

The complex effects of public policy on child labour

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As part of broader efforts towards durable solutions to child labor, the International Labour Organization (ILO), the United Nations Children's Fund (UNICEF), and the World Bank initiated the interagency Understanding Children's Work (UCW) Programme in December 2000. The Programme is guided by the Oslo Agenda for Action, which laid out the priorities for the international community in the fight against child labor. Through a variety of data collection, research, and assessment activities, the UCW Programme is broadly directed toward improving understanding of child labor, its causes and effects, how it can be measured, and effective policies for addressing it. For further information, see the project website at www.ucw-project.org.

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MAPPING THE IMPACT OF PUBLIC POLICY ON CHILD LABOUR

In 2011 the Understanding Children's Work program launched an extensive effort to map the evidence on the impact of public policy on child labour. On the basis of the wide-ranging evidence we drafted two working papers, each with a distinct aim. The current paper is the overarching result of the mapping exercise. It reviews the impact of interventions falling in seven broad intervention clusters: (i) social protection, (ii) education, (iii) labour markets, (iv) human settlement, (v) microfinance, (vi) community driven development, and (vii) health and family planning. A second paper, entitled "Cash Transfers and Child Labour", takes an in-depth look at the effects of cash transfer programs focusing on issues such as heterogeneity, spillover effects, long-run effects, and protection from shocks.

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ABSTRACT

Child labour is a complex phenomenon. Many policy instruments can be used to address child labour or can affect child labour, even if implemented to achieve other objectives. Predicting the impact of these policy instruments on child labour ex-ante is far from straightforward. This paper discusses the evidence generated by rigorous empirical evaluations to draw some general lessons on the complex effects of public policy on child labour. We find that while transfer programs generally tend to reduce child labour, other policies risk increasing child labour, in particular if they affect households' productive structure.

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1. INTRODUCTION

1. A wide variety of policies and programs implemented by governments, international organizations, and NGOs either explicitly aims to tackle child labour or may influence it even if the policy was designed to achieve other primary objectives. Over the past decade, rigorous evaluations have examined the impact of a substantial number of these programs on child labour. This paper is the first to provide a systematic review of the evidence on interventions that can broadly be grouped into seven policy areas relevant for child labour: (i) social protection, (ii) education, (iii) the labour market, (iv) human settlement, (v) access to finance, (vi) community driven development programs, and (vii) health and family planning.

2. Child labour is a complex phenomenon, resulting from household decisions influenced by a large number of factors including income, uncertainty, and relative returns to work and education among others (see Cigno and Rosati (2005) and Edmonds (2007) for further discussion). The complexity of the phenomenon implies that a large set of policy instruments can be used to address child labour or can affect child labour, even if designed to achieve other objectives. It also implies that predicting the impact of different interventions on child labour is far from straightforward. Within the household, changing circumstances can result in complex patterns of substitution in the time allocation of its members. Policy interventions, therefore, might have effects that are not easy to foresee. For example, if part of a cash transfer is invested in productive assets, the return to children's participation in productive household activities might increase. Similarly, public works schemes, microcredit, business training, and health and demographic interventions may affect the household's income generating strategy such that changes in child work are virtually impossible to predict theoretically. Even education interventions may have adverse effects and, in the limit, increase child labour. The empirical evidence discussed in this paper is therefore of critical importance to understand how policy and programs are likely to affect child labour.

3. Our review suggests that interventions based on transfers of resources (whether unconditional or conditional, in cash or in kind) generally do tend to reduce child labour.¹ However, public works schemes and programs that aim to encourage micro-entrepreneurial activity, such as microcredit schemes and business training courses (possibly in combination with the provision of capital), risk increasing children's work either directly in the household business or in activities within the household otherwise carried out by adults. Education and health interventions do not uniformly lower child labour either. There is some preliminary evidence from the cash transfer literature that program effects on child labour depend on the integration of different interventions. Combining (conditional) cash transfers with supply side interventions such as provision of

¹ For in-depth discussion of the impact of cash transfers on child labour, focusing on issues such as heterogeneity, spillover effects, long-run effects, and protection from shocks, see De Hoop and Rosati (2013).

health and education facilities and/or after school education possibly increases impact on child work. Interventions that positively affect income-generating activities may reduce the impact of conditional cash transfer on child labour by increasing the reliance on children's activities within the household.

4. Importantly, the evidence we have for non-transfer interventions is often limited to only a few studies, making it challenging to draw general conclusions. Moreover, the evaluation of the impact of public policy on child labour does not appear to be driven by a coherent and systematic research agenda. Gender dimensions of child labour are often ignored, there is virtually no evidence on changes in the worst forms of child labour, and for some important intervention categories evidence is lacking altogether. Towards the end of this paper we discuss these challenges and shortcomings in more detail, hopefully providing guidance for the direction of future research.

2. METHODOLOGY

2.1 Search Strategy

5. In 2011 the Understanding Children's Work project (UCW) launched an extensive effort to construct a comprehensive online database of all rigorous impact evaluations looking at child labour. As part of this effort a literature search was carried out, covering Google Scholar, the World Bank Development Impact Evaluation Initiative (DIME), the Poverty Action Lab, the Social Science Research Network (SSRN), the Network of Networks for Impact Evaluation (NONIE), and the International Initiative for Impact evaluation (3IE). The research team also drew on the extensive network of the UCW project (in international partner organizations and academic institutions) to obtain information on further relevant impact evaluations. We make use of the UCW inventory and present the most relevant results of the peer-reviewed papers. Non-reviewed studies were considered if they apply a plausible and rigorous strategy to identify the impact of the program on child labour.² The papers we discuss include randomized trials as well as regression discontinuity designs, natural experiments, and propensity score matching studies.³

2.2 Concepts

6. Child labour is a legal rather than statistical concept. The three principal international conventions on child labour – ILO Convention No. 138 (Minimum Age), United Nations Convention on the Rights of the Child, and ILO Convention No. 182 (Worst Forms) together set the legal boundaries for child labour, and provide the legal basis for national and international actions against

² 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.

³ For readers requiring more background, we recommend the following references: Duflo, Glennerster, and Kremer (2008), Gertler et al. (2011) and Khandker, Koolwal, and Samad (2010).

it. The translation of these broad legal norms into statistical terms for measurement purposes is not straightforward. The international legal standards 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). Therefore, there is no single legal definition of child labour across countries and concomitantly there is no single standard statistical measure of child labour.

7. Consequently, the terminology and concepts used to categorize children's work and child labour (and to distinguish between the two) are at times inconsistent in published statistics and research reports. Similarly, there is substantial variation in the productive activities covered by the impact evaluations discussed in this review. Some studies focus on specific activities (such as work in agriculture) whereas others use a more general definition of work (such as work for pay). 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 2 days etc. Moreover, where some studies focus on the extensive margin of child work other studies examine indicators of the intensity of work (e.g. hours worked). Finally, some studies present results for different categories of activities.

8. As a consequence, at times we necessarily compare somewhat different outcomes in this review. To achieve a minimum degree of consistency, our discussion primarily focuses on impact estimates for children's participation in economic activities conducted for pay and/or for the household (i.e. excluding household chores). However, in some cases it is relevant to discuss program impacts for different categories of economic activities or household chores. We mainly focus on the extensive margin of child labour (as this is the outcome that most studies examine), although where available we present additional evidence on the intensive margin of child labour. A list of the exact definition of child labour used in each individual study is available on request.

2.3 Presentation of the Results

9. We summarize the impact of each group of interventions in Tables 1 to 7. For each program the tables provide the following information: (i) the reference for the impact evaluation study, (ii) the method used to identify the impact of the program, (iii) the outcome variables considered, (iv) the stratum covered by the impact estimate, (v) the impact estimate, standard error, and significance level, and (vi) the average prevalence of child work in a comparison group. The displayed impact estimate is the authors' preferred estimate of the change in the extensive margin of child labour that can be attributed to the program. The information about the comparison group helps to understand the relative magnitude of the impact of the project. Our preferred reference group is the control group at follow-up. If the prevalence of child labour for this group is not available, we resort to other control groups, such as the intervention group at follow-up or the control group at baseline.

3. SOCIAL PROTECTION PROGRAMS

10. This section presents the results for three types of transfer programs (unconditional cash transfers, conditional cash transfers, and conditional in-kind transfers) and for public works schemes.⁴

3.1 Conditional and Unconditional Cash Transfers

11. Evidence on the impact of cash transfer programs on child labour is abundant and markedly exceeds the evidence on any other category of policy interventions we discuss in this paper. An in-depth discussion of this evidence is presented in our accompanying paper (de Hoop and Rosati, 2013). Here, we do not discuss individual studies, but present only our main findings regarding the relationship between cash transfers and child labour.

12. Cash transfer programs often explicitly aim to improve child welfare. They are also frequently considered to be a key element of a comprehensive policy response to child labour (International Labour Office, 2013; Understanding Children's Work, 2010). Yet, cash transfer programs' theoretical effect on child labour is undetermined, in part because households may invest the transferred resources in productive assets (see for instance Gertler, Martinez, and Rubio-Codina, 2012; Ravallion and Chen, 2005; Sadoulet, de Janvry, and Davis, 2001), thus opening up new opportunities for children either to participate directly in the households' productive activities or to substitute for adult activities in the household.

13. Evidence drawn from 30 evaluations (7 of unconditional cash transfer schemes and 23 of conditional cash transfer schemes) shows that, despite the theoretical ambiguity, cash transfer programs have a strong potential to address child labour. They tend to lower both the extensive and intensive margin of child labour and to mitigate the effect of economic shocks that may push children into work. None of the 30 studies provides compelling evidence of increased child labour in beneficiary households (either among the beneficiary children or their non-beneficiary siblings), nor do any of these studies provide indications of detrimental general equilibrium effects in the local labour market (pulling children from non-beneficiary households into work).

14. Studies of pension schemes help shed some light on the channels through which cash transfer schemes affect child labour. Due to their high degree of institutionalization and clear rules, pension schemes provide beneficiary households with a highly anticipated income stream. If households are not credit constrained, they may be expected to follow the optimal, smooth path of consumption and investment. In that case, the probability that children work and attend school should not change when an eligible elderly person in the

⁴ We did not find rigorous evaluations of unconditional in-kind transfers, which is why this intervention category is not discussed in this review.

household reaches the pension age. In practice, however, the probability that children work and attend school *does* change when households begin receiving pension transfers, suggesting that cash transfer schemes lower child labour by mitigating credit constraints. This interpretation is supported by the fact that cash transfer schemes have a particularly strong effect on child labour when beneficiary households are poor and thus more likely to rely on child labour as a consumption smoothing mechanism.⁵

15. We conclude that cash transfers are an effective policy instrument to address child labour. The same does not necessarily hold for all interventions that aim to lower poverty and improve households productive capacity, as we shall discuss in detail below. Despite the fairly strong evidence that cash transfers lower child labour, there are some important remaining knowledge gaps. One reason for these knowledge gaps is that cash transfer schemes are generally not explicitly implemented to reduce child labour and evaluations of cash transfer programs often do not examine impact on child labour in detail. This is a challenge also for most of the other intervention categories we discuss below. We highlight two knowledge particularly pressing knowledge gaps related to cash transfers here.

16. First, there are indications of interaction effects between cash transfer programs and other interventions. Cash transfer programs appear to have a stronger effect on child labour when they are implemented in combination with supply side interventions such as the provision of health and education facilities. And their effects appear to be weaker when they are combined with auxiliary interventions that affect households' income generating strategies. More information about the interaction between cash transfers and other interventions (including some of the interventions we discuss in the remainder of this paper) would be beneficial.

17. Second, our understanding of the program characteristics that determine the effect of cash transfer programs on child labour is limited. Surprisingly, while recent research suggests that schooling conditions matter for school participation, there is little evidence that they influence child labour. Similarly, there is little evidence that programs that transfer larger amounts (as a percentage of household income) result in stronger changes in child labour. More evidence on the effect of program characteristics would help to understand how transfer programs can best be designed to lower child labour.

3.2 Conditional In-kind Transfers

18. Although, conditional in-kind transfer programs are closely related to conditional cash transfer schemes, their impact on outcomes such as schooling

⁵ The effects of cash transfer schemes are not only heterogeneous by household income but also by the gender of the child. In particular, transfer programs tend to lower boys' participation in economic activities and girls' participation in household chores.

and child labour is not necessarily equivalent. To the extent that the goods and services provided by conditional in-kind transfer programs are not fungible, they result in a more limited expansion of the consumption sets of the beneficiary households than (conditional) cash transfers. The impact of conditional in-kind transfers might also differ from the impact of conditional cash transfers, because members of the household are forced to consume goods that potentially are complements to (or inputs for) the outcome of interest. For example, by improving the nutrition status of the child, school meals might have a stronger effect on education and child labour outcomes than conditional cash transfers of equal monetary value.⁶

19. We examine the impact of two types of in-kind transfers on child labour: school vouchers and food for education programs (results are displayed in Table 1). School vouchers cover (part of) the cost of education at a public or private school. Given that school vouchers are of value only if the pupil enrolls, they are essentially conditioned on school participation. The same holds for the two main types of food for education programs: school feeding programs and programs providing take-home rations.

3.2.1 *School Vouchers*

20. Colombia's Programa de Ampliación de Cobertura de la Educación Secundaria (PACES) provided vouchers to children from families in the lowest income strata. The vouchers covered slightly more than half of the cost of private secondary school fees and were renewable conditional on satisfactory academic performance. Cities and towns used lotteries to allocate vouchers when demand exceeded supply. Angrist et al. (2002) rely on these lotteries to identify the impact of the program and find that the program had a substantial impact on education outcomes: school attainment and performance on achievement tests improved. It did not affect the participation in work of either boys or girls. Point estimates for the reduction in child work are of the expected sign but not statistically significant. However, the number of hours worked by girls decreased significantly by about 1.5 hours a week as a result of the program (2.7 hours a week in control group at follow-up).

3.2.2 *Food for Education Programs*

21. Adelman et al. (2008) and Bundy et al. (2006) discuss (the rationale behind) food for education programs. Most studies examining the impact of food for education programs on school participation (and other education outcomes) have considerable limitations. Taking these limitations into account, Adelman et al. (2008) find that these programs have modest beneficial effects on school participation.

⁶ For a review of (the rationale behind) in-kind transfers we refer the reader to Currie and Gahvari (2007).

22. Two studies rigorously investigate the impact of food for education programs on child labour and find a substantial impact.⁷ Ravallion and Wodon (2000) examine take-home rations distributed in Bangladesh using (non-random) program placement as an instrument for receiving the program. The take-home rations reduced child participation in economic activities or household chores by 4 percentage points for boys and 2 percentage points for girls (respectively 12 and 13% in the control group at follow-up). These reductions in child work, however, are markedly lower than the increases in education amounting to 19 and 18 percentage points respectively for boys and girls.

23. Kazianga, de Walque, and Alderman (2009) exploit a cluster randomized trial in which schools in rural Burkina Faso were randomly assigned to 1 of 3 groups: a group in which female pupils receive take-home rations, a group in which all pupils receive school meals, and a control group. Among girls in schools assigned to the take-home rations group both farm and non-farm economic activities decreased significantly by 9 percentage points (respectively 57 and 16% among all girls in the control group at baseline). School meals did not significantly affect either of these two activities for boys or girls. It is not clear whether the value of the food disbursed through the school meals and take-home rations programs was comparable. Hence, it is not possible to say whether the difference in the impact of the interventions is due to the difference in the value of the transfer or to a differential impact of school meals and take-home rations as such.

3.3 Public Works Schemes

24. Public works programs guarantee employment during periods of low labour demand by providing a basic salary in return for work during relatively short periods. Public works programs induce changes in the time allocation of adult household members that can result in offsetting effects on child labour. On the one hand, the income provided by the program will tend to increase children's school participation and lower their participation in work. On the other hand, as adults enter the labour force, child labour may substitute adult labour inside or outside the household.

25. Ethiopia's Public Safety Net Program provides poor households in food-insecure districts with food or cash for work on labour-intensive projects designed to build community assets. A subgroup of these households also benefits from a package of food security interventions including access to credit, irrigation, and water schemes as well as advice on agricultural technology. While the public work program was intended to protect households from asset depletion as a result of economic shocks, the food security interventions aimed to facilitate asset accumulation and income growth.

⁷ In the next section, we discuss the impact of BRIGHT, a program that combines food for education interventions with a range of supply side education interventions in Burkina Faso.

Community officials were responsible for the selection of households most in need of the program.

26. To evaluate the impact of this program, Hoddinott, Giligan, and Taffesse (2009) compare beneficiary households in the intervention districts to non-beneficiary households using propensity score matching (see Table 2). Boys from beneficiary households aged 6 to 10 decreased their weekly work activities by 4.7 hours (27 hours a week in the control group at follow-up). Separate estimates for hours in agricultural activities and hours in household chores indicate that the decrease in hours worked by boys is the result of a reduction participation in household chores *and* a reduction in agricultural activities. For older boys or girls the estimates are not statistically significant.

27. Interestingly, however, when the public works program is combined with food security interventions the impact estimates turn largely positive. Girls aged 6 to 10 exhibit a statistically significant increase in weekly work of 4.5 hours (23 hours a week in the control group at follow-up).⁸ The point estimate for boys aged 11-16 is similar but not statistically significant. It is not clear if the *difference* between the impact estimates for the public works program only and the public works program combined with food security interventions is statistically significant for girls and boys in either age group. However, these estimates suggest that the food security interventions generated a substitution effect that increased both girls' and boys' participation in agricultural work and household chores.

4. EDUCATION INTERVENTIONS

28. Evidence on the impact of the potentially the most relevant supply-side interventions (like better access to schools or improved quality of education) on child labour is limited. This section discusses two types of supply side education interventions for which we have some evidence: (i) preschools, which prepare young children for entry into the regular school system, and (ii) integrated education interventions, which combine a range of supply and demand side interventions. The results on which the discussion is based are displayed in Table 3.

4.1 Preschools

29. Pre-schools prepare young children for primary school attendance. By increasing children's opportunities to thrive in school and by sensitizing parents to the importance of school participation, pre-schools may affect school attendance and child work in the long run. Martinez, Naudeau, and Pereira (2012) evaluate the impact of a pre-school program implemented in Mozambique by Save the Children in 30 villages randomly selected from a

⁸ These are the estimates for intervention households that receive transfers worth at least 90 Birr. Estimates including households receiving lower transfers are similar in terms of magnitude, but not always significant.

larger group of 98 eligible villages.⁹ The program consisted of a range of interventions. Communities received technical assistance and materials for the construction of up to three classrooms with capacity for 35 children each. In addition, each community received technical assistance and materials to build playgrounds, child-sized latrines, and a washing station. Each class was staffed with two volunteer teachers selected by the school management committee. Finally, parents and caregivers of preschoolers in the community had the opportunity to participate in monthly parenting meetings focusing on thematic topics, including health, nutrition, and literacy.

30. The authors provide estimates of both the intent-to-treat effect and the effect of treatment on the treated (IV estimates). Both sets of estimates include baseline individual and household level controls and exploit the panel nature of the data in a difference in differences framework. Preschool participation increased substantially in the intervention villages (42% of the 3-9 year old children, i.e. those who could have participated in the program's preschools) vis-à-vis the control villages (11.7%) and pre-schools appear to have affected subsequent primary school participation. The program also affected child work. IV estimates indicate that hours worked at the family plot in the week prior to the interview decreased by 1.3 hours among 5-9 year old children (2.9 hours on average in the control group). However, hours spent on household chores and caring for children, elderly, and sick did not change significantly.

4.2 Integrated Education Interventions

31. Interventions that reduce the cost of education and increase access to schools, such as the pre-school program discussed above, are generally assumed to lower the incidence of child labour. However, the impact of such interventions on child labour is not unambiguous from a theoretical point of view. Children can work and attend school 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. Moreover, as De Hoop and Rosati (2012) show, in the presence of non-convexities in the time budget (e.g. a minimum amount of time to be spent attending school) it is impossible to predict even the sign of the impact of such programs on child labour.¹⁰

32. Accordingly, De Hoop and Rosati (2012) find no evidence that BRIGHT, a program delivering an integrated package of interventions to boost school participation in 132 rural villages in rural Burkina Faso, lowered child labour.¹¹ The program constructed schools and provided school kits and school meals. Female pupils also received take-home rations on the condition that they

⁹ villages in 5 areas were deemed eligible if they committed to providing extensive support to the program

¹⁰ The conditional cash transfer interventions combined with supply side interventions are closely related to the integrated education intervention discussed here.

¹¹ This finding contrasts with Kazianga et al. (2013), who find that BRIGHT lowered participation in several individual work activities. De Hoop and Rosati (2013) discuss these contrasting results in more detail.

attended school regularly. Regression discontinuity estimates exploiting the village selection criteria show that, although it led to strong improvements in school participation (also documented in detail by Kazianga et al., 2013), BRIGHT did not reduce child participation in a range of household chores and economic activities. In fact, boys without female siblings (who did not benefit indirectly from the take-home rations provided to girls) even appear to have increased their participation in work. Interestingly, although BRIGHT did not lower participation in work, it had a strong positive impact on pupil learning. Kazianga et al. (2013) show that children's scores on mathematics and French tests increased markedly as a result of the program and De Hoop and Rosati (2012) show that this finding holds both for children who are in school only and for children who combine work with school attendance.

5. LABOUR MARKET ORIENTED PROGRAMS

33. Income transfers are only one strategy for poverty reduction. Other strategies include labour market oriented programs, which can increase household members access to the labour market and thus generate sustainable changes. In this section, we discuss the evidence on the impact of business training provided to microfinance clients and business training combined with the provision of business capital (outcomes summarized in Table 4). These programs increase the (human) capital available to the household enterprise. Higher (human) capital, in turn, may increase household income, but may at the same time result in an intra-household substitution effect leading to an increase in child labour (depending on the degree of complementarity between (adult human) capital and child work).

5.1 Business Training

34. Karlan and Valdivia (2010) examine the marginal effect of an entrepreneurial training program offered to women already participating in a Peruvian microcredit program.¹² The training consisted of weekly business skills and strategy training sessions offered over a period of two years with the aim to improve basic business practices. The authors rely on a randomized control trial, implemented at the level of village banks, to identify the impact of this training on a range of outcomes. There is little evidence that the intervention improved key outcomes such as revenue, profits, or employment. Moreover, there is no evidence that the program had a statistically significant effect either on the extensive margin of child labour (not clearly defined in their paper) or on the number of daily hours spent in work.

35. Similarly, the provision of business training to microfinance clients in Pakistan appears to have had limited effects. According to Giné and Mansuri

¹²Karlan and Valdivia (2010) argue that in addition to the income and substitution effect, training may also increase the value parents place on education thus increasing schooling and possibly lowering participation in child labour.

(2011), the training program in Pakistan (the International Labour Organization's "Know about Business" module) was both more hands-on and more intensive than the entrepreneurial training offered to women in Peru. Evidence from a cluster randomized experiment indicates that the business training led to increased business knowledge and better business practices. However, the training did not affect business sales or profits. The effects of the business training intervention on education and child labour are not statistically significant in the full sample. However, girls in this age range appear to have increased their participation in economic activities for pay by 4 percentage points.¹³

5.2 Business Training Combined with the Provision of Business Capital

36. The effect of business training combined with the provision of capital appears to be more pronounced. Banerjee et al. (2011), study the effects of a program targeting women in the poorest of the poor households in India and aiming to lift them out of poverty by improving their income generating capacity.¹⁴ The program consists of a package of interventions. It begins with asset transfers (such as livestock, inventory, fodder and sheds) determined according to the livelihood option most suitable to the household. Subsequently, project staff meet beneficiaries on a weekly basis over a period of 18 months to provide information and training related to the household's enterprise (as well as broader social and health issues). Beneficiary households are required to save Rs. 10 (approximately US\$ 0.25) per week. At the end of the 18-month period the households are integrated into a microcredit program by means of a mandatory 3-day orientation course.

37. For the purpose of the study, a total of 512 out of 991 ultra poor households in the poorest hamlets in Murshidabad (a district north of Kolkata) were randomly selected (stratified by hamlet) to receive an offer to participate in the program. The analysis relies on a baseline survey administered before the start of the program and a follow-up survey administered *before* the beneficiary households were incorporated into the microcredit scheme. Although non-participation rates were high (12.5% of selected households turned out to be ineligible to participate and 35.6% of selected households refused to participate), intent-to-treat estimates indicate that the intervention improved indicators of household welfare, such as per capita household consumption, nutritional intake, and perceived health. Children (age range not specified) of potential beneficiaries spent an additional 38 minutes studying in the 24 hours prior to the follow-up interview compared to the control group. However, they

¹³ Giné and Mansuri (2011) also examine the effect of higher microfinance loans disbursed to clients conditional on winning a lottery and find that it had limited effects on microfinance clients, possibly because the initial loan size already met the demands of the borrowers.

¹⁴ To be considered "ultra poor", households must meet three of the following five criteria: the primary source of income is informal labor or begging; land holdings are below 20 decimals (10 katthas, 0.2 acres); the household owns no productive assets other than land; there are no able bodied males in the household; school-aged children work instead of attending school. In addition, households must meet two further requirements.

did not differ from children in the control group in terms of time spent working¹⁵ in the 24 hours prior to the follow-up interview.

38. A comparable program (implemented by the same NGO) in Bangladesh appears to have had somewhat different results on child labour. Bandiera et al. (2013) study the impact of this program in 1409 communities in 40 regions in rural Bangladesh, which were randomly divided in two groups: a treatment group starting the program in 2007 and a delayed treatment group which would not receive the program until 2011. All poor households in the treatment and control communities were interviewed for the baseline in 2007 and re-interviewed during a first follow-up wave in 2009 and a second follow-up wave in 2011. The program resulted in substantial increases in self-employment, labour productivity, and earnings of beneficiaries (especially eligible women). However, it also affected annual hours worked by children in self-employment (i.e. the household enterprise). Children in eligible households had increased time spent on self-employment by 57 hours per annum 2 years after the start of the program and by 36 hours 4 years after the start of the program, a small but statistically significant effect. Annual hours devoted to wage labour by children in eligible households were not significantly affected by the program.

39. Evidence from Nicaragua's Results Based Initiative, which provided business training and startup capital to selected women in poor rural communities, shows that the potential effects of this type of program on child labour are not limited to children living in beneficiary households. De Hoop et al. (2013) exploit the random assignment of the Results Based Initiative to Nicaraguan communities to identify the effect of the program. Since households were invited to apply before a decision was made on assignment of their community to either the treatment or control group, they can recover consistent estimates of both the direct program impact (by comparing applicant households in treatment and control communities) and impacts on non-beneficiary households operating via changes in the local labor market (by comparing non-applicant households in treatment and control communities). Consistent with the aims of the intervention, applicant households in treatment communities were more likely to run a new business and adults in these households were more likely to work. In these households, children's involvement in economic activities was unaffected, although their school attendance increased by 8 percentage points. In contrast, adults in non-applicant households in treatment communities reduced their involvement in own-account work (especially farming) and increased their wage-work involvement. Children from these households increased participation in economic activities by 5 percentage points without an appreciable fall in school attendance.

6. ACCESS TO FINANCE

¹⁵ We were unable to identify a clear definition of work in the paper.

40. Microfinance programs offer financial services such as credit, saving, and insurance to individuals who would otherwise not have access to financial institutions. We identified several studies focusing on the impact of microcredit and one study examining the impact of access to microinsurance (outcomes summarized in Table 5).

6.1 Microinsurance

41. There is strong evidence that households in developing countries use child labour to mitigate the effects of income shocks (e.g. Beegle, Dehejia, and Gatti, 2006; Duryea, Lam, and Levison, 2007; Guarcello, Mealli, and Rosati, 2010). Cash transfer schemes, which help households to smooth income shocks by providing them with a secure source of income, lower the detrimental effects of economic shocks on school participation and child labour (see De Janvry et al., 2006, and Fitzsimons and Mesnard, Forthcoming, for case studies and De Hoop and Rosati, 2013, for a discussion).

42. Evidence from Pakistan suggests that insurance against health shocks too can lower child labour. Pakistan's National Rural Support Program provides eligible clients with microcredit accompanied with mandatory health insurance for loan clients, their spouses, and their children under the age of 18. Landmann and Fröhlich (2013) examine whether an extension of this mandatory insurance scheme, offered to clients of 9 microcredit branch offices randomly selected from a group of 13 branch offices, affected child labour. The extension consisted of 2 components: (i) assistance with claim procedures and (ii) voluntary insurance for additional household members not belonging to the nuclear family (such as adult children of the client and other minor or adult household members). The insurance extension reduced participation in child labour (defined according to the official legal definition) and hazardous work, hours worked, and children's earnings. The exact magnitude of these effects differs by follow-up survey wave (four survey waves were conducted in 6 month intervals after the baseline survey) and are particularly strong for boys. Non-experimental analysis suggests that the observed impact is mainly driven by the voluntary insurance for additional household members (rather than by the assistance with claim procedures).

6.2 Microcredit

43. Lack of access to credit has been recognized as one of the causes of the inability of vulnerable households to engage in profitable entrepreneurial activities (e.g. Eswaran and Kotwal, 1986). By addressing this constraint to entrepreneurial activity, microcredit programs may increase household income and concomitantly lower child labour. However, access to credit may also open up new opportunities for children to work in the household enterprise (depending on the degree of complementarity between physical capital, adult, and child work) or to substitute for activities otherwise carried out by adults in the household. Broadly, the studies we identified find that the latter channel is

important and microcredit programs tend to increase child labour for (subgroups of) children.

44. Augsburg et al. (2012) collaborated with a microfinance institution in Bosnia to offer comparatively poor loan applicants (who had initially been turned down) a 50% chance of obtaining a loan. The loan amounts varied depending on the business plan with a mean of US\$ 1012 and a median of US\$ 920. The loans increased levels of business activity (ownership of a business increased by 6 percentage points) and self-employment (also up by 6 percentage points). Increased business activity, however, did not translate into increased profits or household income. Moreover, the loans led to a decline in school participation and an increase in labor supply of adolescent children (aged 16 to 19). Overall hours worked in this age group did not change significantly. However, for children living in a household with a business at baseline and for children from a household where the microfinance client had a low level of education, hours worked respectively increased by 20 and 29 hours a week (not displayed in Table 5). Moreover, work intensity in the household business increased significantly in the full sample by 21 hours a week.

45. Similarly, the Thailand Village and Urban Revolving Fund, a large-scale, publicly-funded microfinance initiative that injected one million baht (about US\$24,000) into each of 74,000 villages and 4,500 urban communities across Thailand, increased work participation of a specific group of children. To identify the impact of this program, Nelson (2011) exploits the random order in which villages received funds from the government and variation in the intensity of treatment, which resulted from the fact that the program involved a lump-sum transfer independent of village size. The author argues that the impact of the micro-credit program is likely to be particularly pronounced for households in the middle of the wealth distribution, who are able “to afford the fixed cost of starting a business” as a result of the program. Households lower or higher in the wealth distribution are less likely to be affected. Indeed the impact of the program was most pronounced for households in the middle of the income distribution. The likelihood that these households started a business increased by 1.7 percentage points with each 1000 baht in credit. They were also more likely to engage in non-agricultural activities when receiving credit. Effects of the program on adult labor supply are limited. However, children in middle wealth households experience significant increases in the likelihood and intensity of work in non-agricultural businesses when their families borrow from the Village Fund. A 1000 baht loan leads to a 3 percentage point increase in the likelihood that a child works in the household business and increases monthly hours worked by 2.4 (nearly 150%). However, the loans have no systematic impact on schooling outcomes (school attendance and dropout rates) for children in any wealth group.

46. Islam and Choe (2013), use non-experimental methods to examine the impact of microcredit provided by 13 microfinance institutions in Bangladesh. The covered microcredit organizations follow a lending procedure similar to that of the Grameen Bank and provide microcredit only to households owning

less than a half-acre of land. The study relies on a survey covering 91 villages, 80 with a microcredit organization and 11 without, spread evenly across the country. To deal with non-random program placement, the authors control for village fixed effects and to deal with self-selection into the program, the authors exploit the eligibility criterion and generate an instrument that is the interaction of program availability, household eligibility, and the number of years microfinance has been available in the village. Because wealth or land could have independent effects on child labor and schooling the authors control for land ownership in their regressions. "Participation in microcredit programs adversely affects children's schooling and exacerbates the problem of child labor." Girls are particularly likely to be adversely affected and increase work by about 20 to 30 percentage points depending on the gender of the credit recipient in the household, while the effect for boys is ambiguous. "For children from participating households, the odds of being in self-employment activities instead of being in school are more than doubled than nonparticipating households. This suggests that increased child labor is in large part because of household enterprises set up with microcredit."

47. Three other studies use non-experimental methods to assess the impact of microcredit on child labour.¹⁶ Wydick (1999) finds that microcredit in Guatemala reduced the probability that children participate in economic activities and are not in school by 3 percentage points (on average 31% of children in the treatment and control group work and are not in school).¹⁷ Hazarika and Sarangi (2008) find that microcredit in Malawi increased the probably that children work in economic activities by a statistically significant 0.7 percentage points (51.7% of children in the treatment and control group). Finally, Shimamura and Lastarria-Cornhiel (2010) find no significant effect of microcredit in Malawi on children's participation in crop farming, but a reduction in children's participation in household chores of 23 percentage points.

7. COMMUNITY DRIVEN DEVELOPMENT

48. Community driven development programs let community groups determine what types of development projects would be most beneficial to their community and provides them the means to implement these projects. The idea is that community members have a better understanding of local needs and challenges than outsiders and that enabling them to address these needs and challenges helps strengthen local institutions and generates a sense of ownership and responsibility for the implemented projects in the participating communities. One example of this type of programs is Indonesia's PNPM Generasi, which provides villages with annual grants to implement interventions aimed at improving maternal and child health and education outcomes. To

¹⁶ Each of these studies has some drawbacks in terms of identification.

¹⁷ Note that this result does not exclude the possibility that the 3% difference is due to children entering school rather than children stopping work.

encourage communities to focus on the most effective policies, the size of the villages' Generasi grant depends partly on the village's past performance on improvements in health and education outcomes.

49. Olken, Onishi, and Wong (2011) examine the impact of this program on the basis of a cluster randomized trial in which 300 subdistricts were randomly assigned into one of three equal-sized groups: "incentivized" treatment with the pay-for-performance component described above (100 subdistricts), "non-incentivized" treatment without the pay-for-performance incentives (100 subdistricts), or control (100 subdistricts). Estimates relying on a baseline survey and two follow-up surveys (approximately 1 and 2 years after the baseline survey) are not entirely uniform. When the authors compare children in intervention and control villages (without distinguishing between "incentivized" and "non-incentivized" treatment) they find a significant decrease in the enrollment and school attendance of 13-15 year olds and no significant impact for 7-12 year olds in the first follow-up. In the second follow-up this negative effect is no longer present and the authors find a significant increase of 8 percentage points in the school enrollment of 7-12 year olds, while the attendance of 7-12 year olds and the enrollment and attendance of 13-15 year olds have not changed significantly.

50. Consistent with the decrease in enrollment and attendance, in the first follow-up there is evidence that the program significantly increased the hours 7-15 year old children spend in wage work (0.18 hours) and in household chores (0.67 hours) (results summarized in Table 6).¹⁸ There is no evidence that the program affected the extensive margins of wage work in the first follow-up. Nor is there evidence of a significant impact on the extensive and intensive margins of wage work and household chores in the second follow-up. When the authors compare the impact of "incentivized" and "non-incentivized" treatment they find that the significant decrease in the first follow-up enrollment and school attendance of 13-15 year olds is equally strong in both treatment arms. The increase in the school enrollment of 7-12 year olds in the second follow-up comes from the "non-incentivized" treatment arm. This comparison is not carried out for wage work and household chores.

8. HUMAN SETTLEMENT PROGRAMS

51. Human settlement programs aim to improve living standards of inhabitants of urban slums. Examples of human settlement programs are upgrading schemes that provide electrification, sanitation and roads, resettlement schemes, and land titling schemes that provide property rights. These schemes can have important effects on child work, yet the evidence on the impact of these types of interventions is thin. The only rigorous evidence we have comes from the evaluation of a large-scale land-titling program implemented by the government

¹⁸ Unfortunately, we have not found a description of the reference time period in the text, but we assume these are either reductions per day or per week.

of Peru from 1996 to 2003 (Field, 2011). Without a title deed, households may fear eviction by the government and property theft by other residents. This insecurity forces households to spend significant resources and time protecting their property. Formal property rights can mitigate these security concerns. As a result they can increase adult labour supply and thus generate a positive income effect. Moreover, when adults have a comparative advantage in security provision, children may substitute for adults in the labour market when tenure security is low. If property rights improve, the adult household labour supply may rise and child labour might fall.

52. Field (2011) identifies the impact of Peru's land-titling program by comparing households in neighborhoods that were targeted for the intervention but had not yet been reached by the project to households in neighborhoods that had already been incorporated in the program. The author argues that program timing across neighborhoods was virtually random as "there [was] no clear pattern of movement [of project teams] according to neighborhood socioeconomic status or centrality." Accordingly, program and non-program neighborhoods were similar in terms of observed characteristics. To further reduce concerns about non-random program assignment, the author relies on a difference-in-differences estimation procedure, in which she compares differences in the labor supply of households that already had a registered title at the time the program started to households that did not have a registered title across early and late neighborhoods. Field (2011) finds that the overall effect of titling on children's participation in economic activities for pay was not significant (Table 7). However, within the group of households with less than 4 working age members, children in titled households worked 4 hours less per week than children in households without a registered title (significant at the 10% level, 8.9% of children in the overall sample work regularly).

9. HEALTH AND DEMOGRAPHIC INTERVENTIONS

53. The health status of children and of the other household members has potentially important implications for children's labour supply. Health status can affect children's time allocation through three different channels. First, child health has been shown to be an important determinant of school attendance (e.g. Miguel and Kremer, 2004). Second, health status of adults within the household can have an impact on children's labour supply, because of the reduced earning ability of the main breadwinners, and by raising the demand for children's time both to substitute for adult labour in economic and non economic activities in the household and to assist sick relatives. Finally, health expenditures can generate substantial income shocks in the household and this is likely to affect children's labour supply as discussed in previous sections. This section discusses the limited rigorous empirical evidence (two studies) on the impact of health and family planning interventions on child labour (summarized in Table 8).

9.1 HIV/AIDS treatment

54. Thirumurthy, Graff Zivin, and Goldstein (2008) examine how children's labour supply changes when HIV positive household members gain access to antiretroviral treatment. The authors rely on longitudinal data (2 measurements with an interval of 6 months) for the members of 266 households with one or more HIV patients. Using individual fixed effect regressions, the authors estimate how the labour supply of household members changes as patients become eligible for ARV treatment. Treatment and the resulting changes in health are likely to be exogenous, as treatment is administered by the health clinic conditional on biological markers that are not easily influenced by the patients.¹⁹

55. Labour force participation of HIV patients increased substantially in the 6 months after starting HIV treatment. Boys living in a household where one member gains access to ARV treatment did not experience significant changes in participation in economic activities for pay. However, boys who lived in a household where two or more members became eligible for HIV treatment were nearly 80 percentage points less likely to participate in these activities. No significant effects are registered for girls in either group. These results suggest that where HIV severely limits the adult supply within the household, children are pulled into work. By improving the health of adults within the household and by restoring labour supply it is possible to substantially reduce child labour.

9.2 Family planning

56. Sinha (2005) investigates the impact of a family planning program experiment in Bangladesh on fertility, school participation, and child labour. In this experiment 70 villages randomly selected from a larger group of 142 villages were provided an intensive family planning program. As part of this program female outreach workers visited households in these villages once every two weeks to provide non-clinical contraceptives (pills, condoms, foam tablets) and administered injections providing pregnancy protection for a prolonged period of time. The outreach workers also provided information about the use of these contraceptives and potential side effects.

57. Sinha (2005) exploits the cluster-randomized trial to identify the impact of the program. She finds that the program substantially reduced fertility: her preferred estimate suggests that fertility dropped by 13% in intervention villages. The program also affected child labour. Reduced form estimates show that the program resulted in an 11 percentage point increase in boys' participation in economic activities or household chores. Instrumental variables estimates in which the number of children in the household is instrumented with a dummy for living in a program village suggest that each additional birth in the household reduces the probability that a boy works in these activities by 13

¹⁹ Data from randomly selected households without HIV patients' households living in the same region are used to correct for seasonal fluctuations in labour supply.

percentage points. Both reduced form and instrumental variables estimates detect no significant impact on labour force participation of girls.

10. DISCUSSION AND CONCLUSION

58. Children's labour supply is the outcome of a complex household decision making process. Policies and programs can alter the household productive structure and incentives in complex ways, making it hard to predict their overall effect on child labour. Notwithstanding several limitations that we will discuss below, the literature review allows us to shed light on the effect of policies and programs on child labour and to draw some general conclusions. Policies that aim to address child labour by reducing the vulnerability of the household by and large produce the desired effect (albeit with a variability that deserves further scrutiny). As we have seen, transfers (conditional or not, in cash or in kind) do not increase child labour and tend to reduce it in most of the cases. Similarly, programs that help the household to cope with exposure to risk, for example health insurance, do reduce household reliance on child labour. More can be done in this area to make programs more effective to reduce child labour, but reducing household vulnerability appears to be a very important strategy.

59. The evidence presented here has also clearly indicated that households adjust the labour supply of its members to changed circumstances. So, for example, health programs that provide antiretroviral treatment to HIV/AIDS positive adult household members, thus allowing them to re-enter the labour market, tend to reduce child labour. However, policies that aim to increase adult household members' participation in the labour market or the entrepreneurial capabilities of the households, appear to generate an additional demand for adolescent and child work. Examples include microcredit programs and interventions that provide physical and human capital, which by favouring expanded economic activity by the household increase the internal demand for child labour. Of course, such programs are an important component of anti-poverty strategies, but they would need to be integrated and modified to ensure that they do not produce adverse effects on child labour. It should be finally stressed that little evidence is available about the impact of education programs on child labour. While it remains obvious that promoting education represent a key instrument in combating child labour, the results of the BRIGHT program in Burkina suggest that there is room for improvement.

60. There are a number of important caveats that need to be taken into account when interpreting the evidence presented. One concern is that rigorous evidence is available only for a limited subset of the policies potentially relevant to address child labour. Obviously the fact that there is no evidence for some intervention categories does not imply that these interventions do not affect

child labour (possibly even more so than the interventions discussed in this review). Moreover, impact evaluations in the area of child labour tend to suffer from two additional limitations: (i) seldom is child labour the main outcome of interest and (ii) the interventions for which they are developed are not necessarily selected according to a consistent knowledge generating strategy. What we know about what works in addressing child labour on the basis of impact evaluations is defined by these limitations.

61. Beside these more general concerns, there are some more specific issues. A key issue, as can be inferred from the results presented, is that most impact evaluations focus on economic activity without considering household chores. This potentially results in underreporting of program impact on activities carried out by girls. Also, as a result of the focus on the broad category of economic activities (or one of its subcomponents), we have little evidence on the extent to which the interventions prevent and reduce the worst forms of child labour, including hazardous work.

62. The impact evaluations currently available focus, almost exclusively, on short-run outcomes. Evidence on the long-run impact of programs aimed at addressing child labour is very limited. Child labour potentially has negative effects on long-run outcomes in the labour market. Moreover, mental and physical harm experienced as a result of child labour may manifest, persist and severely affect children at later ages. Hence, information on long-run effects would help generate a better understanding of child labour in general.

63. Similarly, there is little evidence on the persistency of intervention effects after programs end. It seems unlikely that interventions targeted at individual beneficiaries result in persistent community-wide change (see Kremer and Miguel, 2007, for an example). But do programs that explicitly aim to permanently change the dynamics in villages or industries through extensive “integrated” packages of interventions and information campaigns effectively achieve sustained change?²⁰

64. Finally the cost-effectiveness of the interventions discussed in this paper is seldom, if at all, addressed in the impact evaluations. More information on the expenditure per child kept out of labour would make the comparison of the different interventions more meaningful for policy makers. Detailed cost-effectiveness estimates are available for interventions that aim to increase school participation.²¹ Unfortunately, virtually none of the impact evaluations we discussed provide detailed information on the cost of implementing the project under consideration and it is not possible to conduct a similar exercise for child labour outcomes

²⁰ The IPEC programme of the International Labour Organization, for example, currently implements a series of large-scale programs to permanently eradicate child labour in the shrimp industry in Thailand and the cocoa sector in Ghana and Ivory Coast.

²¹ See the J-PAL website: <http://www.povertyactionlab.org/policy-lessons/education/student-participation> (accessed April 12, 2012).

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TABLES

TABLE 1. CONDITIONAL IN-KIND TRANSFERS						
Program & Country	Reference	Method	Outcome	Stratum	Impact	Comparison group
<i>Panel A: School Vouchers</i>						
Colombia	Angrist et al. (2002)	RCT	Participation, no definition of work given	Boys, 15 on average	-0.028 (0.028)	0.225 (control follow-up)
				Girls, 15 on average	-0.032 (0.020)	0.101 (control follow-up)
			Hours worked last week, no definition of work given	Boys, 15 on average	-0.623 (0.886)	6.198 (control follow-up)
				Girls, 15 on average	-1.499 (0.524)***	2.704 (control follow-up)
<i>Panel B: Food for Education</i>						
Bangladesh	Wodon and Ravallion (2000)	IV	Economic activities for pay or for household, or chores	Boys, 5-16 (average effects at 100 kg of rice)	-0.040***	0.122 (control follow-up)
				Girls, 5-16 (average effects at 100 kg of rice)	-0.020**	0.125 (control follow-up)
Burkina Faso	Kazianga, de Walque, and Alderman (2009)	RCT	Farm work	Boys, 6-15 (school meals)	0.01 (0.032)	0.574 (Baseline control, all)
				Girls, 6-15 (school meals)	0.033 (0.037)	0.574 (Baseline control, all)
				Girls, 6-15 (take-home rations)	-0.089 (0.037)**	0.574 (Baseline control, all)
			Non-farm work	Boys, 6-15 (school meals)	-0.022 (0.033)	0.163 (Baseline control, all)
				Girls, 6-15 (school meals)	0.007 (0.033)	0.163 (Baseline control, all)
				Girls, 6-15 (take-home rations)	-0.090 (0.030)***	0.163 (Baseline control, all)

Note: * p<0.1, ** p<0.05, *** p<0.01. Unless indicated otherwise, figures in parentheses are standard errors. And, unless indicated otherwise, the comparison group is taken from the same stratum as the impact estimate. No standard errors are available for Ravallion and Wodon (2000) marginal effects of probit estimates.

TABLE 2. PUBLIC WORKS SCHEMES

Program & Country	Reference	Method	Outcome	Stratum	Impact	Comparison group
Public Works, Ethiopia	Hoddinott, Giligan, and Taffesse (2009)	Non-PS matching	Hours worked in agriculture or chores during past week	boys, 6-10	-4.70 (Z=1.73)*	27.44 (control follow-up)
				boys, 11-16	-2.26 (Z=0.85)	31.80 (control follow-up)
				girls, 6-10	1.28 (Z=0.52)	25.90 (control follow-up)
				girls, 11-16	-1.94 (Z=0.44)	32.50 (control follow-up)
Public Works + Food security interventions, Ethiopia	Hoddinott, Giligan, and Taffesse (2009)	Non-PS matching	Hours worked in agriculture or chores during past week	boys, 6-10	-0.11 (Z=0.04)	26.08 (control follow-up)
				boys, 11-16	4.25 (Z=1.50)	32.65 (control follow-up)
				girls, 6-10	4.48 (Z=1.95)*	22.90 (control follow-up)
				girls, 11-16	2.53 (Z=0.65)	31.35 (control follow-up)

Note: * p<0.1, ** p<0.05, *** p<0.01. Unless indicated otherwise, figures in parentheses are standard errors. And, unless indicated otherwise, the comparison group is taken from the same stratum as the impact estimate.

TABLE 3. EDUCATION INTERVENTIONS

Program & Country	Reference	Method	Outcome	Stratum	Impact	Comparison group
Preschools, Mozambique	Martinez, Naudeau, and Pereira (2012)	RCT	Hours worked on family plot last week	All 5-9	-1.316 (0.637)**	2.540 (follow-up control)
			Hours worked in household chores last week	All 5-9	-0.529 (0.407)	0.748 (follow-up control)
			Hours spent caring for other household members	All 5-9	0.056 (0.320)	0.569 (follow-up control)
BRIGHT, Burkina Faso	de Hoop and Rosati (2012)	RDD	Economic activities for pay or for household, or chores	All, 5-12	0.033 (0.035)	0.748 (all, follow-up)
				Girls, 5-12	0.017 (0.037)	0.778 (all, follow-up)
				Boys without female siblings, 5-12	0.097 (0.047)**	0.705 (all, follow-up)
				Boys with female siblings, 5-12	0.032 (0.039)	0.729 (all, follow-up)

Note: * p<0.1, ** p<0.05, *** p<0.01. Unless indicated otherwise, figures in parentheses are standard errors. And, unless indicated otherwise, the comparison group is taken from the same stratum as the impact estimate.

TABLE 4. LABOUR MARKET ORIENTED PROGRAMS

Program & Country	Reference	Method	Outcome	Stratum	Impact	Comparison group
Business training, Peru	Karlan and Valdivia (2010)	RCT	Working, no definition of work given	All, 6-15	-0.026 (0.039)	0.325 (control follow-up)
			Daily hours in work, no definition of work given	All, 6-15	-0.071 (0.085)	0.614 (control follow-up)
Business training, Pakistan	Giné and Mansuri (2011)	RCT	Economic activities for pay	All, 9-15	0.025 (0.024)	Not available
Targeting the Ultra Poor, India	Banerjee et al., (2011)	RCT	Minutes worked in past 24 hours, no definition of work given	All, no age range given	2.59 (7.12)	20.82 (control follow-up)
Targeting the Ultra Poor, Bangladesh	Bandiera et al., (2013)	RCT	Annual hours devoted to wage labor	All, no age range given, after 2 years	5.225 (8.13)	31.83 (treatment baseline)
				All, no age range given, after 4 years	1.124 (8.33)	31.83 (treatment baseline)
			Annual hours devoted to self employment	All, no age range given, after 2 years	56.635 (6.14)***	17.93 (treatment baseline)
				All, no age range given, after 4 years	35.891 (6.45)***	17.93 (treatment baseline)
Results Based Initiative, Nicaragua	De Hoop et al., (2013b)	RCT	Economic activities for pay or for household	All, beneficiary households, 8-17	-0.012 (0.037)	0.768 (control follow-up)
				All, non-beneficiary households, 8-17	0.051 (0.022)**	0.758 (control follow-up)

Note: * p<0.1, ** p<0.05, *** p<0.01. Unless indicated otherwise, figures in parentheses are standard errors. And, unless indicated otherwise, the comparison group is taken from the same stratum as the impact estimate. No standard errors are available for the Hazarika and Sarangi (2008) and Wydick (1999) marginal effects of probit estimates.

TABLE 5. MICROFINANCE PROGRAMS

Program & Country	Reference	Method	Outcome	Stratum	Impact	Comparison group
<i>Panel A: Microinsurance</i>						
Pakistan	Landmann and Fröhlich (2013)	RCT	Child labour according to ILO convention C138.	All, 5-17 (follow-up 1)	-0.023 (0.041)	0.20 (control, baseline)
				All, 5-17 (follow-up 2)	-0.067 (0.040)*	0.20 (control, baseline)
				All, 5-17 (follow-up 3)	0.015 (0.040)	0.20 (control, baseline)
				All, 5-17 (follow-up 4)	-0.029 (0.040)	0.20 (control, baseline)
<i>Panel B: Microcredit</i>						
Bangladesh	Islam and Choe (2013)	IV	Participates in economic activities	Women's credit, boys 7-16	0.132 (0.146)	0.138 (boys, cross-section)
				Women's credit, girls 7-16	0.281 (0.119)***	0.093 (girls, cross-section)
				Men's credit, boys 7-16	0.087 (0.091)	0.138 (boys, cross-section)
				Men's credit, girls 7-16	0.194 (0.084)***	0.093 (girls, cross-section)
Bosnia	Augsburg et al. (2012)	RCT	Hours worked (not further defined)	All, 16-19	13.60 (10.62)	4.93 (all, baseline)
			Hours worked in HH business	All, 16-19	20.55 (9.996)**	3.79 (all, baseline)
Guatemala	Wydick (1999)	IV	Not in school and in economic activities for pay or for household	All, 10-18	-0.30***	0.31 (all, follow-up)
Malawi	Hazarika and Sarangi (2008)	See text	Economic activities for pay or for household, or chores	All, 7-11	0.007***	0.517 (all, follow-up)
Malawi	Shimamura and Lassarria-Cornhiel (2010)	See text	Crop farming	All, 6-14	0.017 (0.072)	0.178 (control follow-up)
			Household chores	All, 6-14	-0.233 (0.084)***	0.226 (control follow-up)
Thailand	Nelson (2011)	RCT	Any work in business	Low wealth, 10-14	0.002 (F-stat 0.32)	0.017 (all, baseline)
				Middle wealth, 10-14	0.030 (F-stat 11.56)***	0.017 (all, baseline)
				High wealth, 10-14	0.003 (F-stat 1.30)	0.017 (all, baseline)

Note: * p<0.1, ** p<0.05, *** p<0.01. Unless indicated otherwise, figures in parentheses are standard errors. And, unless indicated otherwise, the comparison group is taken from the same stratum as the impact estimate. No standard errors are available for the Hazarika and Sarangi (2008) and Wydick (1999) marginal effects of probit estimates.

TABLE 6. COMMUNITY DRIVEN DEVELOPMENT PROGRAMS

Program & Country	Reference	Method	Outcome	Stratum	Impact	Comparison group
Indonesia	Olken et al. (2011)	RCT	Economic activities for pay	All, 7-15, Wave 1	0.006 (0.005)	0.021 (control, wave 1)
				All, 7-15, Wave 2	0.000 (0.005)	0.028 (control, wave 2)
			Household chores	All, 7-15, Wave 1	0.008 (0.014)	0.673 (control, wave 1)
				All, 7-15, Wave 2	-0.008 (0.017)	0.671 (control, wave 2)
			Hours worked in economic activities for pay (no reference period)	All, 7-15, Wave 1	0.179 (0.099)*	0.156 (control, wave 1)
				All, 7-15, Wave 2	0.005 (0.067)	0.245 (control, wave 2)
			Hours worked in household chores (no reference period)	All, 7-15, Wave 1	0.669 (0.223)***	3.287 (control, wave 1)
				All, 7-15, Wave 2	-0.155 (0.175)	2.885 (control, wave 2)

Note: * p<0.1, ** p<0.05, *** p<0.01. Unless indicated otherwise, figures in parentheses are standard errors. And, unless indicated otherwise, the comparison group is taken from the same stratum as the impact estimate. No standard errors are available for the Hazarika and Sarangi (2008) and Wydick (1999) marginal effects of probit estimates.

TABLE 7. HUMAN SETTLEMENTS PROGRAMS

Program & Country	Reference	Method	Outcome	Stratum	Impact	Comparison group
Peru	Field (2011)	Quasi-Random	Hours worked in economic activities for pay during past week	All, 5-16	0.66 (2.21)	8.9% (overall sample)
				All, 5-16 (Less than four 5-69 year old household members)	-4.08 (1.87)*	8.9% (overall sample)

Note: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Unless indicated otherwise, figures in parentheses are standard errors. And, unless indicated otherwise, the comparison group is taken from the same stratum as the impact estimate. No standard errors are available for the Hazarika and Sarangi (2008) and Wydick (1999) marginal effects of probit estimates.

TABLE 8. HEALTH AND DEMOGRAPHIC PROGRAMS

Program & Country	Reference	Method	Outcome	Stratum	Impact	Comparison group
Family planning, Bangladesh	Sinha (2005)	RCT	Economic activities for pay or for household, or chores	Boys, 10-16	0.108 (Z=2.69)***	0.35 (control group)
				Girls, 10-16	0.009 (Z=0.24)	0.32 (control group)
Anti-retroviral treatment, Kenya	Thirumurthy, Graff Zivin, and Goldstein (2008)	Changes over time	Economic activities for pay	Boys, 8-12 (HH with 1 ARV recipient)	-0.143 (1.54)	0.74 (boys 8-18, baseline ARV households)
				Girls, 8-12 (HH with 1 ARV recipient)	0.027 (0.21)	0.63 (girls 8-18, baseline ARV households)
				Boys, 8-12 (HH with >1 ARV recipient)	-0.792 (3.44)***	0.74 (boys 8-18, baseline ARV households)
				Girls, 8-12 (HH with >1 ARV recipient)	0.338 (0.72)	0.63 (girls 8-18, baseline ARV households)

Note: * p<0.1, ** p<0.05, *** p<0.01. Unless indicated otherwise, figures in parentheses are standard errors. And, unless indicated otherwise, the comparison group is taken from the same stratum as the impact estimate.