children in households assigned to the control group. The reduced form estimates range from a reduction in child labour of 6 percentage points in Schady and Araujo (2006) to 8 percentage points in Edmonds and Schady (2011).

The evaluation of Malawi's Social Cash Transfer Scheme provides us with some evidence of what happens when cash transfers are (partly) used to acquire productive assets. The program provides cash transfers ranging in value from US$4 to US$13 per household per month depending on the number of household members (average monthly per-capita income in the initial target

district was US$7.80). The program offers an additional monthly "bonus" ranging from US$1.30 for primary school age children to US$2.60 for secondary school age children. Covarrubias, Davis, and Winters (2012) provide propensity score matching estimates of the impact of the program and find that the program resulted in substantial investment in productive agricultural assets. Perhaps in accordance with this finding, "there is evidence of reductions in child labour outside the household", but "the time freed seems to be replaced with greater involvement in within-household tasks". For example, participation in household chores increased significantly by 8 to 14 percentage points. Work in the family farm or family business did not change significantly, although hours worked in the family farm or family business (not displayed in Figure 1) did increase significantly. Finally participation in paid domestic work outside the household decreased by 7 to 8 percentage points.[10] Miller and Tsoka (2012) provide difference-in-difference estimates using the same data, confirming that participation in household chores increased significantly (8 percentage points for boys and 11 percentage points for girls) while participation in work for pay decreased significantly (12 percentage points for boys and 10 percentage points for girls).

DSD, SASSA and UNICEF (2012) examine whether the length of exposure to South Africa's Child Support Grant (CSG), which provides means tested transfers to the (caregivers of) children growing up in the country's poorest households, affects its impact. Propensity score dose-response estimates show that participating in the program for a longer period of time indeed affects the probability that adolescents aged 15-17 work: 21% of adolescents who started receiving the grant at the age of 16 work outside the home compared to 14% of adolescents who started receiving the grant at the age of 0.[11] This result should be interpreted with some care, as the authors do not

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[10] Other estimates, not displayed in Figure 1, indicate that the program did not affect children's participation in care for other children in the household and in care for adults in the household. Work outside the household for income was also not affected by the intervention, while depending on the specification. The estimates are not always robust for different specifications and differ substantially for younger and older children.

[11] The dose response curve is considerably steeper for girls (drop from 20% when started receiving the program at the age of 16 to 7% when started receiving the program at the age of 0) than for boys (drop from 28% to 23%).

show whether differences between individuals treated from the age of 0 and those treated from the age of 16 are significantly different.

2.2   Old Age Pensions and the Role of Credit Constraints

As mentioned in the introduction, unconditional cash transfers are assumed to lower child labour when households are credit constrained and thus unable to reach an efficient inter-temporal allocation of resources. Two studies examine whether credit constraints indeed play an important role by studying the impact of old-age pensions. Pensions are highly institutionalized and represent an *anticipated* and relatively certain future income stream for the household. Economic theory suggests that, in the absence of credit constraints, households will follow the optimal smooth path of consumption and investment. Therefore, we should not observe any discontinuity in the behavior of households, and the fraction of working children in particular, just above and just below the pension age.

Edmonds (2006) uses data from South Africa's old-age pension scheme to test this proposition. South Africa's pensions are means tested and, as a result, primarily cover the comparatively deprived black population of South Africa. The benefits provided by the pension scheme are large, in 1999 they represented roughly 125% of median per capita income of South Africa's black population. School participation of 13 to 17 year old children in the household increases substantially when an eligible elderly person reaches the pension age, an effect especially relevant for male pensioners. Children's participation in economic activities does not decline significantly when an elderly person in the household becomes eligible for the old-age pensions. However, there is evidence of a significant decline in daily hours worked.[12] Boys experience larger

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[12] -0.6 hours for children living in a household with a male pensioner and -0.5 hours for children living in a household with a female pensioner.

reductions in time spent in economic activities, while girls appear to experience larger reductions in time spent in household chores.[13]

De Carvalho Filho (2012) confirms these findings for Brazil's social pension scheme. The author exploits a 1991 social security reform that increased the minimum benefit paid to rural old-age beneficiaries and reduced the minimum eligibility age, comparing households that became eligible to receive old-age benefits as a result of the reform to households that were nearly eligible after the reform.[14] Reduced form estimates indicate that the reform significantly increased girls' school participation and reduced their participation in economic activities for pay. IV estimates that disentangle this effect (using eligibility status as an instrument) show that an increase in benefits of 100 Reais (about US$50) increases girls school enrollment by nearly 10 percentage points and reduces the probability that girls work for pay by 3.6 percentage points. The gender of the pension beneficiary appears to matter for girls' participation in economic activities for pay: only girls living in a household where a female received the pension experience a significant reduction.

Summing up, the evidence suggests that, overall, unconditional cash transfers tend to lower child labour. However, there may be variation in the impact on the various activities carried out by children. The study of Malawi's conditional cash transfer scheme, for instance, finds significant decreases in some activities and increases in others. Evidence from studies of pension schemes points to the relevance for child labour also of transfer schemes that do not have human capital accumulation as one of their objectives. Moreover, it lends support to the hypothesis that unconditional cash transfers can keep children out of work and in school by mitigating the effect of credit constraints. These studies also indicate that the effects of unconditional cash transfers on

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[13] Edmonds (2006) discusses several alternative hypotheses that could explain the observed changes in child labour and school participation in response to the realization of anticipated income, but concludes that credit constraints are the most plausible explanation.

[14] To correct for age-specific trends not related to the reform, the author compares difference-in-differences estimates for rural households to difference-in-differences estimates for urban households (which were not affected by the reform) in a triple difference framework.

child labour are not necessarily the same for boys and girls. We will return to many of these issues in the next section, which focuses on the impact of conditional cash transfers.

3. Conditional Cash Transfers

3.1   Impact on Participation in Work and Hours Worked

Conditional cash transfer programs provide an income transfer, usually to vulnerable households, on the condition that the members of the households receiving the transfer adhere to specific behavioral requirements. The behavioral conditions are typically in the area of health (e.g. health checkups and attendance of health related seminars) and human capital accumulation (e.g. regular school attendance of children in the household). Over the past decade, developing country governments have started to adopt conditional cash transfers as social protection instruments at a rapid pace.[15] Conditional cash transfers have been evaluated extensively allowing us to discuss their impact in detail.

Figure 2 synthesizes the evidence on the average impact of the conditional cash transfer programs on participation in child labour. For some programs, we only have disaggregated estimates by gender and/or age. Because we want to start with a comparison of the average program effects before discussing heterogeneous effects, we impute the average program effect for those programs by taking the unweighted mean of the impact estimates given for different age and gender groups (these imputed estimates are marked with an ǂ in the table).[16] For other programs, we have estimates of average program effects from more than 1 study, in which case we show all the

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[15] See Fiszbein and Schady (2009) for a comprehensive review of the recent proliferation of conditional cash transfer schemes in developing countries.

[16] To calculate the standard errors associated with these estimates, we assume that the covariance between the individual estimates is zero. Note that the overall impact of the program may not be statistically significant even if some of the underlying estimates for age and gender subgroups are statistically significant.

estimates.[17] To the extent possible, we separately show impact estimates for urban and rural areas.[18]

For brevity, we do not provide a discussion of the identification strategy employed in each individual paper. Table 1 provides a basic description of the methodology and De Hoop and Rosati (2013) provides a detailed description of the setup of the individual studies.

The results indicate that, although there is considerable variation across programs, conditional cash transfer programs do tend to reduce child labour. Impact estimates range from no statistically significant change in 7 of the 15 studies to a reduction in child labour of 10 percentage points for Cambodia's CESSP scholarship program (Ferreira et al., 2010). We do not observe statistically significant *increases* in child labour for any of the programs, an important finding given the theoretically ambiguous effect of conditional cash transfers on child labour discussed above. The results suggest that the effects of any household investments in productive assets and activities that draw children into work are offset by a stronger income and substitution effect that keeps children in school and out of work.[19]

Figure 3 displays the impact of cash transfer programs on weekly hours worked.[20] As each of the included studies sets hours worked equal to zero for children who do not work, these results effectively represent the combined effect of the included conditional cash transfer programs on the intensive and extensive margin of child labour.[21] While there are fewer studies focusing on hours

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[17] If we have an estimate of average program effects from one study and estimates of disaggregated program effects from another study, we show only the estimate of the average program effect.

[18] While it seems reasonable to take unweighted means of impact estimates across age and gender groups, the same procedure cannot be applied across urban and rural areas that may differ drastically in terms of population size.

[19] We have examined whether the average the impact estimates of randomized controlled trials are different from the impact estimates of quasi-experimental studies and find that this is not the case. This finding is interesting in light of the ongoing debates regarding the validity of randomized evaluations vis-à-vis quasi experimental approaches (Deaton, 2010, Duflo and Kremer, 2005, and Ravallion, 2009).

[20] To ensure comparability, we multiply hours worked by 7 for studies that look at daily working hours.

[21] To correct for censoring of the outcome variable Attanasio et al. (2010), Dammert (2009), Del Carpio and Loayza (2012), and Ferreira et al. (2009) use Tobit regressions. Skoufias and Parker

worked than on participation in work, the results are qualitatively similar: conditional cash transfer programs tend to reduce hours worked and none of the studies finds evidence of a significant increase in hours worked. In general, reductions in hours worked are modest (the average reduction is about an hour and 15 minutes a week).

3.2   Comparing Impacts on School Participation and Child Labour

The impact of cash transfer programs on child labour is correlated with their impact on school participation. Of the 8 studies that find a significant reduction in child labour, 6 also find a significant increase in school participation (enrollment or attendance, depending on the outcome examined in the study) and of the 7 studies that find no significant reduction in child labour, only two find a significant increase in school participation. However, the correlation between program impact on child labour and school participation is not perfect. When we regress the child labour impact estimates on the school participation impact estimates (results not displayed) we find evidence of substantial and statistically significant co-movement. Each percentage point increase in school participation is associated with a reduction in child labour of 0.31 percentage points, suggesting that child labour is a key part of households' human capital investment decisions. However, the coefficient on school participation impacts is significantly different from -1, indicating that changes in school participation are not fully mirrored in changes in child work.

In fact, some of the differences in program impacts on school participation and participation in work are remarkable. As noted above, there are cases in which conditional cash transfers had a significant effect on education but no effect on child labour (e.g. Path in Jamaica). And, perhaps more unexpectedly, there are cases in which conditional cash transfers had a significant negative effect on child labour but no effect on school participation (e.g. female school stipends in Pakistan). It is, therefore, evident that complex adjustments in household behavior occur when cash transfers

(2001) use a Heckit procedure and Barrera-Osorio et al. (2008) do not correct for censoring. The result for Barrera-Osorio et al. is an average over different geographical areas and school grades.

are received (changes in working hours and/or in leisure time, changes in the kind of activities performed, etc.) and that the impact of a cash transfer on child labour is not just the reciprocal of its impact on education.

3.3 Heterogeneous Effects

3.3.1 Heterogeneity by Income

Above, we presented results for the average impact of conditional cash transfer programs. We now look into possible differences associated with some characteristics of the beneficiaries: income (in this subsection) and age and gender (in the next). A priori, there are reasons to expect that the impact of conditional cash transfers will differ depending on the level of household income.[22] Most importantly, as poor households are more likely to be affected by credit constraints, transfers targeted to these households are more likely to affect investment in human capital and to reduce inefficiently high levels of child labour.

Two studies of the PRAF conditional cash transfer scheme in Honduras find that, while overall the program did not significantly reduce child labour (see Figure 2 above), the effects of the program were different depending on household income and statistically significant only for the poorer households (Figure 4). Galiani and McEwan (2011) divide their sample of municipalities into height-for-age quintiles (arguing that height for age provides an indication of poverty in the municipality) and find that the program reduced children's participation in economic activities by 8 percentage points (significant at the 5 percent level) in the poorest quintile. In the richest quintile no statistically significant change in child labour could be observed. Glewwe and Olinto (2004) interact their treatment indicator with the log of per capita expenditure and find a qualitatively similar result (not displayed in Figure 4): as per capita expenditure decreases by one percentage

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[22] See Fiszbein and Schady (2009) for further discussion.

point, the impact of PRAF-II on children's participation in economic activities increases significantly by 0.45 percentage points.

Sparrow (2004) divides his sample in 4 per capita consumption quantiles to examine the heterogeneous effects of the Indonesia's Jaringan Pengaman Social. He too finds that program impact on child labour increases with poverty. In the lowest consumption quantile children's participation in economic activities decreased by 4 percentage points, while in the combined upper two quantiles it decreases by only 3.3 percentage points (both are significant at the 1% level). Only Dammert (2009) does not identify a differential impact of cash transfers on child labour by income level. She investigates the effects of Nicaragua's Red de Protección Social by interacting a treatment dummy with marginality quintiles.[23] The impact estimates by poverty quintile are volatile and the estimates for the 4 richest quintiles are not significantly different from the impact coefficient for the poorest quintile.

In conclusion, the impact of conditional cash transfers on child labour appears to be larger for the poor. This finding is in accordance with the findings of Fiszbein and Schady (2009), who observe that "numerous studies have shown larger [conditional cash transfer] program effects among households that are poorer at baseline" on school participation. It also lends further support to the hypothesis that the mitigation of credit constraints, which are more likely to be binding for poor households, is a key channel through which cash transfers lower child labour.

3.3.2 Heterogeneity by Age and Gender

It is not obvious a priori whether we should expect stronger changes in work participation for older or younger children. On the one hand, the children's participation in work, and hence the

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[23] In her paper Dammert shows how impact estimates for the richest 4 quintiles differ from the impact estimate for the poorest quintile. To ensure that the results are comparable with those of the other studies we imputed the impact of the program for each of the 5 quintiles. We followed a procedure similar to that discussed in footnote 16 to calculate standard errors for these estimates. Dammert (2009) also examines heterogeneity along poverty quintiles. Those results are not qualitatively different from the marginality index results and we decided not to display them in Figure 4.

margin for improvement in child labour outcomes, increases with age. On the other hand, as children get older their returns to work are likely to increase, making work a more attractive alternative to compliance with a conditional cash transfer schooling requirement. To examine this issue we use the data from all studies that look at the effect of a conditional cash transfer scheme on child labour for two or more age groups and, by means of a regression, we test whether the impact on the younger and older age group differs (Column (1) of Table 2).[24] We find no evidence of a significant correlation, suggesting that indeed the effect of conditional cash transfer schemes on child labour is not clearly heterogeneous by age.

In Column (2) of Table 2 we test whether the effect of conditional cash transfers is heterogeneous by gender. To do so we now use the results from all studies that show impact results separately for boys and girls. We find that conditional cash transfer schemes result in a 3.3 percentage point stronger reduction in child labour for males than females. In fact, a substantial number of studies finds a significant impact on child labour among boys and no significant impact on child labour among girls. Borraz and Gonzales (2009), who examine the impact of the PANES conditional cash transfer program in Montevideo, Uruguay, is the only study to find a significant decrease in child labour for girls but no significant decrease for boys.

To better understand the differential impact of conditional cash transfer interventions on the work of boys and girls, Figure 5 provides results from 3 studies that disaggregate the overall impact of conditional cash transfers across different work activities. The impact of conditional cash transfers on different types of activity differs by gender. Boys primarily experience reductions in economic activities for pay. Oportunidades, for example, resulted in a significant reduction in economic activities for pay conducted by boys, but not for girls (Skoufias and Parker, 2001). Similarly the CESSP scholarship program in Cambodia (Ferreira et al., 2009) and the PRAF program in Honduras (Galiani and McEwan, 2011) respectively appear to have had a stronger impact on work for pay and work outside the home for boys than for girls. Girls, on the other hand,

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[24] For each study we focus on two age groups, if possible within the 7-14 age range.

appear to experience larger reductions than boys in household chores (Oportunidades in Mexico)[25], in economic activities without pay (the CESSP program in Cambodia), and work at home (PRAF in Honduras).

Similar results are obtained by Del Carpio and Macours (2010), who focus on Atención a Crisis, a one-year randomized pilot building on the Red de Protección Social cash transfer scheme in Nicaragua. The authors test for differences in reductions in hours worked by boys and girls in different activities during the week before the interview.[26] Fixed effects estimates indicate that the reduction in participation in economic activities of boys as a result of the basic conditional cash transfer program exceeded that of girls by more than one hour a week.[27] For household chores (cooking, cleaning, washing, and caring for younger siblings) there was no significant difference between boys and girls.[28]

It appears that a focus on economic activities does not reveal the full impact of conditional cash transfers on girls. Girls are more likely to participate in household chores than economic activities and consequently the impact of cash transfers on work carried out by girls is likely to be underestimated if we focus only on participation in economic activities. More elaborate survey modules on children's time use are necessary to fully understand the impact of cash transfers, particularly on girls' activities.

3.4 Spillover Effects and General Equilibrium Effects

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[25] Realizing purchases for the family, making clothes for family members, taking a family member to school, work, the health center, or the hospital; cleaning the house, washing and ironing clothes, cooking, fetching water or firewood or disposing of trash, and caring for small children, elderly family members, or sick individuals.

[26] Not displayed in Figure 5 because the study focuses on the intensive instead of extensive margin of child labour.

[27] for this set of estimates only the differential impact of the intervention on boys versus girls is given, impact on boys and girls themselves is not available.

[28] These estimates do not correct for truncation of the outcome variable, but other estimates provided in the paper suggest that most results are robust to corrections for censoring.

The effects of conditional cash transfer programs may spillover to children who are not direct beneficiaries of the cash transfer scheme. At the household level, for example, income effects may alter the probability that the siblings of the beneficiary work. Conditional cash transfer programs may also result in spillover effects in the local labour market. Pulling a substantial number of children out of work, for example, might affect conditions on the local labour market and increase the marginal returns to child labour.[29]

The evaluations indicate that such spillover effects are not highly relevant. Ferreira et al. (2009) and Galiani and McEwan (2011) respectively compare siblings of eligible children in their treatment group to siblings of eligible children in their control group for the CESSP program in Cambodia and PRAF in Honduras (see Figure 6). Neither study finds evidence that siblings of eligible children in the treatment group altered their participation in work in comparison with siblings of eligible children in the control group. A similar result is found by Barrera-Osorio et al (2008), who examine the spillover effects of Colombia's Subsidios Condicionados a la Asistencia Escolar conditional cash transfer scheme on the intensive margin of child labour. Within the sample of households that registered two children for the program, there is no difference in work participation of untreated registered children living in a household in which the other registered child received the intervention and untreated registered children living in a household in which neither registered child receives the intervention.

Buddelmeyer and Skoufias (2004) investigate whether village-level spillover effects can be observed for the Oportunidades conditional cash transfer scheme in Mexico. They exploit the fact that, within randomly selected intervention villages, only poor households were eligible to participate in the program. Non-poor households in intervention villages were not eligible and can thus be compared to non-poor households in control villages to identify spillover effects. The

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[29] A similar argument is underlying the well-known theoretical work of Basu and Van (1998), who argue that pulling all children out of work by means of a ban may jolt the labour market to another equilibrium in which adult wages are higher and children do not work.

authors find no significant village-level spillover effects on children's participation in economic activities.

3.5   Long-run Effects

The impact evaluations discussed thus far examine the impact of conditional cash transfers at one particular point in time (mainly shortly after the program started). Yet, the impact of a program may vary significantly over its lifetime (see King and Behrman, 2009). For instance, if program operation improves as providers become more experienced, the impact of the program may be amplified over time. And if the impact of the program depends on the duration of exposure to the program, impact estimates based on data collected relatively soon after participants enter the program may differ substantially from estimates based on data collected at a later stage.

Behrman, Parker, and Todd (2011) examine the impact of Oportunidades in the longer run and discuss whether these estimates differ from the short run results. Propensity score estimates suggest that the probability that boys who were 14 to 16 years old in 2003 (5.5 years after the program was first implemented) work is 14 percentage points lower in Oportunidades communities than in communities that had never received benefits of the cash transfer scheme.[30] There is no evidence that work participation changed for girls in this age group (who are less likely to work in the first place).[31] The strong reduction in work by boys in the long run compared to the modest impact in the short run (Skoufias and Parker, 2001, found that boys aged 14-15 reduced work participation by approximately 4 percentage points) suggests that the beneficial impact of the Mexican conditional cash transfer program is compounded over time. Possibly, reduced

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[30] The control communities were selected by matching their community-level characteristics (housing attributes, demographic structure, poverty levels, labour force participation, and ownership of durable goods) observed in the 1995 and 2000 census to the community level characteristics of the treatment communities. Baseline data is not available for individuals in the communities that had never received benefits of the cash transfer scheme. For these individuals the authors therefore rely on recall data to construct difference-in-difference propensity score matching estimators.

[31] The absence of a significant impact of the program on working among these subgroups may mask a combination of negative impacts on some individuals who continue to study and positive impacts on other individuals who have completed their studies and entered the work force.

probabilities of dropping out of school in individual grades (an issue alluded to in Schultz, 2004) start to add up. The latter interpretation appears to be confirmed by Behrman, Parker, and Todd (2011), who also register strong improvements in school participation for girls up to 18 and boys up to 21 years old.

3.6   Differences in Program Impact

We have seen that the estimates of the impact of conditional cash transfers on child labour vary substantially. On the basis of the information available, and without developing a new in-depth quantitative and qualitative analysis for each program, it is impossible to fully identify the reasons behind this variation. However, we can get some basic insight into the relationship between program characteristics and program impact on child labour. In this section, we look at the role of the schooling conditionality and the size of the transfer.

3.6.1   Effect of the Conditionality

A key question is, of course, whether the impact of conditional cash transfers on child labour exceeds that of unconditional cash transfers. This question is not easy to answer by comparing the effects of the unconditional and conditional cash transfers presented thus far. The decision to attach a condition might be endogenous depending, also, on the expected impact of the program in the target population. Moreover, the studies included in this review do not always discuss what the exact conditions of the programs are, how these conditions are communicated to beneficiaries, and to what extent conditions are enforced. Hence, it may be the case that programs that are nominally conditional are unconditional in practice.

However, a few recent studies allow us to shed some light on the effects of schooling conditions. Schady and Araujo (2008) and Edmonds and Schady (2012) exploit a glitch in the rollout of the Bono de Desarrollo Humano program, as a result of which some beneficiary households incorrectly believed that the cash transfers were provided conditional on school

attendance. While the conclusions of the two papers are not entirely uniform, it appears that the effect of the program on child labour was similar in the households that believed that the program was conditional on school participation and in the households that did not.

At the time of writing preliminary evidence was also available from an experiment in which households in rural Morocco were randomly selected to receive conditional and unconditional cash transfers. (Benhassine et al., 2012). While we caution that these results are not conclusive, they too suggest that changes in the time spent working in the household business are similar (and insignificant) for conditional and unconditional cash transfers.[32] The similar impact of conditional and unconditional cash transfers on child work is in contrast with evidence from a number of studies suggesting that conditional cash transfers have a stronger impact on school participation than unconditional cash transfers (e.g. Baird, McIntosh, and Özler, 2011; Akresh, de Walque, and Kazianga, 2012). It is evident that more information is necessary to understand the impact of the schooling condition on child labour.

3.6.2 Amounts Transferred

There is some experimental evidence on the impact of the size of the transfer on school participation (e.g. Baird, McIntosh, and Özler, 2011). No such evidence is available for child labour. To examine the association between amounts transferred and changes in child labour, we regressed the average impact of conditional cash transfer programs on the amount of money transferred as a percentage of average household income (results not displayed). We found no evidence that transferring larger amounts is associated with a larger reduction in child labour. The lack of a negative relationship between amounts transferred and changes in child labour is also apparent from the individual studies.[33] The CESSP scholarship program in Cambodia, for instance,

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[32] Because the results are preliminary, we have not included them in our discussion of the impact of unconditional and conditional cash transfers on the intensive margin of child labour.

[33] We have no estimate for the amount transferred as a percentage of household income for the Female School Stipends program in Pakistan.

resulted in the second strongest decrease in child labour of all evaluated conditional cash transfer programs even though it provided only very modest transfers (equal to 2 to 3% of the total expenditures of the average recipient household). Uruguay's PANES, on the other hand, provided income transfers equal to approximately 50% of average self-reported pre-program household income and yet does not appear to have lowered child labour.

This finding is in accordance with Baird, McIntosh, and Özler (2011) who find no evidence that larger conditional transfers result in stronger changes in school participation and is also in line with evidence synthesized by Kremer and Holla (2009) suggesting that relatively small costs (for example the costs of school uniforms) are sufficient to keep children out of school and that relatively small subsidies can generate sizeable movements in take-up of health and education interventions.[34] Together with the finding that cash transfers have a stronger impact on the poor, it lends further support to the hypothesis that the mitigation of credit constraints is a key channel through which cash transfers affect child labour. Apparently, once sufficient cash has been transferred and credit constraints are no longer binding, transferring additional cash to the household has no effect on child labour.

3.7   Protection from Shocks

There is substantial evidence that households in developing countries use child labour to cope with income shocks. Beegle, Dehejia, and Gatti (2006), for example, use data from a household panel survey in Tanzania to show that households increase child labour in response to transitory income shocks. Similarly, Duryea, Lam, and Levison (2007) find that unemployment shocks experienced by male household heads in Brazil significantly increases the probability that a child enters the labour force. And Guarcello, Mealli, and Rosati (2010) show that in Guatemala exposure to negative shocks also strongly influences household decisions and pushes children into

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[34] Baird, McIntosh, and Özler (2009) find that *unconditional* transfer amounts do matter for school participation.

work. An important question is whether social protection programs, such as conditional cash transfers, can serve as a safety net preventing income shocks from causing children to drop out of school and enter work.

De Janvry et al. (2006) test whether the conditional cash transfers provided by the Oportunidades program in Mexico protect children from household level shocks, including illness of household head, loss of employment by household head, and natural disasters such as drought and harvest failure. The authors find evidence of state dependence in schooling: children may leave school as the result of a shock (particularly illness of the household head and locality-level natural disasters) and when this happens there is a substantial risk that they do not return to school at a later stage. Oportunidades strongly reduced the risk that pupils leave school as a result of such shocks. For instance, the risk that a child drops out of school as a result of illness of the household head or a locality-level disaster (respectively 1.7 and 3.2 percentage points in the absence of PROGRESA) was virtually reduced to zero by the conditional cash transfer scheme. No such protective effect could be observed for child labour, however. The same two shocks, illness of the household head and locality-level natural disasters, respectively increase children's participation in economic activities by 2.2 and 4.7 percentage points in the absence of the program. This increase was not significantly different in Oportunitades villages, suggesting that the protective effect of the conditional transfer program was not sufficient to reduce the use of child work as a crucial element of household risk-coping strategies.

Following a similar approach, Fitzsimons and Mesnard (Forthcoming) examine whether Colombia's Familias en Acción conditional cash transfer scheme protected children from the detrimental effects of the permanent departure of their father from the household due to death or divorce. The authors show that departure of the father is a quasi-random event accompanied by a substantial reduction in household income. Children that experience the departure of their father are about 5 percentage points less likely to attend school and about 3 percentage points more likely to work. In contrast with De Janvry et al. (2006), Fitzsimons and Mesnard (Forthcoming) find that the

conditional cash transfers strongly mitigate both the detrimental effect of the departure of the father on school enrollment *and* the detrimental effect on participation in work.[35]

3.8   Variations on the Basic Conditional Cash Transfer Scheme

Some studies examine whether changes in the basic setup of the conditional cash transfer program affect their impact. Del Carpio and Loayza (2012) rely on a randomized experiment in Nicaragua to compare the impact of simple conditional cash transfers to that of conditional cash transfers combined with a "grant for productive investments" to start a new income-generating non-agricultural activity. The grant was provided to households conditional on the development of a business plan and was accompanied with technical assistance and training in basic business skills. The two variants of the conditional cash transfer scheme do not appear to have the same impact on child participation in economic activities or household chores: the conditional cash transfers in combination with the productive investment grant reduced child labour by 0.94 hours a week whereas the basic conditional cash transfer reduced child labour by 1.76 hours a week (the difference between the point estimates is statistically significant at the 5% level).

Barrera-Osorio et al. (2008) rely on a randomized experiment in Colombia to compare the impact of simple conditional cash transfers to that of a variation on the traditional conditional cash transfer that includes a built-in savings component. The latter intervention provided a regular cash transfer that was equal to two-thirds of the basic conditional cash transfer. The remaining third was held in a savings account and made available to households in the period in which students enroll for the following school year. This savings component should have helped households to cope with

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[35] Several other studies do not directly test whether conditional cash transfers protect children from participation in work when the household is hit by an economic shock. Yet, they do suggest that conditional cash transfers can reduce child labour during economic downturns. Maluccio (2005), for instance, shows that Red de Protección Social reduced participation in economic activities among children living in Nicaragua's coffee growing regions during a sharp downturn in coffee prices in 2001 and 2002. Sparrow (2004) finds similar results in his study of Indonesia's Jaringan Pengaman Social emergency conditional cash transfer program. However, these results contrast with those of Amarante et al. (2011), who find no effect of Uruguay's anti-crisis conditional cash transfer program on child labour.

long-run savings constraints that keep children from proceeding from one grade to the next.[36] The authors provide results for two subgroups: pupils in grades 6-10 and pupils in grade 11. Among pupils in grade 6-10, the conditional cash transfers in combination with the savings scheme reduced child labour by 0.26 hours a week whereas the basic conditional cash transfer reduced the prevalence of child labour by 0.38 hours a week (only point estimates vis-à-vis the control group are given, no level of significance is available for the difference between these two treatment groups). Among pupils in grade 11 neither the basic transfers nor the transfers with built in saving scheme resulted in a statistically significant change in child labour.

Glewe and Olinto (2004) and Galiani and McEwan (2011) compare the impact of receiving Honduras' PRAF-II conditional cash transfers in isolation (discussed in more detail above) to the impact of receiving the conditional cash transfer in combination with direct investments in the communities' health and education facilities. As shown in Figure 2, neither of these studies found an overall reduction in child labour as a result of the pure conditional cash transfer scheme (although both did find effects for the poorest households). Glewe and Olinto (2004) find no overall effect of the cash transfers combined with supply side interventions either. Galiani and McEwan (2011), however, find that the conditional cash transfers in combination with the investments in health and education facilities did result in a statistically significant decrease in economic activities outside the household.[37]

Finally, Yap et al. (2002) investigate the impact of Brazil's Programa de Erradicacao de Trabalho Infantil (PETI). This program was targeted at poor households in rural areas of the country where the prevalence rates of child labour are high. Similar to Brazil's Bolsa Escola program, PETI provided a cash transfer conditional on school participation. However, PETI was explicitly designed

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[36] The authors also examine the impact of adding a graduation grant to the basic cash transfer scheme. This grant was implemented in another district, which makes it hard to know whether differential impact is the result of geographical differences or the result of the grant itself.

[37] The point estimates for conditional cash transfers in combination with investments in health and education facilities exceed those of conditional cash transfers only, but the estimated coefficients are not significantly different from each other

to reduce child labour. For this purpose, it required households to enroll their child in an after school education program. The content of the after school education program differed per community and could contain academic and physical education components. After school education essentially doubled the length of the school day for participating children. The non-experimental identification strategy employed by Yap et al. (2002) to examine the impact of PETI suffers from significant drawbacks.[38] Nonetheless, given the obvious relevance of the intervention for child labour outcomes, we feel that it is worth mentioning that the authors find that PETI lowered child labour by 5 to 25 percentage points in different regions. Taken at face value, these results suggest that the program resulted in strong reductions in child labour compared to, for example, Bolsa Escola, which provides pure conditional cash transfers and reduced participation in economic activities by 8.7 percentage points (Ferro et al. 2010).

Taken together, the studies discussed in this section suggest that the impact of conditional cash transfers depends partly on their integration with other interventions. Interventions that aim to improve income-generating activities may reduce the impact of conditional cash transfers on child labour, possibly by generating increased demand for children's time within the household. In the case of Nicaragua, for example, a plausible explanation for the weaker program effect when the basic conditional cash transfer is combined with a grant for productive investments could be that children are employed in the newly developed household business.

Combining conditional cash transfers with supply side interventions such as provision of health and education facilities, and after school education, on the other hand, possibly increases impacts on child work. This finding seems intuitive, as these supply side interventions reduce the incentives or the time available to the child for work. However, further research is needed to better

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[38] To identify the effect of this program, Yap et al. (2002) compare children in 9 treatment municipalities to children in 9 control municipalities, which had expressed an interest in participating but were scheduled for later incorporation in the program. The authors do not discuss how municipalities were selected for early treatment by the program, so it is not clear whether their cross section regression estimates could be biased due to endogenous program placement. The authors also do not discuss how they calculate standard errors and whether these are clustered at the level of control municipalities.

understand how cash transfer and supply side interventions interact. Is their combined effect simply equal to the sum of the effect of the individual interventions? Or is there a synergy such that the effect of the cash transfers and supply side interventions is mutually reinforcing. This is a key topic for future research, not only for child labour, but also for other outcomes such as school participation.

4. Conclusion

Cash transfer schemes are not often designed and implemented with the aim of reducing child labour, even if social protection is recognized as one of the main instruments to address child labour (International Labour Office, 2013; Understanding Children's Work, 2010). Yet, as this review shows, cash transfers do have a strong potential to address child labour. We have not identified a single program that increased child labour, nor have we found evidence of detrimental spillover effects at the household level or at the level of the local labour market. On the contrary, there is broad evidence that cash transfers, conditional and unconditional, lower both the extensive and intensive margin of child labour. Moreover, cash transfers appear to cushion the effect of economic shocks that may lead households to use child labour as a coping strategy.

The effects of the cash transfer programs on child labour are heterogeneous. There are differences by the child's gender. Boys tend to experience a larger reduction in participation in economic activities, whereas girls experience relatively larger reductions in involvement in household chores. Moreover, reductions in child labour are particularly pronounced when beneficiaries are poor, signaling that the mitigation of credit constraints, which force households to use child labour as a consumption smoothing mechanism, are a key channel through which cash transfers lower child labour. This interpretation is confirmed by studies of old-age pension schemes that allow for a more direct test of the role of credit constraints.

Preliminary evidence suggests that the impact of conditional cash transfers depends partly on their integration with other interventions. Combining conditional cash transfers with supply side

interventions such as provision of health and education facilities and/or after school education possibly increases impacts on child labour. On the other hand, interventions that aim to improve income-generating activities may reduce the impact of conditional cash transfer on child labour, possibly by generating increased demand for children's time within the household. These results point out that, in order to reduce child labour, careful attention should be given to the integration of conditional cash transfers with other interventions.

In conclusion, the use of cash transfers as an anti-poverty strategy seems to be effective also to reduce child labour. The same does not necessarily hold for all anti-poverty and income generating interventions. The encouragement of entrepreneurship through microfinance programs, for instance, *can* increase child labour (e.g. Augsburg et al. 2012; Nelson 2011). This further underlines that cash transfers are a useful policy instrument to improve child welfare and suggests that they are unlikely to have detrimental side - or spillover - effects on child labour even when they are not implemented or designed to address it.

However, important knowledge gaps need to be addressed in order to provide more detailed policy advice. The main gaps are due to the fact that, as mentioned, cash transfers are seldom implemented with a reduction in child labour as one of their main objectives and are, therefore, typically not assessed in-depth against this outcome. As a result, we know relatively little about the program characteristics that determine cash transfer programs' effects on child labour nor do we clearly understand why some of these programs have no effect on child labour. The role of design elements that *have* been tested appears to be limited. There is little evidence that schooling conditions affect program impact on child labour. The latter finding is surprising in light of recent research indicating that schooling conditions do matter for school participation and warrants further research. The size of the transfer relative to household income also appears to have little influence on reductions in child labour. Some conditional cash transfer projects that transfer substantial sums of money have no effect on child labour, while other programs that provide only a small subsidy result in strong changes.

Beyond examining the program characteristics that determine the impact of cash transfers on child labour, there are more questions open for future research. A key issue, which we outlined in the introduction, is the measurement of child labour. Most impact evaluations focus on economic activities. This approach potentially results in underreporting of program impact on activities carried out by girls, as they are more likely to be involved in household chores. Also, as a result of the focus on the participation in economic activities (or in one of its subcomponents), we have little evidence on the extent to which the interventions prevent and reduce (i) the worst forms of child labour, including hazardous work and (ii) long working hours that keep children from learning in school.

More systematic evidence on extensions of basic cash transfer schemes and the interplay between cash transfer schemes and other social protection and supply side interventions would also be important. In practice, cash transfer interventions are rarely implemented in isolation and interaction effects may well determine their impact. This review provides preliminary evidence suggesting that the impact of cash transfer schemes and education interventions may be mutually reinforcing, while combining cash transfer schemes with services that aim to foster income-generating activities may have a detrimental effect on child labour. However, much work remains to be done to understand to what extent synergy effects are driving the combined effect of cash transfer and supply side interventions.

Finally, we know very little about the relative cost effectiveness of cash transfers in reducing child labour and how their cost effectiveness compares to other interventions. This issue has remained largely unexplored in most impact evaluations focusing on child labour. Few of the studies included in our review are explicit on the cost of implementing a cash transfer program (other than the transfer amounts). Evaluations of the impact of other categories of interventions on child labour are equally unlikely to discuss the cost of implementing the program per beneficiary. More explicit cost effectiveness analyses will be crucial in guiding governments in the elimination of child labour.

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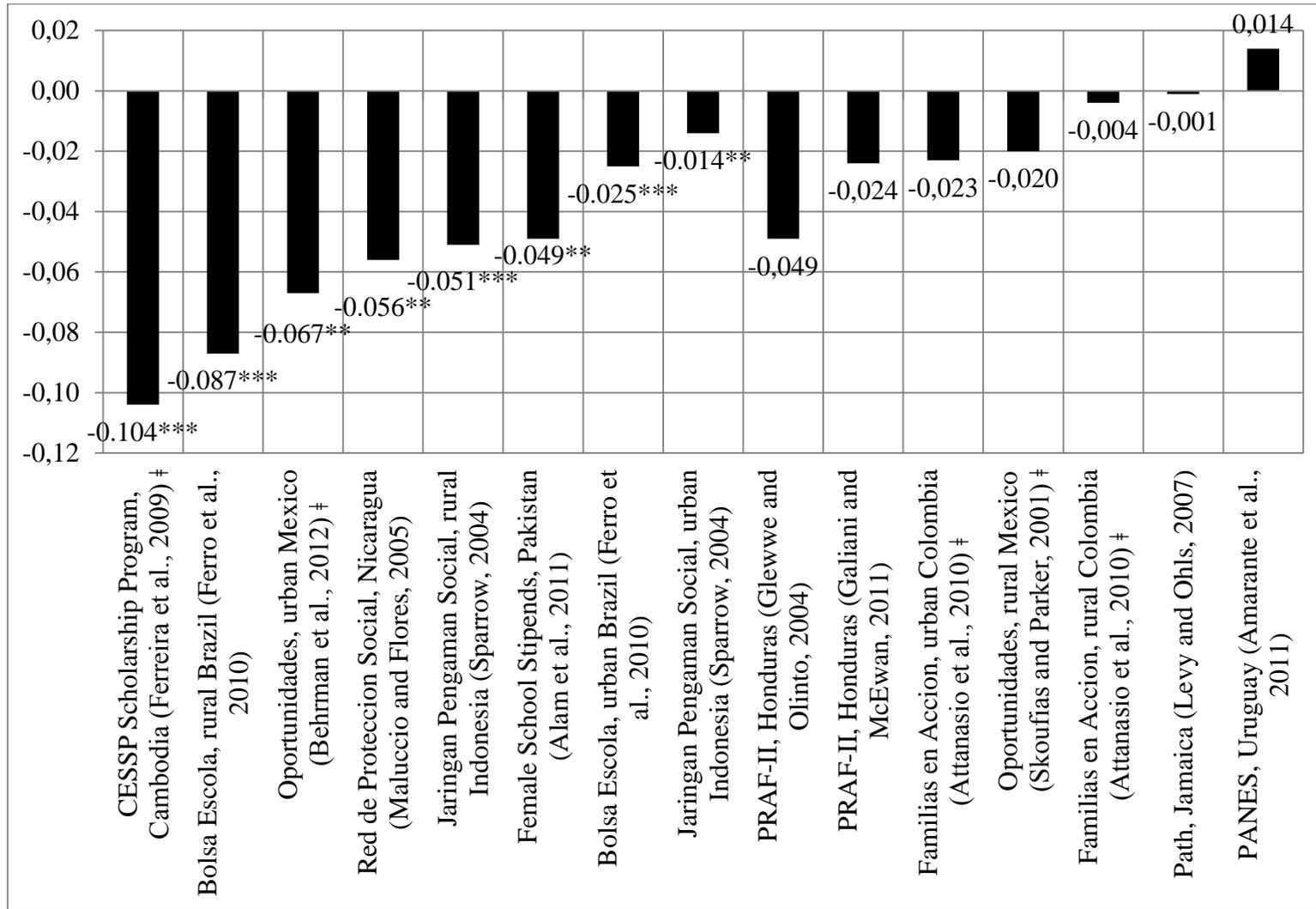
Yap, Yoon-Tien, Guilherme Sedlacek, and Peter F. Orazem. 2002. "Limiting Child Labor through

Bahavior-Based Income Transers: An Experimental Evaluation of the PETI Program in

Rural Brazil." Working Paper.

Tables and Figures

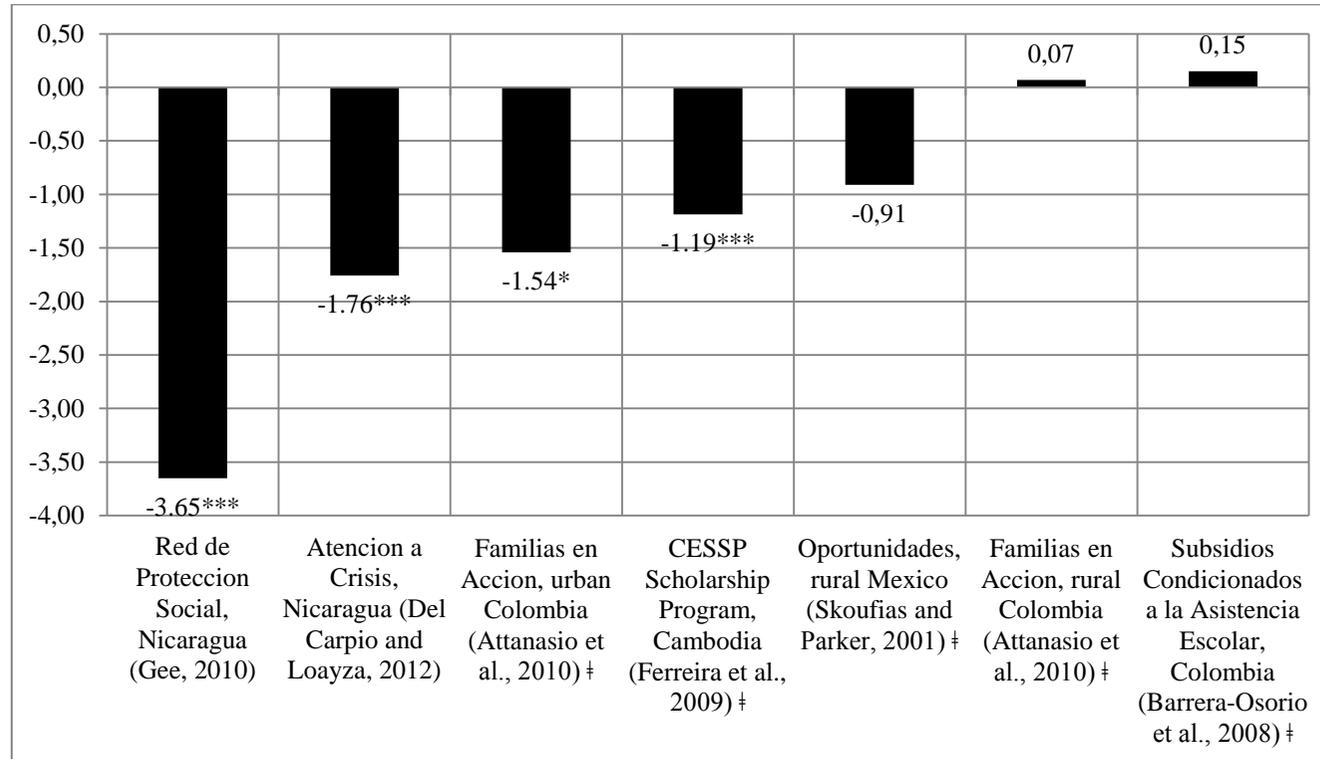Figure 1. Unconditional cash transfers tend to reduce child labour, although results are not uniform.

Note: Change in the probability of working as a result of the unconditional cash transfer programs displayed on the horizontal axis. *** p<0.01, ** p<0.05, * p<0.1.

Figure 2. Conditional cash transfer programs tend to reduce the prevalence of child labour.
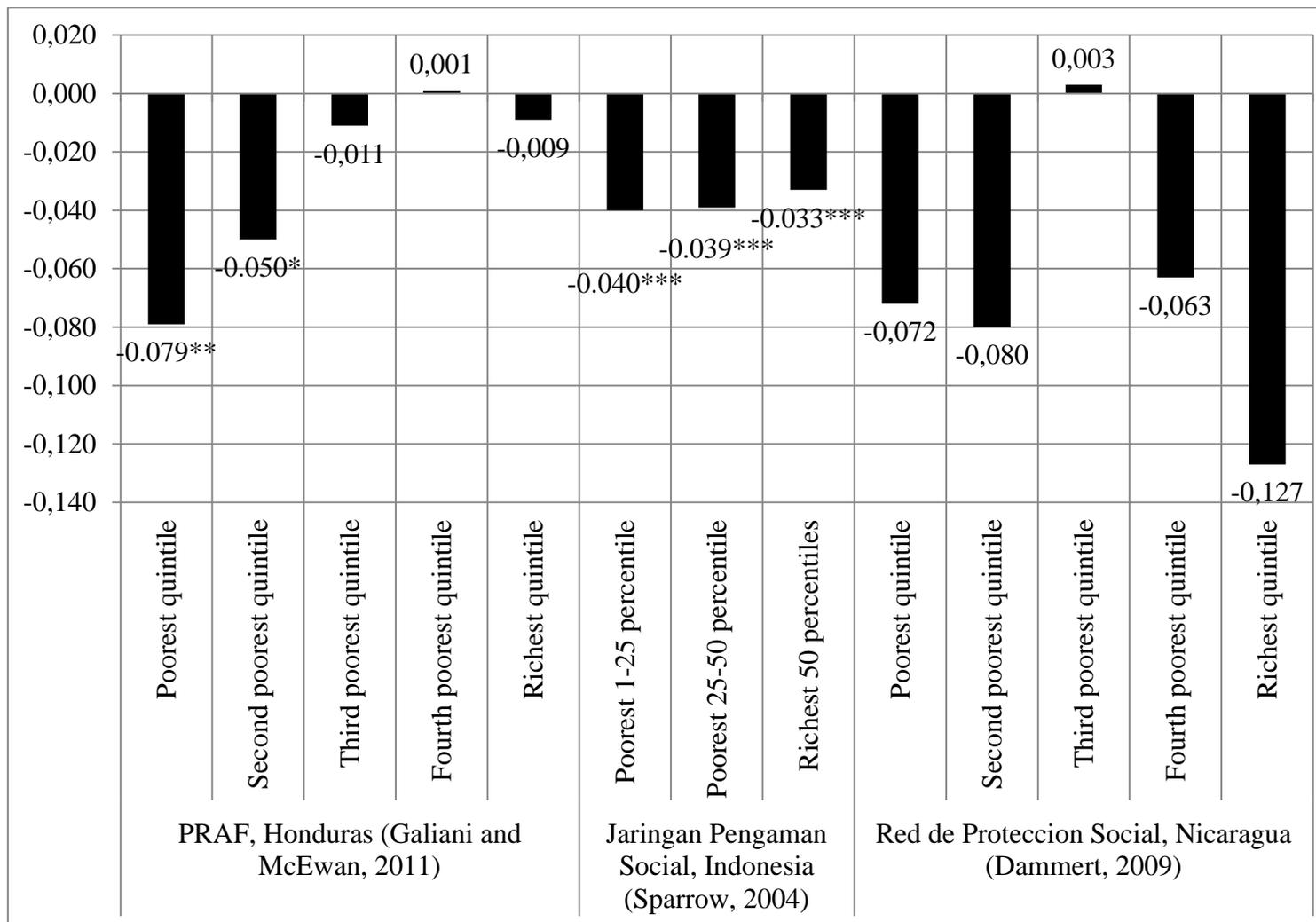

Note: Change in the probability of working as a result of the conditional cash transfer programs displayed on the horizontal axis. ‡ indicates that the estimate is a weighted average of multiple age and gender groups. *** p<0.01, ** p<0.05, * p<0.1.

Figure 3. Conditional cash transfer programs tend to reduce weekly hours worked by children.
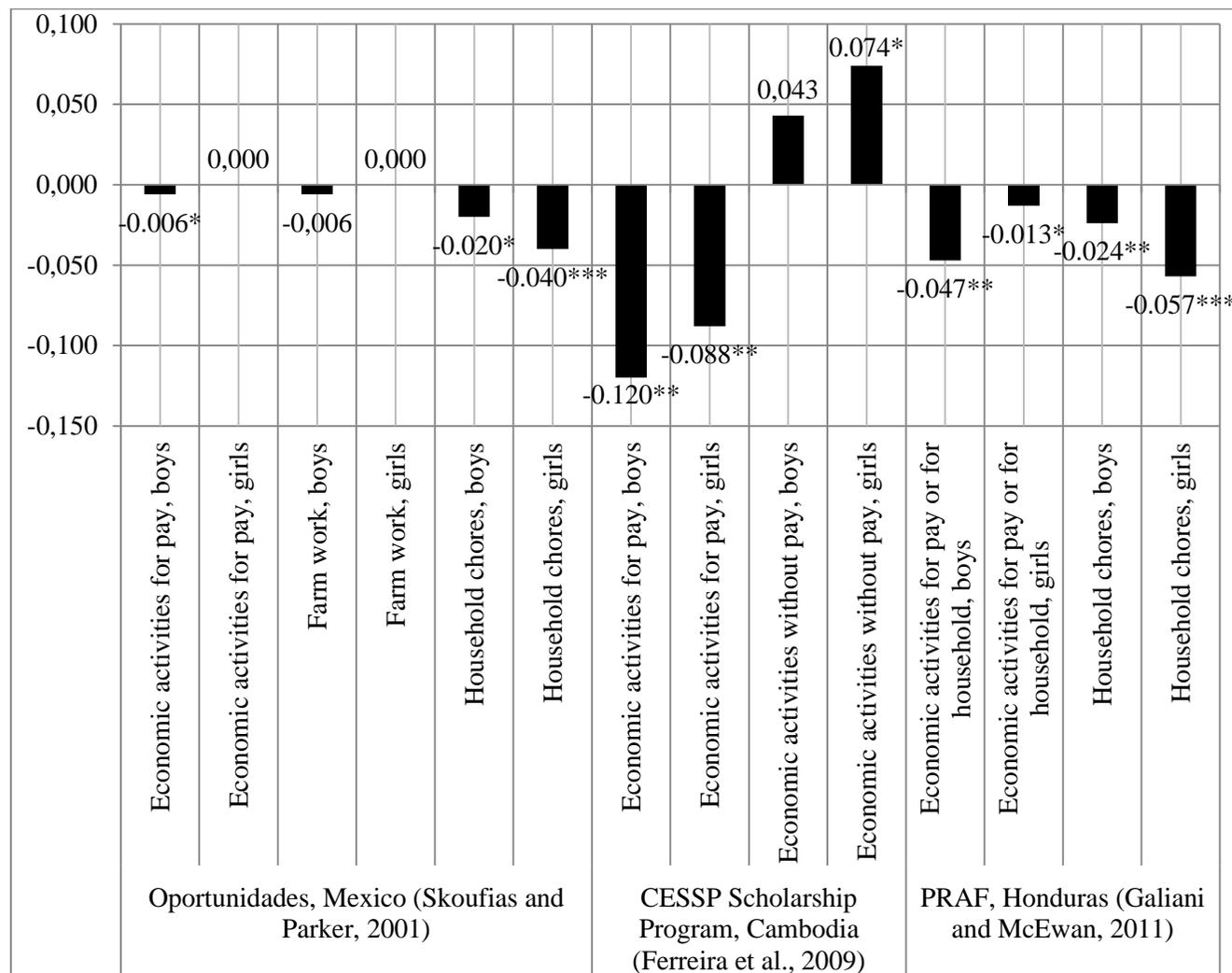

Note: Change in hours worked as a result of the conditional cash transfer programs displayed on the horizontal axis. ‡ indicates that the estimate is a weighted average of multiple age and gender groups. *** p<0.01, ** p<0.05, * p<0.1.

Figure 4. The impact of conditional cash transfers on child labour tends to be stronger in poorer households and communities.

Note: Change in the probability of working as a result of the conditional cash transfer programs displayed on the horizontal axis by poverty quintile or percentile. *** p<0.01, ** p<0.05, * p<0.1.

Figure 5. Boys experience stronger reductions in economic activities, girls in household activities.

Note: Change in the probability of involvement in economic and household activities as a result of the conditional cash transfer programs displayed on the horizontal axis by gender. *** p<0.01, ** p<0.05, * p<0.1.

Figure 6. There is no evidence of spillover effects at the household or the community level.

Note: Change in the probability of involvement in economic and household activities as a result of the conditional cash transfer programs displayed on the horizontal axis. *** p<0.01, ** p<0.05, * p<0.1.

					Table 1. Programs and studies included in the review		

Country	Program	Studies	Methodology	Main age-range	Activities included in main outcome variable
Unconditional Cash Transfers					
Brazil	Old age pensions	de Carvalho Filho (2012)	Triple difference	10-14	Economic activities for pay
Malawi	Social Cash Transfer Scheme	Covarrubias, Davis, and Winters (2012)	PSM (see footnote)	0-17	Multiple underlying activities
Malawi	Social Cash Transfer Scheme	Miller and Tsoka (2012)	Dif in dif (see footnote)	6-18	Economic activities for pay
Nicaragua	Bono de Desarollo Humano	Schady and Araujo (2006)	Household level RCT	6-17	Economic activities for pay or for household
Nicaragua	Bono de Desarollo Humano	Edmonds and Schady (2011)	Household level RCT	11-16	Economic activities for pay or for household
South Africa	Child Support Grant	DSD, SASSA, and UNICEF (2012)	PSM Dose response analysis	10 and 15-17	Economic activities for pay or for household
South Africa	Old age pensions	Edmonds (2006)	RDD	13-17	Economic activities for pay or for household
Conditional Cash Transfers					
Brazil	Bolsa Escola	Ferro, Kassouf, and Levison (2010)	PSM	6-15	Economic activities for pay or for household
Brazli	PETI	Yap, Sedlacek, and Orazem (2002)	See text	7-14	No definition of work given
Cambodia	CESSP Scholarship Program	Ferreira et al. (2009)	RDD	7-18	Economic activities for pay
Colombia	Familias en Accion	Attanasio et al. (2010)	Probit and regression (see footnote)	10-17	Economic activities for pay
Colombia	Familias en Accion	Fitzsimons and Mesnard (Forthcoming)	Regression (see footnote)		
Colombia	Subsidios Condicionados a la Asistencia Escolar	Barrera-Osorio et al (2008)	Child level RCT	6-11	Hours worked last week (no further definition)
Honduras	PRAF-II	Galiani and McEwan (2011)	Cluster RCT	6-12	Economic activities for pay or for household
Honduras	PRAF-II	Glewwe and Olinto (2004)	Cluster RCT	6-12	Economic activities for pay or for household
Indonesia	Jaringan Pengaman Social	Sparrow (2004)	Natural experiment IV	10-18	Economic activities for pay or for household
Jamaica	Path	Levy and Ohls (2007)	RDD	6-17	Economic activities for pay or for household or chores
Mexico (rural)	Oportunidades	Buddelmeyer and Skoufias (2004)	Cluster RCT	6-12	Economic activities for pay or for household
Mexico (rural)	Oportunidades	De Janvry et al. (2006)	Cluster RCT	8-18	Economic activities for pay or for household
Mexico (rural)	Oportunidades	Skoufias and Parker (2001)	Cluster RCT	8-17	Economic activities for pay or for household
Mexico (rural, long-run)	Oportunidades	Behrman, Parker, and Todd (2011)	Cluster RCT and PSM	15-16	Economic activities for pay or for household
Mexico (urban)	Oportunidades	Behrman et al. (2010)	PSM	12-14	Economic activities for pay
Nicaragua	Atención a crisis	Del Carpio and Macours (2010)	Cluster and household level RCT	6-15	Hours worked last week for pay or for household
Nicaragua	Atención a crisis	Del Carpio and Loayza (2012)	Cluster and household level RCT	7-14	Hours worked last week for pay or for household or in chores
Nicaragua	Red de Protección Social	Maluccio and Flores (2005)	Cluster RCT	7-13	Economic activities for pay or for household
Nicaragua	Red de Protección Social	Dammert (2009)	Cluster RCT	7-13	Economic activities for pay or for household
Nicaragua	Red de Protección Social	Gee (2010)	Cluster RCT	7-13	Hours worked last week (no further definition given)
Pakistan	Female School Stipends	Alam et al. (2011)	RDD	12-19	Economic activities for pay or for household
Uruguay	PANES	Amarante et al. (2011)	RDD	6-17	Working (no further definition given)
Uruguay	PANES	Borraz and Gonzalez (2009)	PSM	6-17	Economic activities for pay or for household or chores

Note: PSM stands for propensity score matching, RCT stands for randomized controlled trial, and RDD stands for regression discontinuity design. The identification strategy of Covarrubias, Davis, and Winters (2012) and Miller and Tsoka (2012) is enhanced by a randomization procedure in which 8 groups of villages (containing 23 villages in total) were randomly divided into an equally sized treatment group and control group (4 groups of villages each). The age range for the study by Covarrubias, Davis, and Winters (2012) is not explicitly mentioned and we deduce the reported age range from the descriptive statistics. The identification strategy of Attanasio et al. (2010) and Fitzsimons and Mesnard (Forthcoming) is enhanced by the fact that control households are drawn from purposefully chosen similar non-program municipalities.

Table 2. Heterogeneity of conditional cash transfer child labour impacts

Dummy for older age group	0.003	
	(0.015)	
Dummy for boys		-0.033
		(0.017)*
Number of observations	24	32

Note: Each column displays a regression of the impacts displayed in Figure 2 on the regressor displayed in the stub column. *** p<0.01, **