

# Effects of Public Policy on Child Labor

## Current Knowledge, Gaps, and Implications for Program Design

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## Abstract

Many policy instruments can be used to address or affect child labor, even if they are implemented to achieve other objectives. From a theoretical point of view, however, the impact of these policies on child labor is undetermined. This paper discusses the evidence generated by rigorous evaluations on the impact on child labor of labor market programs, conditional and unconditional transfers, and microcredit, among other social programs and interventions.

The study finds that although transfer programs generally tend to reduce child labor, other policies risk increasing child labor, especially if they affect households' productive opportunities. The findings also point to knowledge gaps that should be addressed in future evaluations. While progress has been made over the past decade, there is still much to learn about the effects of public policy on the labor participation of many children in developing countries.

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**EFFECTS OF PUBLIC POLICY ON CHILD LABOR: CURRENT KNOWLEDGE, GAPS, AND  
IMPLICATIONS FOR PROGRAM DESIGN\***

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## 1. Introduction

According to the International Labor Organization (ILO), at least 264 million children ages 5 to 17 were engaged in an economic activity around the world in 2012, mostly in developing countries, with over 85 million engaged in hazardous and exploitative forms of child labor (ILO 2013). Many authors argue that child labor deserves attention because it has long-lasting consequences for the economic development of countries through its interaction with education and productivity later in life.

A common view is that most child laborers are engaged in work for pay in market activities, however, most children are engaged in agricultural activities rather than manufacturing (ILO 2013). In addition, most children are employed by their parents on the family farm or enterprise (Edmonds 2008). Thus, consumer boycotts and trade sanctions against products using child labor may have limited impacts on reducing child labor in developing countries. Even if a ban on child labor is successfully implemented and enforced, some children could be worse off if these children work because of poverty constraints (Basu and Van 1998). Thus, additional policy instruments are required to tackle the root causes of child labor directly.

Social protection and labor programs aim at reducing poverty, improving the wellbeing of the poor, and protecting households from economic shocks. Previous meta-analyses of social protection programs have captured evidence regarding the results of these programs on human capital investment of children, in particular on schooling outcomes (see IEG 2011, Fiszbein and Schady 2009, Snilstveit et al. 2016). However, very few examined the effects of these programs beyond their immediate objectives on outcomes such as child labor. This review provides a comprehensive look at pathways through which social protection (credit and microfinance, cash transfers, vouchers, food programs), and labor programs could affect child labor and identifies evidence across program types. Our goal is to obtain a broad understanding of how policies and programs are likely to affect child labor as well as to point out the missing gaps and topics that need further research, which could provide useful lessons for both policy makers and evaluators.

This review updates and extends the previous literature on the effects of public policy on child labor. Since the publication of the chapter on child labor in the Handbook of Development Economics (Edmonds 2008) and reviews by Basu and Tzannatos (2003) and Fors (2012), there has been an increase in empirical research on the effects of social programs on child labor outcomes. Child labor is a complex phenomenon, resulting from household decisions influenced by many factors including income, uncertainty, and relative returns to work and education, among others.<sup>1</sup> The complexity of the phenomenon implies that a large set of policy instruments can be used to address child labor or can affect child labor, even if designed to achieve other objectives. It also implies that predicting the impact of different interventions on child labor 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

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<sup>1</sup> See Cigno and Rosati (2005), Edmonds (2008), Basu and Tzannatos (2003), and Fors (2012) for a review of the extensive literature on the determinants of child labor.

effects that are not easy to foresee. For example, public works schemes, microcredit programs, and business training interventions may affect the household's income generating strategy. While child labor may decrease due to the income effect, the return to children's participation in productive household activities might increase. Thus, theoretically is not clear the net effect of these interventions on child labor. Even education interventions may have unexpected effects and, in the limit, increase child labor. The difficult task is to find out what type of interventions are likely to reduce child labor given context-specific constraints.

For this paper, an exhaustive search of the literature was conducted on impact evaluation papers with social protection and labor focus, all of which applied rigorous methods to estimate the impact of the program on child labor. We selected papers that use experimental or quasi-experimental designs (propensity score matching, difference in difference, IV, and regression discontinuity design) to construct the counterfactual.<sup>2</sup> Overall, we found 31 impact evaluations that incorporate child labor as one of the outcomes of the intervention. This limited number points to the need to focus more on child labor outcomes in the development evaluation agenda.

Some patterns emerge, despite the complexity of integrating the findings of impact evaluations across different child labor definitions, implementation context, and policy instruments. Our review suggests that interventions based on transfers of resources (whether unconditional or conditional, in cash or in kind) generally tend to reduce child labor.<sup>3</sup> However, there is extensive evidence from the cash transfer literature suggesting that program impacts on child labor depend on the integration of different interventions. Combining (conditional) cash transfers with supply-side interventions such as the provision of health and education facilities and/or after school education possibly increases the impact on child work. Interventions that positively affect income-generating activities may reduce the impact of conditional cash transfers on child labor by increasing the reliance on children's activities within the household. Moreover, 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), may increase children's work either directly in the household business or in activities within the household otherwise carried out by adults.

There are also several gaps in the literature, particularly gender dimensions of child labor are often ignored, there is virtually no evidence on changes in the worst forms of child labor, and evidence is lacking altogether for some important intervention categories. Towards the end of this paper, we discuss these challenges and shortcomings in more detail, hopefully providing guidance for the direction of future research.

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<sup>2</sup> There is some evidence that bans and regulations against child labor are likely to backfire (e.g. Jafarey and Lahiri 2002) and theoretical models have shown that these types of policies may decrease household welfare (Basu and Van 1998) and have negative distributional consequences (Baland and Duprez 2009; Dessy and Pallage 2005). This review paper focuses on interventions that could affect the child labor decision at the household level and were not applied at the national level to construct a counterfactual. Thus, macro level interventions are out of the scope of this paper.

<sup>3</sup> See De Hoop and Rosati (2013) for an in-depth discussion of the impact of cash transfers on child labor, focusing on issues such as heterogeneity, spillover effects, long-run effects, and protection from shocks,

## 2. Child Labor: Definition and Theoretical Framework

In this section, we discuss three key conceptual issues. First, we discuss the key empirical challenges to define child labor in the empirical literature. Second, we present a simple theoretical framework to help us understand the pathways through which the different programs may affect children's allocation of time within the household. Finally, we discuss the challenges to identify the impacts of policies on child labor and the selection of studies summarized in this paper.

### 2.1 What Is Child Labor and How Is It Measured?

Several widely adopted international conventions set the legal boundaries that define child labor, including the ILO Convention No 138 on the legal minimum age, the ILO Convention No 182 on the worst forms of child labor, and the UN Convention on the Rights of the Child. The conventions, however, contain a few flexibility clauses left to the discretion of the competent national authority. Thus, there is no single legal definition of child labor used across countries and there is no single statistical measure of child labor.

The International Conference of Labour Statisticians (ICLS) is the authoritative body to set global standards in labor statistics. The Resolution concerning statistics on child labor, adopted by the 18<sup>th</sup> ICLS in 2008, structures the measurement of child labor around two elements: age of the child (includes all children in the 5 to 17 age group) and the type of activities performed by the child. The resolution distinguishes between "children in productive activities" and "child labor" as follows:

- "*Children in productive activities*" are comprised by
  - i) "*Children in employment*" includes all types of paid and non-paid productive activities performed by the child.
  - ii) "*Children in other productive activities*" includes children who perform unpaid household services, that is, the production of domestic and personal services by a household member for consumption within their own household or household chores.
- "*Child labor*" is more restrictive and excludes all children working legally in accordance with the ILO Conventions. A child laborer is defined as:
  - i) Any economically active child under the age of 12
  - ii) Children in the 12-14 age category engaged in productive activities that do not fall under permissible light work<sup>4</sup>

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<sup>4</sup> Light work is defined as not likely to be harmful to the child's health or development; and not affecting school attendance, participation in vocational orientation or training program.

- iii) Children aged 17 and younger engaged in activities that are designated as “*hazardous*” (affecting the child’s safety, physical and mental development) or the “*worst forms of child labor*” (e.g. children in bondage or forced labor, commercial sexual exploitation, illicit activities and armed conflict, among others).

Based on these definitions, ILO (2013) estimates that there were 264 million children ages 5 to 17 engaged in an economic activity in the world (16.7 percent), of which 168 million children were involved in child labor. About 51 percent of child laborers (85.3 million) were engaged in hazardous work.

Academic researchers, however, rarely measure child labor following the ICLS resolution outlined above. The child labor literature often uses the terms “*child labor*” and “*children engaged in productive activities*” interchangeably. Moreover, there is considerable heterogeneity in the types of productive activities considered in this literature: some papers define children in wage work as child laborers while others include children engaged in any economic activity for the market (paid or unpaid) or even household chores. The challenge of using wage work as an indicator for child labor is that many children working outside the household are not paid. However, not all forms of unpaid activities are considered detrimental to children’s development. For that reason, some studies apply an hour limit to the number of domestic hours a child works to consider activities where children regularly participate (Edmonds 2008).

There is also variation in the reference period applied in these studies. Some studies look at work in the 7 days prior to the household survey while other studies focus on work in the past one or twelve months. This heterogeneity complicates the comparison of program effects across studies. We report the definition and reference time used in each paper (when available) in our review; we also use child labor and children engaged in an economic activity interchangeably throughout the paper.

It is important to note that there could be unexplained inconsistency in child labor statistics even when a single definition of child labor is used. Guarcello et al. (2010), for instance, documents large discrepancies in child labor statistics between independent national surveys within the same country that ranges from 20 to 30 percentage points, even after accounting for differences in sample design. For instance, in Cameroon, a comparison between the Multiple Indicator Cluster Survey (MICS 2000) and a Priority Survey (2001) shows a decline in child labor from 64 percent in the MICS survey to 16 percent in the Priority Survey one year later. In Senegal, the Demographic Health Survey (DHS 2005) reports 35.2 percent of children as engaged in an economic activity while the Statistical Information and Monitoring Programme on Child Labour (SIMPOC 2005) survey of the same year reports 22.3 percent of children as working.

Despite the increasing sources of information on child labor over the past decade, there is not much evidence on the validity of data collection methods (Edmonds 2008). Child labor could be affected by measurement error due to several factors, for example, the survey information is collected primarily using standard household surveys that target adult work, i.e., formal jobs rather than unpaid and family work/enterprise jobs. Likewise, due to budgetary constraints

usually, the head of household provides the information on child labor. The advantages of using proxy-based reports rather than child-based reports in the context of child labor are not clear. On the one hand, child-reported information may be more accurate than proxy responses, given that a child knows best how she allocates her time. On the other hand, the head of household may be familiar with the children's activities since many child laborers in developing countries work on the family farm or enterprise, however, due to social normal and cultural values, a proxy respondent may tend to underreport these activities (Dammert and Galdo 2013).

In order to understand the effects of survey design, experimental studies have randomized the survey instrument to different households in Tanzania and Ethiopia (Dillon et al. 2012; Dammert, et al. 2016). Both studies show that survey design matters for child labor outcomes, in particular in contexts where a large share of children are working on the family farm or home enterprises and respondents may provide the socially desirable response of not sending their children to work. These results have important implications for the reliability of current household survey instruments and published estimates of child labor for monitoring and guiding efforts towards child labor elimination. More attention needs to go to the survey instrument when we measure child labor. An area that deserves attention concerns the worst forms of child labor, which are rarely considered in rigorous empirical research.

## ***2.2 Theoretical Framework***

In this section, we present a heuristic explanation to illustrate the different mechanisms through which policies may have an impact on child labor. This discussion draws on the theoretical framework presented in Cigno and Rosati (2005) and Edmonds (2008). Economic theory largely focuses on child labor as labor supply. Consider a unitary household in which parents maximize utility over current consumption, children's education, and leisure. The parent's labor supply is inelastic and yields an exogenous income, fertility is exogenous and fixed at one child, and school participation is dichotomous (the child either attends school or not). Thus, the income constraint faced by the household is composed of household income (adult income and income from child labor) minus the direct schooling costs. Parents will invest in the child's schooling up to the point where the marginal costs of a child's time in school (including foregone earnings from work) equal the marginal benefits.

Within this simplified framework, several factors influence children's time allocation. First, optimal investment in child education may not be achieved in credit-constrained households, since these households cannot borrow against future earnings to cover foregone earnings or school related expenses. Poor, credit constrained households are more likely to resort to child labor to meet subsistence needs, even if parents have preferences for schooling (Baland and Robinson 2000; Basu and Van, 1998; Beegle, Dehejia and Gatti 2009; Ranjan 2001). These households are particularly likely to rely on children for income generation in the face of uncertainty. There is ample evidence that poor households often resort to child labor as a buffer against negative shocks such as parental unemployment and loss of agricultural income due to droughts or other natural disasters (Edmonds 2005; Beegle, Dehejia and Gatti 2006; Duryea et al 2007; Guarcello, Mealli and Rosati 2010).

Child labor supply is related not only to poverty but also to the availability and quality of schools and opportunities in the labor market. Households are more likely to rely on child labor if parents perceive the returns to education as low, schools are not available nearby, or education is not affordable. And, in situations where returns to unskilled work are relatively high, the household could decide to involve children in economic activities.

This simple theoretical framework helps to understand how social protection and labor market programs may affect child labor. While the objectives of social protection and labor programs are to reduce poverty and improve the well-being of the poor, these programs may affect child labor through a variety of channels. Positive income effects (e.g. because of direct transfers, short-term employment, and income from productive activities) can increase levels of school participation and lower levels of child labor if the income is raised above the subsistence threshold (Basu and Van 1998). At the same time, some programs incorporate requirements, such as explicit schooling conditions, that may lower the opportunity cost of schooling and hence further increase school attendance and lower participation in child labor.<sup>5</sup>

On the other hand, some programs may produce indirect intra-household labor substitution effects that could positively or negatively affect child labor. When labor market programs increase the participation of adults in the labor market, children may take over some of the economic activities (e.g. on the household farm) and household chores previously carried out by these adults. Programs that encourage household engagement in micro-entrepreneurial activities, may increase the returns to children's work and hence lead to an increase in child labor. Moreover, if the household is not unitary, children's time allocation will also depend on the balance of the decision-making power within the household. To give an example, if adult female household members have a stronger preference for children's schooling, then children's school participation may be affected positively by factors such as female empowerment and female income generating capacity.

Our review highlights the potential channels through which diverse social programs may affect child labor to guide the discussion of their impacts on children's allocation of time. Our goal is to understand the intended and unintended effects so that social programs can be designed to increase their potential in improving the welfare of poor households.

### ***2.3 Our Search and Presentation of Results***

The literature search was carried out, covering EconLit, 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), Google Scholar, and the International Initiative for Impact evaluation (3IE). The research team also drew on the extensive network of

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<sup>5</sup> In contexts of high rates of school enrollment prior to the intervention, requirements regarding school attendance may not alter child labor participation but only the share of children combining both school and work.

the Understanding Children’s Work (UCW) project<sup>6</sup> (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 all 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 labor.<sup>7</sup> The papers we discuss include randomized trials as well as regression discontinuity designs, natural experiments, and propensity score matching studies.<sup>8</sup> Papers that do not explicitly evaluate the impacts of the intervention on child labor outcomes were excluded.

As mentioned in the previous section, the concepts used to categorize children’s work and child labor 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. To achieve 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) and discuss, when available, the program impacts for different categories of economic activities or household chores. We present the impact on the extensive margin of child labor (as this is the outcome that most studies examine) and on the intensive margin of child labor. We focus on children aged 6 – 14 years, the cut-off is set as the minimum working legal age set in most countries. We refer the reader to the extensive literature on youth labor programs, defined as the population aged 15 to 24 (see Behrman 1999, Card et al. 2015, Blattman and Ralston 2015, among others).

Our filters produce a final sample of 31 evaluations. It should be noted that impact evaluations around child labor tend to suffer from two limitations: (i) seldom is child labor the main outcome of interest of labor and social protections programs 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 labor based on impact evaluations is defined by these limitations.

### **3. Review of the Evidence**

This section provides a systematic review of the evidence on different policy interventions grouped into five areas relevant for child labor: labor-oriented programs, credit and microfinance, cash transfers, schooling incentives (vouchers, food programs), and targeted child labor programs. This review is based on 31 high-quality studies conducted until the end of 2015.

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<sup>6</sup> The UCW project is an inter-agency research cooperation initiative involving the (ILO), UNICEF and the World Bank. Through a variety of research activities, the UCW project supports the partner agencies in improving statistical information on the child labor phenomenon in its various dimensions – its nature and extent, its causes and consequences, and what policy approaches are most effective in addressing it.

<sup>7</sup> 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.

<sup>8</sup> 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).

### **3.1 Labor Market Oriented Programs**

Labor market oriented programs aim to increase household members' access to the labor market and participation in micro-entrepreneurial activity. Within the simple theoretical framework introduced above, the effects of these programs on children are undetermined. Consider, for example, public work programs aimed at increasing labor demand for unskilled workers, one of the most common demand-side labor market programs. These programs act as a safety net by offering temporary employment to the poor. The additional income they provide to the household, particularly during periods of economic distress, may keep children from dropping out of school and entering the labor market. At the same time, these programs may increase the demand for household chores performed by children (such as caring for siblings) and/or their involvement in the family business as the demand for adult time outside of the household increases.

Likewise, supply-side programs that offer skills training or provide capital could affect child labor through the increase in household income, but may at the same time result in an intra-household substitution effect leading to an increase in child labor in household activities (depending on the degree of complementarity between adult and child work). The net effect of labor market oriented programs on child labor will depend on whether the income effect dominates the substitution effect, which in turn is conditioned on many factors, among them the need of labor required under the program, the opportunity cost of adult household member time, requirements of the program, changes in income due to the program, opportunity cost of schooling, and child's productivity in household activities. A priori, it is not possible to determine which effect will dominate.

#### **3.1.1 Labor Demand-Side Programs: Public Works Programs**

Public work programs are popular policy tools aimed at fighting poverty in developing countries. These programs provide temporary employment opportunity boosting unskilled workers' income and providing new or improved infrastructure such as road construction and maintenance, water conservation, among others (Subbarao et. al. 2013). These temporary programs are common in post-conflict or post-disaster situations, to provide some of the poorest a basic income with a potential multiplier effect on local economies and help address youth employment and ex-combatant reintegration (Blattman and Ralston 2015). Public work programs are usually self-targeting, that is: offered wages are low so that only poor people willing to work at that rate participate in the program.

While public works programs do not target child labor directly, the temporary increase in demand for unskilled labor may affect the allocation of children's time. The results from the available impact evaluations seem to indicate that public works programs do not generate any relevant reduction in child labor. On the contrary, the evidence indicates that in some instances these programs increase child labor. It should be noted that despite their widespread use, evidence on the impacts of public work programs on child labor (and other outcomes) is limited due to the challenges in establishing a counterfactual for these large-scale programs.

Hoddinott, Giligan, and Taffesse (2009) estimate the effects of Ethiopia's Public Safety Net Program on child schooling and labor. This program provided transfers to individuals from selected beneficiary households residing in chronically food insecure areas, where each working-age household member was allocated a quota of up to 30 days of work in labor-intensive projects (such as road and school construction). This program was complemented by other activities such as access to credit, agricultural extension, irrigation and harvesting schemes, among others. Given the non-random allocation of beneficiaries the authors compare beneficiary households in intervention districts to non-beneficiary households using propensity score matching. The main results show that, among children aged 6 to 10 years, boys experienced a reduction in child labor which is driven by reductions in both household chores and agricultural activities. For older boys and girls, the estimates are not statistically significant. However, once the public work transfers are combined with food security transfers designed to increase agricultural productivity, young girls (aged 6 to 10) experienced increases in weekly hours worked, in particular in domestic chores. Quisumbing and Yohannes (2005) provide evidence suggesting that child care duties affect women's ability to participate in Ethiopia's public works program and that women may rely on their daughters for help with domestic chores if they take up paid employment.

Shah and Steinberg (2015) exploit the three-phase rollout of India's National Rural Employment Guarantee Scheme (one of the largest public works programs globally) to analyze the effects of the increased adult labor demand on children aged 5 - 16. The NREGS provided a guarantee of up to 100 days of annual employment at the minimum wage rate in rural employment projects (e.g. road construction, water conservation, among others) aimed at helping households to smooth consumption during lean agricultural seasons. Individuals who apply but did not receive work within a period of two weeks were entitled to unemployment compensation. The program mandated one-third of program beneficiaries to be women. The main estimates suggest mixed effects for younger children (5-12 years) but significant ones for adolescents (13-16 years) who are old enough to substitute for adult labor but ineligible to participate in the program. In particular, the paper finds that adolescent girls are more likely to substitute for their mothers in domestic work, while boys are more likely to work outside the home for pay. Like the results for Ethiopia, these findings are consistent with girls taking up home activities and boys spending more time in economic activities, both activities displaced by the workfare program.

Similarly, Rosas and Sabarwal (2016) exploit a randomized rolled-out design to examine short-term impacts (3-4 months) of the Youth Employment Support Project in Sierra Leone, which include a labor-intensive component known as the Cash for Work Program. The objective of the program was to provide additional income and temporary employment opportunities to vulnerable youth, where beneficiaries were entitled to a minimum of 50 days and a maximum of 75 days of work at a daily wage rate of Le 7,500 (or US\$1.80 in 2012). The program rules included a quota of at least 30 percent participation by women. The findings show that participant households experienced an increase in income and invested part of it in productive assets and existing businesses. The program appears to have generated an increase in school absenteeism with no increases in paid activities among children aged 6 to 14 years. Given the increase in labor

participation among eligible household members, the higher school absenteeism could be due to higher needs for household chores, but this effect was not discussed in detail in the paper.

The Programa Jefes y Jefas de Hogar Desocupados (Program for Unemployed Male and Female Head of Households) in Argentina was introduced in 2002 as a public safety net response to the severe economic crisis. The program required eligible unemployed household heads with dependents to work a minimum of 20 hours per week in training activities, basic community work, school attendance or employment in a private company with a wage subsidy for six months. Juras (2014) estimates impacts by comparing the outcomes for children in participant households (i.e. households that had enrolled in the program and were receiving benefits in Oct. 2002) with the outcomes of children in a propensity-matched group of applicant households on the waiting list as of October, 2002. The main results suggest that the program reduced the percentage of children aged 10 and 14 working for pay by 0.6 percentage points, although the effect is not statistically significant. It should be noted, however, that a small percentage of children works for pay in Argentina and no information was provided on unpaid activities performed by the child.

Overall, the findings above suggest that children may take over the activities of participating parents, particularly household chores. It is not clear, however, how the design features of public works programs affect the main results. Potentially, the temporary nature of the evaluated employment programs explains why children's time is spent on household chores or in activities previously carried out by adults. Public work programs aim to provide short-term employment to the poor; thus, they should be distinguished from other labor programs that are meant to have a longer-term impact on adult employment. If beneficiaries of public work programs know that the program will provide employment only for a short period (weeks or few months) they may resort to child labor to substitute adult work temporarily while adults are engaged in public work programs, then after the program ends parents and children return to their normal activities. Complementary programs to support the need for household labor while the adult beneficiary is employed and to support graduates' transition into long-term employment could potentially alleviate the reliance on children.

Another design feature of these programs that may affect child labor is the explicit targeting of women. Women are often assumed to have a stronger preference for child wellbeing and therefore more likely than men to invest their resources (and thus also the income generated by participating in the program) in the human capital investment of their children. Also, by encouraging women's participation in the labor market, public programs may enhance the bargaining power of women within their household, potentially enabling them to channel additional household resources to children. However, women are often more likely than men to engage in caring for children, hence increasing their engagement in economic activities may affect their children directly. Indeed, Shah and Steinberg (2015) estimate that between 1.2 and 4 adolescent girls may have dropped out of school to start full-time domestic work in their parents' homes for every 20 women induced into the labor force by the public work program in India (NREGS).

### **3.1.2 Labor Supply-Side Programs**

In this section, we discuss supply interventions aimed at providing skills training or capital to individuals, which are common interventions implemented in developing countries meant to have a long-term effect on employment (Card et al. 2015). We focus on micro-enterprise development programs that offer assistance to unemployed workers in the form of financial support for start-up or operating costs of small business. As explained before, these programs may lower child labor through an increase in household income, but may at the same time result in an intra-household substitution effect leading to an increase in child labor in household activities.

Several results emerge from our review. First, programs that provide only entrepreneurial training tend to have limited effects on household productive activities and concurrently on children's time allocation. For instance, Karlan and Valdivia (2011) examine the effects of training offered to Peruvian women participating in a microcredit program. 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 exploit the randomization of village banks to identify the impact of this training on a range of outcomes. There was little evidence that the intervention improved key outcomes such as revenue, profits, or employment and hence there was no statistically significant effect either on the extensive margin of child labor (not clearly defined in their paper) or on the number of daily hours spent in work.

Similarly, the provision of more intensive business training to microfinance clients in Pakistan appears to have had limited effects. Evidence from a cluster randomized experiment indicates that the business training led to increased business knowledge and better business practices. The training, however, did not affect business sales or profits. The effects of the business training intervention on education and child labor (defined as paid labor) were not statistically significant in the full sample. However, girls in this age range appeared to have increased their participation in economic activities for pay by 4 percentage points (Giné and Mansuri 2011).<sup>9</sup>

Second, while the effect of business training combined with the provision of capital on household business activities and income generation appears to be more pronounced, the effects on children are still limited. For instance, 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.<sup>10</sup> The Indian Targeting the Hardcore Poor program consisted of a package of interventions, including asset transfers (such as livestock,

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<sup>9</sup> In Karlan and Valdivia (2011), it is not clearly defined what child labor meant, while Giné and Mansuri (2011) only considered children working for pay outside the household as child labor. These limitations reflect the fact that neither of the two studies had the objective of analyzing potential effects on children's allocation of time.

<sup>10</sup> 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.

inventory, and fodder), provision of information and training related to the household's enterprise, and iii) savings requirement of Rs. 10 (approximately US\$ 0.25) per week. At the end of the 18-month period, the households were integrated into a microcredit program by means of a mandatory 3-day orientation course. Although non-participation rates were relatively 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 did not differ from children in the control group in terms of time spent working<sup>11</sup> in the 24 hours prior to the follow-up interview.

A comparable program (implemented by the same NGO) in Bangladesh had a somewhat different impact on child labor. Bandiera et al. (2013) study the impact of this program in rural Bangladesh, where selected communities were randomly divided into two groups: a treatment group where the program was implemented in 2007 and a delayed treatment group which would receive the program in 2011. The program resulted in substantial increases in self-employment, labor 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 residing in eligible households increased time spent yearly in self-employment by 57 hours 2 years after the start of the program and by 36 hours 4 years after the start of the program. Annual hours devoted to wage labor by children in eligible households were not significantly affected by the program.

Third, evidence from two programs in Central America suggests that programs that encourage micro-entrepreneurial activity may increase child school participation while leaving child labor supply unaffected through adjustments in intra-household decision-making and attitudes towards schooling. The Nicaragua's Results Based Initiative offered capital transfers in the form of cash, seeds, or livestock and technical assistance and training to develop or expand small-scale household enterprises, livestock or agricultural activities. De Hoop et al. (2015) exploit the random assignment of communities to identify the effects of the program on applicant households in treatment and control communities. The evidence shows that, among beneficiary households in treatment communities, women were more likely to work in small-scale livestock and non-agricultural self-employment activities. In these households, child labor (defined as participation in any paid or unpaid economic activity) did not change among children aged 8 to 17 at baseline but their school attendance increased by 8 percentage points, which indicates that more children are combining school and work.

Similarly, Kovrova and Rosati (2016) use a regression discontinuity to assess the impact of the ILO project "Eliminating Child Labour in El Salvador through Economic Empowerment and Social Inclusion". The set of interventions evaluated consisted of support to mothers of child laborers to start a small enterprise as well as of so-called "flexible education interventions" to help their

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<sup>11</sup> We were unable to identify a clear definition of work in the paper.

children return to school at the appropriate level in case they have dropped out. The program produced substantial changes in household behavior. The participation of women in economic activities, and in own business increased substantially, but without generating relevant changes in the labor supply of other members of the households. Children appear to have benefited from the program since their school attendance increased significantly and household expenditures on education showed signs (albeit not robust) of increase. Children were not driven to work in the newly created or expanded household businesses, but they did not stop working either. Rather, they experienced a marked reduction (by about one-half) of their weekly working hours, making more than enough room for regular school attendance.

Neither the program in Nicaragua nor the program in El Salvador appears to have resulted in substantively increased household income. However, there is evidence that these programs may have affected children's time allocation (increased schooling) through changes in household decision making and values related to children. In Nicaragua, women's influence on household decisions related to children (e.g. regarding child schooling) increased substantively. In El Salvador, household attitudes towards child employment had changed, with fewer households mentioning positive aspects of child labor.

## **3.2 Credit and Microfinance**

We now turn to impacts of credit and microfinance interventions on child labor outcomes. 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 reporting impacts of microcredit on beneficiaries' children and one study examining the impact of access to micro-insurance.

### **3.2.1 Microcredit**

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). Microcredit programs may increase household income and concomitantly lower child labor by addressing the constraint to entrepreneurial activity. However, access to credit may also open 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.

The reviewed papers show mixed effects, which could be explained by context specific constraints, differences in child labor measures, and experimental design. Two studies analyzed the impacts of microfinance on several socioeconomic outcomes in a context where microfinance was not targeted towards women and was almost non-existent in the village prior to the intervention (no other microfinance institution was offering a product before or during the duration of the study). In rural Morocco (Crepon et al 2015) and rural Ethiopia (Tarozzi et al 2015), the intent-to-treat estimates show that there was an increase in borrowing mostly used for crop cultivation and livestock-related activities.

In rural Morocco, households that had access to microcredit increased self-employment and profits, but the increase in self-employment profit was offset by a decrease in labor supplied outside the farm or household's business. Not only adults changed their labor supply; the estimates show a statistically significant reduction in time spent on household chores and activities outside the household among household members aged 6 - 15 years, respectively. On the contrary in rural Ethiopia, there was no evidence of changes in the total number of hours worked neither outside the household nor in self-employment activities<sup>12</sup>. The proportion of girls for whom domestic chores was the primary activity increased by 5 percentage points relative to control areas but the difference was not statistically significant.

Other studies examine the impacts of lending programs targeted specifically to women. Banerjee et al (2015a) analyzed the introduction of a group lending program targeted to women residing in neighborhoods where there was no pre-existing microfinance presence in Hyderabad, the capital of Andhra Pradesh, India. The microfinance institution did not require its clients to start a business in order to borrow, nor did it provide any complementary services such as business training. The intent-to-treat estimates show that household business profits did not increase and that there was no significant difference in monthly per capita consumption and monthly nondurable consumption. Households mostly used the loan to acquire durable goods. The estimates show a reduction in teenage girls' labor supply but no changes in the probability that children or teenagers are enrolled in school nor in the number of hours worked. Adult labor increases but mostly on the time spent in the households' own businesses with no increases in the number of hours worked for wages.

Similarly, Angelucci et al (2015) find modest impacts on female decision making in a study on the expansion of microcredit in north-central Sonora, Mexico, where self-reported female entrepreneurs residing in randomly selected treatment clusters received access to credit by means of door-to-door loan promotion. The intent-to-treat estimates show positive effects of access to microcredit on revenues and expenses of some existing businesses, but no gain on income. The estimates also show no effects on any labor supply outcomes measured as the respondent's participation in an economic activity, percentage of children aged 4-17 working, and employment of family members in the respondent's business. In both papers, child labor, either measured in terms of working hours or participation in economic activity, did not change. The latter may be explained by the small effect of the programs on household income.

It is possible that the mixed evidence found in the four studies mentioned in this section is due to sample selection and low take-up rates as pointed out by Banerjee et al (2015b). Thus, an alternative option is to randomize across villages where microcredit was already available and among those who had already expressed explicit interest in microcredit during the initial

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<sup>12</sup> Work is defined as an activity related to crop cultivation, care of livestock, fishing, mining, manufacture and processing, retail and wholesale trade, finance, public administration, education, health, and social services or other services). For everyone of age 10 and above, the survey recorded the two most important activities the individual was involved in during the previous 12 months, the number of weeks spent in such activities, the number of days usually spent per week as well as the number of hours spent per day.

information sessions instead of looking at the impacts of microfinance in areas with little or no exposure to lending institutions. Attanasio et al. (2015) analyzed the impacts of two types of contractual agreements (group-lending and individual-lending) offered to poor women in randomly selected villages in rural Mongolia. While the individual liability microcredit program did not yield significant impacts on socioeconomic outcomes, enterprise ownership and consumption increased among those who were offered the group loan. Also, adults increased their labor supply in the female-run household business while the number of hours worked by teens (aged 16 – 20) declined. There are no clear effects on child labor (measured as hours worked in self-employment, household business, and other activities). Estimations not displayed but discussed in the text suggest that there were impacts among low-educated group borrowers, who seem to substitute away from outside labor by children to help in the newly established female-run enterprises.

### **3.2.2 Micro-insurance**

Evidence on other types of micro-finance programs is limited. A study of Pakistan's National Rural Support Program suggests that insurance against health shocks has the potential to lower child labor. The 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 Frölich (2015) examine whether an extension of this mandatory insurance scheme offered to clients in 9 microcredit branch offices, affected child labor. The randomized extension consisted of two components offered in treatment branches only (i) voluntary insurance for additional household members not belonging to the nuclear family (such as adult children of the client, parents, cousins, etc.) and (ii) assistance with claim procedures. The clients in the control branches (4 branches) were not aware of the treatment. The estimates show that the insurance extension reduced participation in child labor (defined per ILO's official legal definition) and children's engagement in hazardous work, hours worked by children and children's earnings. The exact magnitude of these effects differs by follow-up survey wave (four survey waves were conducted at 6-month intervals after the baseline survey) and are particularly strong for boys. Given that there is only one study, however, more is needed to establish the potential effectiveness of micro-insurance programs on addressing child labor.

### **3.3 Cash Transfers**

Unconditional cash transfer (UCT) programs provide income transfers to poor households without strings attached. Conditional cash transfer (CCT) programs also provide income transfers but require recipient households to comply with schooling (e.g. enrollment of their children) and health (e.g. vaccination, health clinic visits etc.) requirements. As pointed out before, cash transfer programs may have offsetting effects on child participation in work. Increases in income available to the household will tend to lower child participation in work and this reduction in work activities will tend to be stronger if the cash transfers are provided conditional on school attendance, which lower the price of schooling. However, households may also invest the transferred resources in productive assets (see for instance Gertler, Martinez, and Rubio-Codina, 2012; Sadoulet, de Janvry, and Davis, 2001), thus opening new opportunities for children either

to participate directly in the households' productive activities or to substitute for adult activities in the household.

### **3.3.1 Unconditional Cash Transfers**

The evidence on the effects of UCT programs is mixed. Examining what families do with the extra money helps to understand these mixed impacts. We turn first to Ecuador's Bono de Desarrollo Humano, an UCT of \$15 per household per month (or 7 percent of monthly expenditures for recipient households) independent of the number of children residing in the household. Using randomly assigned eligibility status as an instrument, the estimates indicate that the program lowered children's participation in economic activities (Schady and Araujo 2006) and it resulted in substantial reductions in work for pay particularly among children who were enrolled in school at baseline (Edmonds and Schady 2012). Edmonds and Schady (2012) show that the effects are mostly driven by households using the extra income to postpone the child's entry into the labor force.

The increase in schooling inputs and reduction on child labor is present even if the UCT does not target older children. Zambia's Child Grant Programme is a UCT program targeted to households with children aged under 3 years in three districts of the country. Recipient households received a flat (i.e. irrespective of household size) US\$12 transfer a month, an amount deemed sufficient to purchase one meal a day for everyone in the household for one month. Handa et al (2015) estimate the effects of the program using a randomized variation within villages. The estimates show no impacts of the program on participation in any type of work (paid or unpaid) for children aged 8-10. However, the program decreased paid work of children aged 11-14 at baseline, the age at which significant drop-out begins to occur in Zambia. The transfer seems to have enabled households to overcome some costs to school attendance since the transfer was at least in part used to purchase school uniforms and shoes.

On the contrary, child labor tends to increase when the transfer is invested mostly in productive assets. Malawi's Social Cash Transfer Scheme offered a transfer that ranged from US\$4 per month for a household with one eligible member to US\$13 per month for households with four or more eligible members with no conditions attached to the transfer. In addition, the program offered a schooling attendance bonus ranging from US\$1.30 per month for primary school age children to US\$2.60 per month for secondary school age children. The target population was the poorest 10 percent of households. Covarrubias et al. (2012) show that eligible households increased their investment in productive agricultural assets (ownership of agricultural tools and livestock) and reduced adult participation in labor activities outside the household. The estimates show that children experience an increase in the probability of performing household chores and an increase in hours worked on the family farm or family business, especially during harvest.

### **3.3.2 Conditional Cash Transfers**

Randomized evaluations, mainly in Latin America, indicate that Conditional Cash Transfer (CCT) programs tend to reduce child engagement in economic activities. For instance, the PROGRESA

program in Mexico reduced economic activity by 3 - 5 percentage points among 12 to 17-year-old boys and by 2 percentage points among girls (Skoufias and Parker 2001); the Red de Proteccion Social program in Nicaragua reduced economic activity by 3 - 5 percentage points for children aged 7 to 13 (Dammert 2009), and the Programa de Asignación Familiar (PRAF) in Honduras decreased work outside the home by 3 percentage points for children aged 6 to 12 (Galiani and McEwan 2013).

De Hoop and Rosati (2014) reviewed evidence drawn from 23 evaluations of conditional cash transfer schemes and conclude that CCTs tend to lower both the extensive and intensive margin of child labor and to mitigate the effect of economic shocks that may push children into work. Moreover, most impact evaluation studies show that boys and older children experience a stronger impact of CCTs on work for pay and work outside the house while girls reduce household chores due to the transfer. Since girls are more likely to be engaged in household chores, the impact of policies on work performed by girls is likely to be underestimated if only work for pay or work for the market is considered as indicators of child labor.

Yet, there are still knowledge gaps related to cash transfers that were not addressed in the literature. First, there is scant evidence on whether cash transfer programs are effective at tackling the worst forms of child labor, such as work under hazardous conditions and long working hours. One exception is Edmonds and Shreshta (2014) who analyze a schooling promotion project for children working in the handmade, export-oriented carpet sector in Nepal. Estimates based on a randomized controlled trial show that conditional transfers covering school expenses conditional on school attendance reduced child involvement in carpet weaving, in particular for girls. The study, however, points out that the effects of the cash transfer dissipate after the program ends. The effects on children's time allocation tend to last only for the duration of the program, there is no evidence of program effects on schooling or child labor outcomes after the program ends. More evidence about the short and long-term effects of CCTs on the worst forms of child labor is needed.

Moreover, there are indications of interaction effects between cash transfer programs and other interventions. Cash transfer programs appear to have a stronger effect on child labor when they are implemented in combination with supply-side interventions such as the provision of health and education facilities such as PROGRESA in Mexico. Their effects, however, appear to be weaker when cash transfers are combined with auxiliary interventions that affect households' income generating strategies, as these investments may create opportunities for child labor in family work. For instance, Del Carpio, Loayza, and Wada (2016) analyze a randomized CCT in Nicaragua (Atencion a Crisis) where the transfer was complemented by a further wealth transfer to start-up a non-agricultural business. The estimates show that the program reduced farm work and household chores but increased activities related to commerce and retail among children aged 8 to 15 years. More information about the interaction between cash transfers and other interventions (including some of the interventions we discuss in this paper) would be beneficial.

### **3.4 In-Kind Transfers**

In-kind transfers are closely related to conditional cash transfer schemes, but their impacts on child labor outcomes are not necessarily equivalent. To the extent that the goods and services provided by these 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 labor outcomes than conditional cash transfers of equal monetary value.<sup>13</sup> In this section, we examine the impact of two types of in-kind transfers where child labor outcomes have been reported: food for education programs and school vouchers.

We first analyze the effects of food for education programs on child labor. School-feeding programs can work as an indirect income transfer to households and affect child labor by reducing the cost of sending a child to school. Ravallion and Wodon (2010) analyze the Food Education Program, which comprises of take-home rations given to poor households with children in primary school in Bangladesh. To receive the ration, children must attend at least 85% of all classes in a month. Using whether the program is present in a child's village as an instrument for receiving the program, the estimates show a reduction of child labor (measured as engaged in an economic activity inside and outside the household). The observed decline in participation in work, however, is markedly lower than the increases in education amounting to 19 and 18 percentage points respectively for boys and girls.

It appears to matter how meals are delivered to students. Kazianga, de Walque, and Alderman (2012) 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 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.

Second, we turn our focus into the provision of vouchers that lower the cost of attending private schools. This intervention could affect child labor due to the income effect, reduction in the cost of education, the incentives to spend time studying, and changes in the expected returns to schooling given that the child is attending private school which is correlated with higher quality of education in developing countries. Yet, missing from most studies on the effects of vouchers

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<sup>13</sup> For a review of (the rationale behind) in-kind transfers we refer the reader to Currie and Gahvari (2008).

on children's' outcomes is an assessment of impacts on child labor.<sup>14</sup> An exception is a study on Colombia's Programa de Ampliación de Cobertura de la Educación Secundaria (PACES), which 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. The program did not affect the likelihood of engaging in work of either boys or girls. Point estimates for the reduction in child labor 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 because of the program (2.7 hours a week in the control group at follow-up).

### 3.5 Supply-Side Education Interventions

Evidence on the impact of the most relevant supply-side interventions (like better access to schools or improved quality of education) on child labor is limited. This section discusses two types of supply-side education interventions for which child labor outcomes were reported. It should be noted that these interventions seem to affect child labor, but there are few studies in the education literature that report child labor outcomes, thus further testing is needed.

First, 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 in 30 villages randomly selected from a larger group of 98 eligible villages.<sup>15</sup> The program consisted of a range of interventions to introduce pre-school options in the selected villages.<sup>16</sup> 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 beneficiary 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.

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<sup>14</sup> See Glewwe and Muralidharan (2015).

<sup>15</sup> Villages in 5 areas were deemed eligible if they committed to providing extensive support to the program.

<sup>16</sup> 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.

Second, interventions that reduce the cost of education and increase access to schools, are generally assumed to lower the incidence of child labor. Along with the construction of girl-friendly schools, the Burkinabé Response to Improve Girls' Chances to Succeed (BRIGHT) provided school kits, textbooks and school meals for all students in 132 rural villages in rural Burkina Faso. Female pupils were also eligible for take-home rations on the condition that they attended school regularly. Regression discontinuity estimates based on the assignment score for village eligibility to participate in the program show that BRIGHT led to strong improvements in school enrollment and children's scores in mathematics and French tests (Kazianga et al 2014). Kazianga et al (2014) and De Hoop and Rosati (2014) show that there was no effect of the program on activities performed by the child outside the household<sup>17</sup>. When disaggregated by gender, there is not much difference in the treatment effect (Kazianga et al 2014) but boys without female siblings (who did not benefit indirectly from the take-home rations provided to girls) appear to have increased their participation in work outside and inside their households, possibly because the increased school access reduced the time they spent commuting to school (De Hoop and Rosati 2014).

### 3.6 Targeted Child Labor Programs

In the previous sections, we have reviewed several policies that affect child indirectly but what about programs and policies that target child labor directly? The International Labor Organization (ILO), UNICEF, the U.S. Department of Labor's Bureau of International Labor Affairs (ILAB), among others have implemented a variety of policies and programs towards working children. While these programs are informative and have been implemented all over the developing world, there has been few rigorous evaluations of these programs. Thus, we will review them with caution with the purpose of informing policy design and highlighting gaps in the literature.<sup>18</sup>

One of the most common type of policies implemented to reduce child labor is advocacy. The main idea is to inform parents, employers, children, and policy makers about the potential negative effects of children's engagement in some types of economic activities and household chores. The assumption is that parents/employers may not have full information about the harmful effects of some types of activities, in particular, the worst forms of child labor. The ILO's International Programme on the Elimination of Child Labour (IPEC) has focused on raising awareness on child labor and the implementation of legal and policy frameworks in more than 200 projects worldwide (ILO 2015). Examples include awareness campaigns on child labor in the tourism sector in Cape Verde, cocoa farming in Ghana, and domestic work for pay outside the household in Ecuador (ILO 2015). Similarly, UNICEF has worked to raise awareness about child labor, for example through a Parenting Education Initiative in Nepal, where the goal is to increase parents' awareness of the harmful effects of child labor (UNICEF 2011).

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<sup>17</sup> There is a discrepancy in the results in regards to household chores driven by different specifications of the econometric model.

<sup>18</sup> In January of 2015, the U.S. Department of Labor's Bureau of International Labor Affairs awarded \$11 million in grants for monitoring and impact evaluation studies on child labor. Results will be available in 2019. (<http://www.dol.gov/newsroom/releases/ilab/ilab20150067> accessed on April 6th, 2016)

ILO-IPEC and UNICEF, among other international NGOs, have focused on ending child recruitment into armed forces during conflicts and on reintegration in post-conflict countries (IPEC 2007). Unfortunately, there is very little evidence concerning the impact of these advocacy activities on child labor outcomes. Moreover, our understanding of the different types of communication and channels that are most effective in influencing behavior is limited. This is an important avenue of research given the documented negative effects that child soldiering had on ex-combatants labor and education outcomes (Blattman and Annan 2010).

Other programs have focused on providing an integrated set of interventions to children working or at risk of working, usually conditioned on school attendance. In the Arab Republic of Egypt, for example, a program called “Combating Worst Forms of Child Labor by Reinforcing Policy Response and Promoting Sustainable Livelihoods and Educational Opportunities” (CWCLP) consisted of integrated interventions targeted at out-of-school children aged 6 to 11 engaged in or “at risk of” exploitative child work in agriculture (ICF 2013)<sup>19</sup>. Eligible children in treatment villages were eligible to enroll in a new community school (providing non-formal education) and to receive a take-home ration, conditional on school attendance. In addition, the program comprised community awareness activities targeted at parents. The estimates show positive effects of the CWCLP program on schooling outcomes, however, there was no effect on children’s engagement in economic activities, exposure to workplace hazards, nor on the occurrence of work-related injuries. These findings should be taken with caution since it is not possible to disentangle the program effects from factors affecting the CWCLP program delivery and implementation.<sup>20 21</sup>

#### **4. Implications for Program Design and Research**

Child labor is the outcome of a complex household decision-making process. Programs can alter the household productive structure and incentives faced by different households in multiple ways, often making it hard to predict their overall effect on child labor. The past decade has seen an increase in the number of empirical studies reporting impacts of various policies on child labor outcomes. Notwithstanding several limitations that we will discuss below, the literature review allows us to shed light on the effect of social protection and labor programs on child labor and to draw some general conclusions.

Overall, programs that aim to address child labor by reducing the vulnerability of the household produce the desired effect (albeit with a variability that deserves further scrutiny). As we have

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<sup>19</sup> Available at <http://www.dol.gov/ilab/iclre/evaluations.htm> (accessed on March 27, 2016).

<sup>20</sup> There are some issues of partial compliance since program staff move two villages from the control group to the treatment group, and another two from the treatment group to the control group after randomization was done. In addition, baseline information included children up to 13 years of age even though they were not eligible to participate in the program, affecting sample size. Also, the baseline and follow-up surveys were administered in different months where the needs for child labor differ which may explain the differences in child labor.

<sup>21</sup> Other programs aimed at making schooling and work more compatible, thus not considering schooling and work as substitutes but complements. (*Bolivia study, have not received the final report yet*)

seen, transfers (conditional or not, in cash or in kind) reduced child labor 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 labor. More can be done in this area to make programs more effective to reduce child labor, but reducing household vulnerability appears to be an important strategy.

The evidence presented also shows that policies that aim to increase adult household members' participation in the labor market or the entrepreneurial capabilities of the households, can generate an additional demand for adolescent and child work. Examples include microcredit programs and interventions that provide physical and human capital. Of course, such programs are an important component of anti-poverty strategies, but they could be modified and integrated with additional interventions to ensure that they do not produce adverse effects on child labor.

There are several important caveats that need to be considered 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 labor. Obviously, the fact that there is no evidence for some intervention categories does not imply that these interventions do not affect child labor (possibly even more so than the interventions discussed in this review). Besides 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 the economic activity without considering household chores. This potentially results in underreporting of program impact on activities carried out by girls. Also, because 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 labor, including hazardous work.

In addition, the average effects of interventions typically mask considerable heterogeneity across groups. Since child labor is not the outcome of interest, most studies only report the average impact of the intervention on the main child labor outcome, however, it is critical to understand the potential effects of the intervention for specific groups. For instance, households with children currently combining school and work will respond very differently to school incentives than households with children who only work and do not attend school. More research is needed to understand whether the effects are driven by a specific group of children and the mechanisms that explain why the intervention may or not have worked in the context where it was studied not just whether the intervention worked or not.

Similarly, there is little evidence on the persistence 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? In addition, there is little information on peer effects and local spillovers in child labor demand, if markets are geographically segmented we would expect to see effects on non-beneficiary children. This issue should be explored further.

Moreover, the impact evaluations currently available focus, almost exclusively, on short-run outcomes. Evidence on the long-run impact of programs aimed at addressing child labor is very limited. Child labor potentially has negative effects on long-run outcomes in the labor market. Moreover, mental and physical harm experienced because of child labor may manifest, persist and severely affect children at later ages. Hence, information on long-run effects would help generate a better understanding of child labor in general. Likewise, 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 labor 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. Unfortunately, virtually none of the impact evaluations we discussed provides detailed information on the cost of implementing the project under consideration and it is not possible to conduct a similar exercise for child labor outcomes.

Finally, there are potentially important interventions for which there is scant or no evidence on their impacts on child labor. Several review papers, on more than 100 interventions, on the impacts of education programs on child schooling and learning, have shown ways in which the barriers and constraints towards the accumulation of human capital could be alleviated (see Glewwe and Muralidharan 2015, Snilstveit et al. 2016, Murnane and Ganimian 2014). Yet, few papers report child labor outcomes. Given the close link between schooling and child labor, providing information about child labor outcomes could provide useful lessons for both policy makers and evaluators.

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### Appendix: Summary of Methodology and Child Labor Measurement

Topic	Country	Reference	Methodology	Intervention	Area	Child Labor Outcomes	Age
Public Works Program	Argentina	Juras (2014)	Propensity Score Matching	Participants in the PWP (adults with children under the age of 18 or a disabled adult) were required to engage in an eligible work or job-training activity no less than 4 hours per day, 5 days per week. Participants received a monthly wage of about US\$50.	Urban	Work for pay over the past week	10-14
Business and vocational training	Bangladesh	Bandiera et al. (2013)	RCT	Eligible women - identified to be the very poorest in selected rural communities- are offered a menu of possible business activities, ranging from livestock rearing to small retail operations, coupled with complementary and intensive training in running whichever business activity they choose.	Rural	Annual hours devoted to wage labor or self-employment	No age range given
Food for Education	Bangladesh	Wodon and Ravallion (2000)	IV	The Program offered households monthly food rations conditional on school attendance of their primary school-age children (85% of all classes each month).	Rural	Children is engaged in economic activities or household work	5-16
Food for Education	Burkina Faso	Kazianga, de Walque, and Alderman (2009)	RCT	Schools were randomly assigned to three groups: school meals where lunch was served on each school day for both boys and girls, take home rations where girls received 10kg of cereal flour conditional on a 90% attendance rate and a control group	Rural	Farm and Non-Farm Work. Household chores	6-15
School Construction	Burkina Faso	Kazianga et al (2014)	RDD	Along with school construction, the program provided incentives to children to attend school and a mechanism for mobilizing community support for education in general, focusing on girls' education.	Rural	Activities performed by the child inside the household (collecting firewood, cleaning, taking care of siblings, among others) over the past 7 days	6-12

Topic	Country	Reference	Methodology	Intervention	Area	Child Labor Outcomes	Age
School Construction	Burkina Faso	De Hoop and Rosati (2014)	RDD	Along with school construction, the program provided incentives to children to attend school and a mechanism for mobilizing community support for education in general, focusing on girls' education.	Rural	Children's participation in household chores and economic activities (work outside the household, work for pay outside the household, work in the family business or selling goods in the street, farming, and tending animals) over the past 7 days	5-12
School Vouchers	Colombia	Angrist et al. (2002)	RCT	The program provided vouchers to low-income high school students renewable annually conditional on satisfactory academic progress.	Urban	Participation and hours worked, no definition on work given	15 on average
UCT	Ecuador	Schady and Araujo (2006)	IV	Recipient poor households received \$15 per month per family without conditions attached. Transfers are made to women.	Urban and Rural	Children engaged in paid and unpaid work in the family farm or enterprise during the previous 7 days.	6-17
UCT	Ecuador	Edmonds and Schady (2012)	IV	Recipient poor households received \$15 per month per family without conditions attached.	Urban and Rural	Children engaged in paid (outside the child's home) and unpaid (work in the family farm or enterprise, chores) employment during the previous 7 days.	11-16
Business and vocational training	El Salvador	Kovrova and Rosati (2016)	RDD	Mothers of child laborers were offered: i) vocational training ii) business training and preparation of a business plan; and iii) a starting kit to kick-start the enterprise (value between US\$ 100 and US\$ 300/). Children not enrolled in school were offered training to help them enter school at the appropriate level for their age.	Urban	Economic activities for pay or unpaid, household chores	5-15
Child Labor Measurement	Ethiopia	Dammert et al. (2016)	RCT	Survey design was randomized into 2 groups i) proxy answers the questions on child labor ii) self reported information on child labor.	Rural	Participation in economic activities over the past week	6 – 14

Topic	Country	Reference	Methodology	Intervention	Area	Child Labor Outcomes	Age
Public Works Program	Ethiopia	Hoddinott, Giligan, and Taffesse (2009)	Nearest Neighbor Matching	The PWP pays individuals from selected beneficiary households 6 birr (\$US 0.61) per day or food of equivalent value (at 2005 prices) to work on labor-intensive projects designed to build community assets. Each beneficiary household was allocated a labor quota of up to 30 days of work for each household member per year, for a maximum transfer of 180 birr per member per year. The program is complemented by a series of food security activities, such as access to credit, agricultural extension, advice on food crop production, and livestock production, among others.	Rural	Hours worked in household agricultural income-generating activities, household chores, or hours worked for wages outside the household during past week	6-16
Microfinance	Ethiopia	Tarozzi et al. (2015)	RCT	Local administrative units were randomly assigned to one of four groups: microlending only, family planning services only, both, or none (control). intervention. The program expansion offering group lending contracts was supposed to target poor women borrowers, but it was not enforced.	Rural	Work is defined as an activity related to crop cultivation, care of livestock, fishing, mining, manufacture and processing, retail and wholesale trade, finance, public administration, education, health, and social services or other services. The survey recorded the two most important activities the individual was involved in during the previous 12 months, the number of weeks spent in such activities, the number of days usually spent per week as well as the number of hours spent per day.	10-15
CCT	Honduras	Galiani and McEwan (2013)	RCT	The Programa de Asignación Familiar (PRAF), offered a flat transfer (irrespective of household size) to poor household conditional on children's school enrollment and attendance as well as health clinic attendance.	Rural	Work outside home (paid), unpaid in the family farm/business or work inside the home (children worked exclusively on household chores).	6-12

Topic	Country	Reference	Methodology	Intervention	Area	Child Labor Outcomes	Age
Public Works Program	India	Shah and Steinberg (2015)	DID	The PWP provides a legal guarantee of up to 100 days of annual employment at the statutory minimum wage rate to rural households willing to supply manual labor on local public works	Rural	Based on reported child's primary activity on productive work, domestic work, working on the household enterprise, or working outside the home for payment	5-16
Business and vocational training	India	Banerjee et al. (2011)	RCT	Poorest households were offered transfer of productive assets (e.g. livestock), additional training, and integration into microfinance groups	Rural	Time (minutes) spent performing household chores and working in the past 24 hours, no definition of work given	No age range given
Microfinance	India	Banerjee et al. (2015)	RCT	Neighborhoods were randomly selected for the opening of a MFI branch offering group lending contracts. Clients must be female aged 18 to 59 who have resided in the same area for at least one year, and at least 80 percent of women in a group must own their home. Groups are formed by women themselves, not by the MFI.	Urban	Hours worked per child over the past 7 days (no definition of work given)	5-15
UCT	Malawi	Covarrubias et al (2012)	PSM, DID	The unconditional cash transfer programme was designed to improve school enrolment and attendance and the health and nutrition of children among the poorest 10 per cent of households in Malawi. The transfer ranges from US\$4 per month for a household with one eligible member to US\$13 per month for households with four or more eligible members. In addition, the programme offers a schooling attendance bonus ranging from US\$1.30 per month for primary school age children to US\$2.60 per month for secondary school age children.	Rural	Participation in household chores, domestic work outside the household, paid work, self-employment, and unpaid family farm/business activities	4-17

Topic	Country	Reference	Methodology	Intervention	Area	Child Labor Outcomes	Age
Microfinance	Mexico	Angelucci et al. (2015)	RCT	The MFI targets women who operate a business or are interested in starting one. Treatment clusters received access to credit (group lending contract) and door-to-door loan promotion, whereas control clusters were not given access to credit and received no loan promotion	Urban and Rural	Participation in an economic activity, i.e. report having a job or a business	4-17
CCT	Mexico	Skoufias and Parker (2001)	RCT	The PROGRESA program offered transfers to poor household conditional on children's school enrollment and attendance, as well as health clinic attendance. Transfers were given to mothers.	Rural	Includes all workers who report that they worked over the previous week (whether paid or unpaid). It also includes participation in informal activities such as selling a product; helping in family business; making products to sell; washing, cooking or ironing; and working in agriculture activities or caring for animals. Domestic activities are not included in this definition of work.	8-17
Microfinance	Mongolia	Attanazio et al (2015)	RCT	Villages were randomly assigned to obtain access to group loans, individual loans, or no loans. Loans were targeted at poor females	Rural	Hours worked over the past 7 days in self-employment, household business, and other activities	6-15
Microfinance	Morocco	Crepon et al. (2015)	RCT	Villages were randomly selected for the opening of a MFI branch offering group lending contracts. To be eligible for a group liability loan, the applicant must be between 18 and 70 years old, have a residency certificate, and have been running an economic activity other than no livestock agriculture for at least 12 months.	Rural	Hours worked over the past 7 days in self-employment, outside activities and housework.	6-15

Topic	Country	Reference	Methodology	Intervention	Area	Child Labor Outcomes	Age
Preschool construction	Mozambique	Martinez, Naudeau and Pereira (2012)	RCT	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.	Rural	Hours worked on family plot, household chores and caring for other household members during the previous week	5-9
CCT	Nepal	Edmonds and Shreshta (2014)	RCT	The first intervention provided scholarships for child's schooling-related costs (such as fees, tuition, uniforms, books and other supplies). The second intervention provided the scholarship and an additional stipend conditional on regular attendance. Children in the control group received no schooling-related assistance.	Rural	Child involvement in weaving 7 days prior to the survey date	10-16
Business and vocational training	Nicaragua	De Hoop et al. (2015)	RCT	The program offered households with at least one female member 16 to 60 years old a package of benefits that included capital transfers (cash, seeds, or livestock); technical assistance and training in business plan development, financial literacy, and technical skills.	Rural	Paid or unpaid engagement in economic activities	8-17

Topic	Country	Reference	Methodology	Intervention	Area	Child Labor Outcomes	Age
CCT	Nicaragua	Del Carpio, Loayza and Wada (2016)	RCT	The Atencion a la Crisis program consists of three packages of cash transfers to poor households over a one year period (1) a cash transfer conditional on children attending school and health service regularly (2) CCT plus a scholarship for one member of the household (age 16 or above) to attend an occupational training course and (3) CCT plus a household grant for the creation of a micro business or a new economic and productive activity.	Rural	The child labor measure is based on a recorded diary of various types of activities, which are then aggregated into hours of work per week devoted to traditional farming, skill forming activities, and household chores.	8-15
CCT	Nicaragua	Dammert (2009)	RCT	The Red de Proteccion Social (RPS) offered a flat transfer (irrespective of household size) to poor household conditional on children's school enrollment and attendance as well as health clinic attendance.	Rural	Child labor refers to children who are engaged in market work, which includes wage employment, self-employment, agriculture, unpaid work in a family business, and helping on the family farm	7-13
Business Training	Pakistan	Giné and Mansuri (2011)	RCT	Microfinance rural clients were offered an eight-day business training course and access to a loan lottery where eligible clients could borrow up to 7 times the average loan size.	Rural	Economic activities for pay	9-15
Microinsurance	Pakistan	Landmann and Frolich (2015)	RCT	Analyzes the extension of an accident and health insurance scheme offered by the National Rural Support Program(NRSP), a large microfinance institution in Pakistan, which is a mandatory insurance for all clients, their spouses and their children below 18 years	Rural	ILO definition of child labor, it includes: i)all children working in hazardous occupations and ii) those woking on non-hazardous occupations depending on the number of hours and age	5-17
Business Training	Peru	Karlan and Valdivia (2010)	RCT	Pre-existing lending groups were offered training on general business skills as part of their mandatory weekly meetings.	Urban and Rural	Participation and hours worked, not definition of work given	6-15

Topic	Country	Reference	Methodology	Intervention	Area	Child Labor Outcomes	Age
Public Works Program	Sierra Leone	Rosas and Sabarwal (2016)	RCT	The PWP was targeted at individuals in the 15 – 35 year age group in poor and vulnerable communities. Beneficiaries were entitled to a minimum of 50 days and a maximum of 75 days of work at a daily wage rate of about US\$1.80.	Urban and Rural	Participation in paid activities in the last 12 months	6-14
Child Labor Measurement	Tanzania	Dillon et al. (2012)	RCT	Survey design was randomized into 4 groups (i)two different questionnaire designs (detailed and short) and (ii)two respondent types (proxy and self report). self-reporting. Use of a short module compared with a more detailed questionnaire	Urban and Rural	Participation in economic activities over the past week	10–15
UCT	Zambia	Handa et al (2015)	RCT	Program targets any household with a child under 3 years old in three districts with high poverty and rates of infant mortality and under-nutrition. Recipient households receive a flat (i.e. irrespective of household size) transfer of US\$12 a month. There are no conditions to receive the money.	Rural	Children engaged in paid and unpaid work activities	4-14