The Short Term Impact of a Productive Asset Transfer in Families with Child Labor: Experimental Evidence from the Philippines

Eric Edmonds*
Dartmouth College

Caroline Theoharides
Amherst College

October 6, 2018

Abstract

Productive asset grants have become an important tool in efforts to push the very poor out of poverty, but we have little evidence on the impact of such grants on adolescents living in beneficiary households. A successful productive asset grant could reduce child labor via a wealth effect if child labor markets are complete, but with incomplete markets the value of child time will also be impacted. Using a clustered randomized trial, we work with the Government of the Philippines to evaluate a key component of their child labor elimination program, a $518 productive asset grant, in advance of national rollout. 2,296 households with child laborers were identified in 164 communities in 2016. Using a lottery, 82 communities were selected to have all eligible households receive the grant. We examine the impact of the grant on the presence of productive activities within the home, the well-being of household members, and child labor.
JEL: J13, J82, O15

Keywords: Self-Employment, Sustainable Livelihoods, Asset Transfer, Child Well-Being, Child Labor, Philippines

*Funding for this research was provided by the United States Department of Labor under Cooperative Agreement IL-27208. This study does not reflect the views or policies of the United States Department of Labor nor does the mention of trade names, commercial products, or organizations imply endorsement by the United States Government. This study was registered in the AEA RCT Registry, RCT ID AEARCTR-0001139. Link to registration: `https://www.socialscienceregistry.org/trials/1139`.

1 Introduction

Large, one-time transfers to poor families are a fundamental piece of the anti-poverty toolkit. Several studies document that these large, one time transfers to poor families result in households starting or expanding household based economic activity with meaningful impacts on the consumption and health of family members. Can such programs disrupt the intergenerational transmission of poverty? The impact of such programs on the next generation depends on the survival of the wealth generated by the asset and the impact of such transfers on human capital investments.

For adolescents in settings with complete labor markets (in the sense that the household is a price taker in the labor market), the primary impact of the introduction of a productive asset depends on the wealth effect of the transfer which, if positive, should promote human capital through schooling, free time, and mental health. However, in the presence of multiple factor market failures, the introduction or expansion of a productive asset could increase the value of child time, resulting in increases in child labor (Basu, Das and Dutta, 2010). Given the recent evidence against the completeness of factor markets (LaFave and Thomas, 2016) especially among the poorest (LaFave, Peet and Thomas, 2017), it is important to understand the implications of these livelihood promotion projects on adolescents since such programs now play a central role in global efforts to combat both poverty and child labor.

This study examines the effects of an asset transfer on adolescents and their families in settings where child labor is prevalent using experimental variation in a livelihood promotion project in the Philippines. Kabuhayan Para sa Magulang ng Batang Manggagawa (KASAMA) is an important piece of the government of the Philippines effort to eliminate child labor, and prior to expanding it throughout the country, the Philippine Department of Labor and Employment (DOLE) engaged the authors in an evaluation of KASAMA across 164 communities and 2,296 households where child labor is prevalent. KASAMA provides a one-time USD$518 in-kind asset transfer (selected by the beneficiary) and 3 days of training related to operating a business and child labor. For comparison, average per capita expenditure of beneficiaries in our study population is USD$1.30 per day, and the most common forms of child labor are in agriculture, retail, and domestic service. The impact evaluation of KASAMA took place between August 2015 and September 2018.

The theory behind KASAMA is that this one-time transfer expands the presence of productive assets in the family and pushes households to a level of wealth where they are capable of sustaining and growing their income, eliminating motives for child labor. Thus, we examine whether KASAMA

has an effect on how the household generates its livelihood, whether there is an effect on household living standards and adolescent well-being, and whether it changes child labor in the household.

The impact of KASAMA will provide further evidence on the effects of asset transfers on beneficiary families, contributing to a large, growing literature (De Mel, McKenzie and Woodruff, 2008; Blattman, Fiala and Martinez, 2013; Karlan, Knight and Udry, 2015; Blattman and Dercon, 2016; Haushofer and Shapiro, 2016). Our focus on child related outcomes and on interviewing adolescents directly will provide a novel perspective that has not drawn attention in studies of similar one time, large transfer programs. Because of their ability to substitute for adults in a variety of tasks, adolescents may be particularly vulnerable to bearing some of the costs of an asset transfer if such a transfer impacts the household in more ways than just the wealth effect.

The impact of KASAMA will also help address the question of how productive assets impact child labor. Because the child labor policy community views productive asset transfers as critical in their efforts to decrease child labor, several studies grapple with understanding the relationship between household asset wealth and child time allocation (Bhalotra and Heady, 2003; Cockburn and Dostie, 2007; Basu, Das and Dutta, 2010; Dumas, 2013). This literature has struggled to address why households differ in their asset wealth. The experimental variation in KASAMA allows us to separate out the role productive assets play in child labor from other factors such as local labor market conditions and family histories that are apt to be correlated with household asset endowments.

Our findings will also be relevent to the literature studying ultra-poor graduation programs (UPGs) (Banerjee et al., 2015). In one of our stratum, all of our subjects (treatment and control) receive the government's Pantawid Pamilyang Pilipino Program (4Ps). Hence the impact of KASAMA calculated within the stratum has the interpretation of providing KASAMA on top of 4Ps. 4Ps provides consumption support, health insurance, preventative health care, life skills coaching, job skills coaching, and financial access. 4Ps + KASAMA is not a UPG although it has lot in common with the space of programs covered under the UPG moniker.[1] Unpacking and understanding how UPGs work is an important, on-going research topic, and our study is closely related to Banerjee et al. (2018) which evaluates the impact of giving recipients 4 goats without consumption support. In our 4Ps stratum, we are evaluating the impact of a productive asset

[1]The UPG space encompasses a wide variety of programs, but there are some clear ways in which the KASAMA + 4Ps context differs. Most UPGs have some forced savings component which our subjects do not. All UPGs have some market research conducted that leads to the choice of productive asset. Our subjects choose their productive asset. All UPGs have home visits for life skills coaching whereas those sessions are held in community meetings under 4Ps.

transfer on top of consumption support and the other components of 4Ps.

Before we describe the project in detail, we should provide a brief overview of the project's current status. At the time of first submission of this stage 1 review, we were in the process of collecting endline data. Now, by this second submission, we have completed endline data collection. No analysis has been conducted on endline data by the authors although auditing checks of the data have been conducted by our field staff throughout the process, and we will turn towards endline analysis immediately upon this submission (RAs have been cleaning the data). We have worked with the baseline data and midline data in ways that will be described below. All data (stripped of personal identifying information) will be made publicly available upon closure of the cooperative agreement between IPA and our funder, U.S. Department of Labor. We expect that cooperative agreement to close in late 2018.

2 Background

2.1 Intervention

The Government of the Philippines is committed to eliminating child labor, and DOLE plays a leading role in these efforts. DOLE's Child Labor Prevention and Elimination program (CLPEP) emphasizes a multi-stakeholder engagement strategy to create "Child Labor Free" communities. Within CLPEP, the most resource intensive component is KASAMA, the focus of this evaluation.

Principally, KASAMA is a large, one time transfer of PHP10,000 (USD$518 in PPP terms, USD$184 in nominal terms) to a family with child laborers present. Local governments maintain registries of poor families and families where child labor illegal under Philippine law is known to exist in each locality (see Appendix 5.5 for details on the Philippine legal definition of child labor). The intersection of these two lists are potential KASAMA beneficiaries. The transfer is made in-kind rather than in cash. Either DOLE or a subcontractor work with beneficiaries to identify the type(s) of productive assets that the beneficiary wants, and those assets are provided to the beneficiary. This may include equipment, tools, raw material, and inventory items.

In addition to the asset transfer, beneficiaries are asked to attend 3 one-day trainings. DOLE believes that the trainings are important in making the asset transfer successful. These trainings provide assistance on developing a business plan, some education on bookkeeping, marketing and financial literacy, and an orientation on child labor. The child labor orientation is a description of how child labor is defined legally in the Philippines and how the government is engaging communities

to reduce child labor. It is not specific to KASAMA and, unlike many child labor trainings in other countries, it is not oriented towards changing household assessments of the the health and safety risks of work.

KASAMA was implemented in our study areas by DOLE following their usual operating procedures. Hence, the procurement and distribution of assets, all trainings, and all monitoring and audits were all implemented following DOLE's way of implementing KASAMA. Appendix 5.1 provides detail on DOLE's implementation process.

The policy context for KASAMA is important to understanding the treatment. All of our study population should be receiving the Pantawid Pamilyang Pilipino Program (4Ps). The 4Ps program is a cash transfer program that provides poor families with children with consumption support, health insurance, preventative health care, life skills coaching, job skills coaching, and financial access. 4Ps benefits are paid every two months to a bank account accessible via a cash card. Benefits increase in the number of children to a maximum of 3 and vary with the age of the child. In most writings, 4Ps is described as a conditional cash transfer, because recipients agree ex-ante to pre and post natal visits, pre-school, and schooling, but the program director informed the authors in a personal interview in October 2016 that he was not aware of any beneficiaries ever having benefits terminated because of non-compliance with those conditions. Rollout of 4Ps across communities began in 2008 and should have been fully rolled out in our study area as of 2014.[2] Hence, there should have been plenty of time for households in our study area to learn about the lack of enforcement of the conditionality.

Our evaluation of KASAMA takes place in 164 communities (legally, barangays) in Regions I, II, III, IV-A, and V on the island of Luzon.[3] In all communities, DOLE has not undertaken projects to address child labor.[4] Communities were grouped into 4 strata by researchers (urban v.

[2]While all of our study communities should have had 4Ps fully implemented as of 2014, not all of subjects report receiving 4Ps. They all should receive 4Ps. We define communities where all subjects report receiving 4Ps as "complete 4Ps" communities and communities where that is not the case as "incomplete".

[3]Sample communities were selected by DOLE using the following criteria: 1. Prevalence of child labor as determined by the Philippine Statistics Authority (PSA) using the 2011 Philippine Survey of Children. 2. DOLE intends to target community for livelihood assistance but has not yet provided any KASAMA. 3. No political opposition, meaning Local Government Units are open to receiving KASAMA as determined by DOLE's regional focal persons. 4. Excluding KASAMA from community won't constrain DOLE's annual achievements, implying no communities that DOLE is near certifying as child labor free. 5. Logistically feasible to reach community within the project's budget.

[4]As a part of CLPEP, DOLE categorizes communities as "New Frontier," "Continuing," or "Low Hanging Fruit." In "Low Hanging Fruit" barangays, KASAMA beneficiaries are required to sign a document pledging not to use child labor with the productive asset. In some early documentation, such as our analysis plan, we thought that would be true for our intervention as well. However, subsequent to that writing, we have learned that DOLE does not ask for any such commitment in other barangay classifications. Hence, our beneficiaries have signed no such pledge.

rural * complete 4Ps v. incomplete), and a random number generator was used by the research team to allocate communities to treatment and control status. 82 communities were assigned to treatment

While randomization takes place at the community level, KASAMA benefits are distributed to households with child labor present. DOLE identified at least 14 eligible households from each of the 164 study communities in advance of the baseline survey and before randomization. DOLE maintains lists of households with child labor present from the national targeting system for poverty reduction (Listahanan) and in conjunction with Local Government Units (LGUs). Child laborers that are not household based or in households not known to DOLE are not eligible for KASAMA in either our study or the Philippines in general. Prior to surveying, the research team worked with the LGU to validate the lists provided by DOLE. When more than 14 households were identified, the research team used a simple random number generator to select 14 at random for the evaluation.

DOLE implemented the KASAMA intervention starting in August 2016, four months after the conclusion of the baseline survey. To minimize potential performance bias in survey responses, no parties involved in implementing KASAMA for DOLE were engaged in the collection of data. All data for the evaluation were collected by our independent team of enumerators through IPA Philippines. Survey instructions emphasized that participation in the survey had no bearing on the respondent's receipt of government benefits, and enumerators were reminded in training that if asked, they should confirm that they are from an NGO and are not affiliated with the Government of the Philippines. All enumerators wore IPA polo shirts and carried IPA badges. To reduce expectancy bias, enumerators and other field staff were not told about the partnership with DOLE nor that the survey work was for an evaluation of an intervention aimed to alleviate child labor.

2.2 Hypotheses

The theory behind KASAMA is that a one-time productive asset transfer leaves the household wealthier because of the value of the asset and helps them generate future income from the sustained impact of the asset. This in turn eliminates motives for child labor. This theory implies three key hypotheses to test:

- **Hypothesis 1:** KASAMA has no effect on how the household generates its livelihood. This hypothesis is analogous to a first stage.
- **Hypothesis 2:** KASAMA does not change the well-being of the household or adolescents in beneficiary households.

- **Hypothesis 3:** KASAMA does not change the prevalence of child labor.[5]

In this section, we discuss the evidence that motivates these hypotheses and highlight that KASAMA could increase child labor if it raises child shadow wages. The precise variable definitions associated with each hypothesis are described in section 3.3.3 below, after we introduce the data.

Regarding hypothesis 1, the related literature spurs us to anticipate rejecting the hypothesis and finding an increase in household based economic activity if KASAMA is implemented correctly. If capital and factor markets are perfect, KASAMA is similar to a large cash transfer. When family firms are investing optimally, an influx of resources may not change the economic organization of the household. That said, several studies have found that large, one-time cash transfers end up invested in growing or expanding family firms. Most of these studies are targeted at individuals already with a business. De Mel, McKenzie and Woodruff (2008) provide business owners in Sri Lanka the equivalent of $100 or $200 (depending on the treatment arm) and observe that beneficiaries invest these funds in their businesses and attain real returns of approximately 5 percent per month. Karlan, Knight and Udry (2015) provide tailors in Ghana a cash grant of $133 that seems to increase short-term investments.

Our setting differs in at least two important ways. First, not all of our households are entrepreneurs. There is some evidence that even extremely disadvantaged groups invest a cash grant in productive activities. For example, Blattman and Dercon (2016) provide unemployed individuals in Ethiopia a $300 cash grant, 55 percent of which was spent on business materials and investments. Haushofer and Shapiro (2016) provide poor Kenyan families $709 and observe substantial increases in the value of nonland assets and self employment activities. Second, our transfers are delivered in kind rather than in cash. Many studies of in-kind transfers fix the asset that is transferred, goats for example (Thompson and Magnan, 2017; Banerjee et al., 2018). All published studies of in-kind asset transfers that we know of find an increase in use of that asset. Our asset transfer lies between a cash transfer and most of the in-kind transfers in that our beneficiaries can choose the assets they receive.[6] Given the preponderance of the evidence from both cash and in-kind transfers in a variety of contexts, it seems likely that we will find growth in economic activity related to the

[5] Our Pre-Analysis Plan split this hypothesis into two based on the child's baseline time allocation. Based on feedback, we've pushed that detail into heterogeneity and modified hypothesis 3 to not specify the child's baseline time allocation.

[6] At the time of this submission, we are still collecting and cleaning the inventory of assets distributed. With approximately 80 percent of the data in, 32 percent of assets distributed went to creating or expanding a sari-sari, 13 percent to rice vending, 13 percent to other food vending (with an additional 3.5 percent to cooking equipment), 12 percent to tools and equipment, 6 percent to fishing equipment, 1.7 percent to livestock, and 1.3 percent to farm equipment.

transfer. We will test this hypothesis by looking at measures of KASAMA implementation and economic activity within the household.

Regarding hypothesis 2, the value of the asset transfer increases household wealth directly, and the idea behind a one time transfer is that it pushes households into a new situation where they can sustain an increase in living standards. Given the short-term nature of our study, we do not anticipate being able to distinguish between the wealth effect of the resource transfer versus the impact of the expansion of the economic activty related to the transfer. Several studies find that one time cash or asset transfers are associated with increases in consumption and other welfare measures (Blattman et al., 2016; Haushofer and Shapiro, 2016; Kafle, Winter-Nelson and Goldsmith, 2016; Blattman and Dercon, 2016) although that finding is not universal. The Ultra-poor graduation programs, which package asset transfers with consumption support in addition to other services, find generally positive impacts on living standards (Haseen, 2006; Das, Misha et al., 2010; Banerjee et al., 2015; Bandiera et al., 2017). We will measure living standards by looking at per capita expenditures, food security, schooling, and psycho-social well-being.

The primary objective of KASAMA is to reduce child labor, but the existing literature is less clear on what we should anticipate regarding hypothesis 3. While there is ample evidence in the literature that leads us to anticipate improvements in household economic activity and living standards with KASAMA, very little evidence from the UPG literature, the productive asset transfer literature, and the large cash grant literature is informative about child labor. The few exceptions we are aware of come from UPG evaluations in Bangladesh. Emran, Robano and Smith (2014) report no effect of a UPG in Bangladesh on child labor or years of schooling after 3 years. Bandiera et al. (2017) document that children spend more time in self-employment 4 years after a UPG asset distribution.

This paucity of evidence is unfortunate, because productive asset transfers are currently the dominate tool in efforts to eliminate child labor (like KASAMA, which the Philippine Government considers central in its efforts to combat child labor). While there is ample evidence to suggest that child labor declines with increases in wealth, several studies document that child labor can be higher in the presence of more productive assets in the home, albeit treating asset endowments as exogenous to local labor markets and family economic histories (Bhalotra and Heady, 2003; Cockburn and Dostie, 2007; Basu, Das and Dutta, 2010; Dumas, 2013). Basu, Das and Dutta (2010) show that much of the confusion in the child labor literature over the wealth elasticity of child labor stems from the fact that when labor and capital markets are imperfect, wealth brings

productive opportunities to the household and raises the economic contribution of working children. Dumas (2007) builds on this point and argues that labor market failures are a major cause of child labor in Burkina Faso.

When there is disutility of child labor (Basu and Van, 1998), the impact of an increase in child labor's potential economic contribution depends on the marginal utility of consumption that the child's economic contribution brings. In this way, KASAMA can increase child labor in settings where the marginal utility of consumption is very high and labor and capital markets are incomplete. It is not necessarily the case that increases in the shadow value of child labor will increase child labor if, for example, the marginal utility of consumption is low relative to the disutility of child labor. In that case, the increase in wealth from the asset transfer will lead to a decrease in child labor in the same way it does in the complete markets case (where there is only the wealth effect). For a more detailed discussion of KASAMA's impact in the Basu, Das and Dutta (2010) framework, see Appendix 5.2. We will evaluate hypothesis 3 looking by looking at the engagement of adolescents in economic activity, work for pay, child labor, and hazardous child labor.

3 Empirical Analysis

We use a cluster randomized control trial (RCT) to identify the effect of KASAMA on the primary outcomes discussed above. Using an RCT is suitable to address this research question because it allows us to isolate the role of productive assets in child labor decisions from other factors such as local labor market conditions and family histories that are apt to be correlated with household asset endowments. Randomization was conducted after stratifying the population based on 1.) characterization of the community as urban or rural and 2.) whether all respondent households are beneficiaries of the conditional cash transfer 4Ps or not (complete 4Ps vs incomplete 4Ps). We examine the impact of KASAMA on how the household generates its livelihood, the well-being of household members, and child labor using random assignment of treatment for identification.

3.1 Data

Our data are longitudinal and have been collected over a three year period (2016-2018), principally baseline and endline surveys. The baseline data were collected from February to May 2016. Intervention delivery was conducted by DOLE, beginning in August 2016. The endline survey began in mid February 2018 and finished mid-June 2018 (after the original Stage 1 submission). A midline

survey was collected between May 2017 and July 2017. It was not a part of the pre-analysis plan. Funding was obtained later. The survey was designed to assist with tracking subjects and to confirm intervention rollout. It is used below to preview our findings, but we do not anticipate using it in our final analysis except with regards to intervention rollout.

3.1.1 Sample

We determined our final sample size of 2,296 households in 164 communities based on power calculations conducted prior to the baseline survey and through negotiations with DOLE, our implementing partner. Funding for the evaluation comes from USDOL in response to a solicitation aimed at detecting declines in child labor. Hence, our power calculations at the application stage were based on one-sided hypothesis tests about detecting a decline in child labor rather than the two-sided hypothesis testing that is more standard and will drive our statistical analysis.

We followed convention in the social sciences for power calculations, using a significance level (probability of Type I error) of 0.05 and power (probability of avoiding a Type II error) of 0.8. We assumed a one-sided test and an intracluster correlation of 0.2 consistent with estimates that have been used in the literature on RCTs in the educational sector (Hedges and Hedberg, 2007). Ten percent of children in the Philippines are engaged in hazardous forms of child labor, and in our funding application, we anticipated a 50 percent decline in the prevalence of hazardous child labor implying a sample of 3,500 households from 250 communities, 14 households per community.

Upon award, as we developed the study design with DOLE, we learned that all KASAMA households should have child labor present. We can detect a 10 percent decline in hazardous child labor with 700 households from 50 communities. This sample was too small for DOLE given their political objectives for the year. Hence, the number of study communities was increased to 164 communities and a total number of households 2,296 households. The names and locations of these 2,296 households that make up our baseline sample were provided to us by DOLE using their administrative records of eligible families.

3.1.2 Data collection and processing

In each survey round, we conduct a household survey, where we interview the household member with the most knowledge of the household's economic activity. This includes questions on demographics and detailed time allocation for all household members, assets, consumption, economic activity, government transfers, savings, and food security. During the baseline and endline surveys,

we also conduct a child survey of all household members between the ages of 10-17. This includes questions on education, time allocation, work characteristics, life satisfaction, and parenting styles.[7] The midline survey was abbreviated and did not interview children.

To ensure accuracy of the collected data, our enumerators are regularly audited or accompanied by senior field staff, and nightly frequency checks are conducted on the data. 18% of surveys are audited. 9.2% of surveys are accompanied with accompanied surveys more prevalent earlier in the project. Nightly frequency checks confirm, among other things, that the household and child surveys are properly matched, for consistency in responses across questions, and that values of responses are in the appropriate range. We also conducted 1 week pilots of each of the questionnaires prior to the baseline, midline, and endline surveys to ensure that the questions were properly understood by respondents.

In addition to our survey data, we will use household-level administrative records from DOLE on asset distribution and training attendance in our treatment barangays to confirm receipt of treatment, exposure to training, and the type of asset received through the KASAMA program.

3.1.3 Variations from the intended sample size

Our sample of 2,296 households includes 14 households in 164 communities. In order to minimize attrition, we asked numerous questions during the baseline and midline surveys to assist with tracking in the follow-up surveys. Enumerators recorded the GPS coordinates of each household. Further, we asked respondents for their mobile and landline phone numbers (if available). We also collected the name, address, and phone number of the two best people to contact should the respondent move from their current home and need to be contacted in the future as well as social media information.

During the baseline survey, it became apparent that our sample population was mobile. As a result, we added the midline survey, with the primary purposes of 1.) tracking respondents part way through the study and 2.) validating treatment receipt. We tracked all 2,296 households, including migrant households, in the midline survey and were able to reinterview 2,285 of the 2,296 households. Of the households that were not surveyed at midline, 10 were unable to be located and 1 refused to answer the survey.

For our endline survey, we track all migrant households, and we will track all children who were present at baseline and under 18 at endline regardless of whether they were still associated

[7]Survey instruments can be found online: `http://www.dartmouth.edu/~eedmonds/kasama/kasama.html`

with the original household. For children that have moved from the baseline household, we collect detailed contact and location information during the endline household interview in an attempt to track and interview all children. We will terminate endline data collection when enumerators feel that no additional children could be located or we run out of funds. For many of these children that we are not successful in interviewing directly, we will have secondary information on them from the endline household survey. We will test for differential attrition by treatment status at endline, we will check for balance (as in Table 1) in our sample of found children (Appendix Table 13), will check the sensitivity of our results to using the proxy respondent information we have on these outmigrant children, and will employ Lee (2009) bounds on outcomes for which we lack proxy respondent information if differential attrition is present.

To ensure compliance with treatment assignment, we are receiving quarterly reports from DOLE on asset distribution in our treatment communities, and the Philippines overall. This allows us to monitor that DOLE provides KASAMA to households in our treatment group, and also ensure that control barangays are not treated. Further, one of the key reasons for our midline survey was to validate that KASAMA was received by the households that DOLE was supposed to treat and not received in control barangays. At midline, 21 of the 1,148 control households report receiving KASAMA benefits. Given these 21 households are not concentrated in any communities, we interpret this geographical distribution as evidence of no systemic treatment of the control group.

3.2 Statistical methods

We use a clustered randomized control trial (RCT) to identify the effect of KASAMA on our primary outcomes. Because the majority of our key outcomes are discrete or constructed, inverse covariance weighted indices, we do not expect any outliers. However, for continuous outcomes like consumption, we will include any outliers in our analysis sample. We will then test the robustness of the results to dropping the top and bottom 1% of values. In terms of missing values, we do not expect much attrition from our sample as we discuss in Section 3.1.3. To address any missing values, we use proxy responses if available and will conduct bounding exercises that explore the robustness of the results to assigning values of 0 or 1 for our discrete outcomes.

3.3 Statistical model

The study size was chosen to be able to detect declines in child labor between those assigned to KASAMA and those not in a simple comparison of means although our key hypotheses are about rejecting nulls of no effect of KASAMA. We can specify this comparison of means with two sided hypotheses tests in regression form as:

$$Y_{i,j,k,t} = \beta_0 + \beta_1 D_k + \pi_1 ST_i + \epsilon_{it} \tag{1}$$

where $Y_{i,j,k,t}$ is the outcome for child i in family j associated with community k at time t. D_k is an indicator that the child lives in a community receiving KASAMA treatment. ST_i are stratification fixed effects.[8] Our analysis will focus largely on t=2, the endline survey.[9] ϵ_{it} is a mean zero error term. When y is child labor, β_0 is mean prevalence of child labor in the control group for the omitted stratum. $\beta_0 + \beta_1$ is mean child labor for children living in households in treatment communities for that stratum.

Baseline data allows us to further reduce variance in (1) and more precisely estimate the impact of KASAMA treatment on our primary outcomes. We control for stratification fixed effects ST_i, age effects $A_{i,t=0}$, gender F_i, and baseline values of the outcome variable when available $y_{i,j,k,t=0}$, modifying (1) as:

$$Y_{i,j,k,t=2} = \beta_0 + \beta_1 D_k + \pi_1 ST_{i,k} + \pi_2 A_{i,t=0} + \pi_3 (A_{i,t=0} * F_i) + \pi_4 Y_{i,j,k,t=0} + \epsilon_{k2} \tag{2}$$

The inclusion of baseline outcomes values implies that we identify the impact of D based on changes in y between the baseline and endline periods. Because we only have complete time allocation for children 10 and above at baseline, we will limit our analysis of time allocation outcomes at endline to children 12 and above. Standard errors are clustered at the community level in all empirical work.

3.3.1 Take-up and Rescaling

We expect all of our principal analysis to be a reduced form, intent to treat analysis. Our progress so far does not suggest significant leakage or non-compliance.

[8] Stratification fixed effects were not included in this base specification in our pre-analysis plan. We have added based on feedback.

[9] In the AEA registered pre-analysis plan, t=1 refers to the endline survey since we did not initially have funding for the midline survey.

3.3.2 Balance

We use our baseline survey data to evaluate balance across the treatment and control groups prior to the intervention. We test balance on the full sample of resident children 10-17, because the children 10-15 will be under 17 at endline and thereby the target of our endline analysis and children 16-17 at baseline, though aged out of our endline analysis, provide insights on what the experience of 16 and 17 year olds look like in our communities. Table 1 shows that the treatment and control barangays are balanced across child, household, and barangay population at baseline, as well as all indices included as primary outcomes. There is not a statistically significant difference between any of the baseline variables. The difference in income between treatment and control appears large in magnitude despite its insignificance. This is driven by an outlier. If we trim the top and bottom 1 percent (as we specify in our approach for outliers in 3.1), the difference moves from the treatment from being more than 70 percent above control to being less than 2 percent below control. Further, even with the outlier included, we fail to reject the null hypothesis that these characteristics are jointly the same across the treatment and control groups (F-statistic=0.60). Most variables from Table 1 are self explanatory, but those that require construction such as child labor, hazardous child labor, family firm annual income, and per capita monthly expenditures are defined in detail in Appendices 5.3 to 5.5.

3.3.3 Key Outcomes

We have three hypotheses that are being tested in this study. In this subsection, we discuss each of the main confirmatory outcomes relevant to each hypothesis. We will present our main results for each hypothesis in the same format, and this section also introduces that format. Any outcome defined as an index is expressed in standard deviations. All indices in this subsection are created from several underlying variables following Anderson (2008). This section will define each confirmatory outcome, but precise definitions, with mappings to questions on survey instruments, are available in Appendix 5.3 for hypothesis 1, 5.4 for hypothesis 2, and 5.5 for hypothesis 3.

Table 2 contains the three main confirmatory outcomes relevant to **Hypothesis 1** on KASAMA's impact on the economic organization of the household. The dependent variables appear in the rows of the table. The first outcome is an indicator for whether the household reports receiving KASAMA within the last 12 months in either the midline or the endline survey (thereby fully spanning the 24 months when implementation was possible). *Reports Family Firm* is an indicator that is 1 if

the household reports an own-income generating activity including non-farm activities, agriculture and livestock. *Family-Based Economic Activity Index* is a standardized index created across all measures of the presence of family-based economic activity in the household including the number of nonfarm-enterprises, the number of livestock, the amount of land owned by the household, the number of new enterprises in the last 24 months, income from all family firms (combined), the value of household assets, and the share of adults in family based economic activity.

The organization across the columns of Table 2 will be used in Table 3 and Table 4 as well. Because we are interested in the impact of the intervention on adolescents, an observation in all of our confirmatory analysis is a child 12-17. For household level aggregates, this is equivalent to weighting the household's outcomes by the number of children 12-17. In columns 1 and 2, an observation is a child present at endline in the household. For columns 3 and 4, an observation is a child interviewed in the child survey at both baseline and endline, the child panel. Obviously, checking for selection into the child panel will be an important robustness check following the approach discussed in 3.1.3, and we will check the validity of the randomization in the found panel, following the format presented in the final appendix table.

The first column of each table will be the endline mean of the row variable in the control group. The second column contains the intent to treat effect (ITT) for all children 12-17 residing in sampled households using equation (1). The third column is identical to column 2 except that the sample transitions to the child panel. Column 4 contains the ITT in the child panel, adding in controls specified in (2). The control group mean for the child panel could differ from that of column 1. We do not anticipate meaningful differences, but we will check and may add a column with the control panel mean between columns 2 and 3 if necessary.

Table 3 contains the four main confirmatory outcomes relevant to **Hypothesis 2** on KASAMA's impact on the well-being of household residents. Household per capita expenditure includes both food and nonfood items. We ask households to impute the value of home produced goods they consume, and include that within the expenditure measure. Food security is measured by a standardized index of household reports of days without food, missing meals, begging, diet composition, and the availability of food in the household. Child Schooling is a standardized index of school attendance measures and school progression. Child Well-being is a standardized index of measures of child life satisfaction, goal planning, depression, feelings of care from parents, enumerator assessment of social behavior, and caregiver assessment of child strength's and difficulties.

Table 4 will include results for the impact of KASAMA assignment on child labor related

outcomes for **Hypothesis 3**. All of the outcomes in Table 4 are indicator variables. Economic Activity in the last 7 days is defined as whether the child has engaged in any productive activity that would fall within the UN SNA definition of economic activity. Child works for pay in the last 7 days indicates if any of that economic activity was for pay. Child Labor in the last 12 months is an indicator for whether the child has engaged in any work that would be illegal under Philippine law. Child is in Hazardous Child Labor in the last 12 months is an indicator for whether any of that child labor is in a work situation that would be considered hazardous under Philippine law and ILO Convention C182.

3.3.4 Minimum Detectable Effects

To determine the MDEs for our primary outcome variables, we use our baseline data to calculate the means, standard deviations, and the intracluster correlation coefficients of each variable. Table 5 shows the resulting MDEs for our primary outcome variables. To examine Hypothesis 1, we first calculate the MDE for whether the household reports an agricultural or non-agricultural family firm. With a baseline mean of 61.84% of households engaged in some family firm, we can detect a change of 9.67 percentage points (15.6%) in family firms. Given that the intervention provides all beneficiaries with a productive asset to open such an enterprise, we would expect to see a 38 percentage point increase, less some deductions for family firm exit and noncompliance. As long as noncompliance stays below 28.5 percent of the treatment population, we should be able to detect an effect of the treatment on the presence of a family firm. We also calculate the MDE for the family-based economic activity index, and can detect a change of 0.06 standard deviations.

Next, we turn to Hypothesis 2 and examine our primary measures of household and adolescent well-being: per capita monthly expenditures, food security, child schooling, and child well-being. The MDEs here are quite small, and less than the effects found in interventions similar to KASAMA. For example, Haushofer and Shapiro (2016), reports increases in expenditures of 13% (Table 2) and food security of 18% (Table 2) in their evaluation of a large, one time cash transfer, while we can detect an effect of 10% in monthly per capita expenditures and 0.08 standard deviations in food security. For the child schooling and child well-being indices, we can detect effects of 0.11 and 0.08 standard deviations respectively.

Finally, we examine hypothesis 3, and calculate MDEs related to the presence of child labor. For the percent of children aged 10-17 engaged in economic activity in the last 7 days and the percent of children working for pay in the last 7 days, the MDE's are 6.16 and 4.42 percentage

points, respectively. For engagement in hazardous child labor and overall child labor in the past 12 months, we can detect effects of 7.29 and 6.24 percentage points, respectively. These effects sizes are less than the effects found in interventions that provided cash or in-kind support to family's of child laborers (Edmonds and Schady, 2012; Edmonds and Shrestha, 2014).

3.3.5 Multiple outcome and multiple hypothesis testing

Our principal approach to multiple testing issues is to reduce the number of outcome variables by creating indices following Anderson (2008). With this, we wind up with at most four confirmatory analysis outcomes for each hypothesis. We also compute FDR-corrected q-values following Benjamini and Hochberg (1995), pooling across all 3 hypotheses, but grouped by specification (eg all coefficients in column 2 across all 3 hypothesis tables). Additional exploratory work will be conducted on components of the aggregates and indices to understand what may be driving any results relevant to the three main hypotheses. There too, we will include FDR corrected q-values following Benjamini and Hochberg (1995).

3.4 Heterogeneous effects

In addition to estimating the impact of the KASAMA treatment on the primary outcomes discussed in Section 3.3.3, we will test for heterogeneity of the treatment across subgroups.[10] Our general approach will be to estimate Equation 3 separately for each subgroup and to test the equality of β_1 across subgroups. To address the multiple hypotheses issues that arise from these comparisons across subgroups, we will compute FDR adjusted q-values that pool across the different partitions of each type of heterogeneity within a given specification. For example, we will provide results using equation (1) for boys and girls separately. Our FDR adjusted q-values will be computed combining the P-values from all of the boy and girl results together.

The interpretation of differences in treatment effects across subgroups can be complicated when there are correlations across sources of heterogeneity. For example, below we propose looking at differences in treatment effect by age group and by baseline time allocation. However, we expect baseline time allocation to vary with age. Hence, we might attribute age differences to baseline time allocation. We can evaluate this concern by pooling our sources of heterogeneity in a single equation. Specifically, we will evaluate this by modifying (2) as:

[10] In our AEA registered pre-analysis plan, we specified numerous other margins of heterogeneity that were driven by funder interest. Here, we focus on heterogeneity that contributes to our hypotheses in Section 2.2. In the report for the funder on the intervention, we will explore these other margins of heterogeneity as well.

$$Y_{i,j,k,t=2} = \beta_0 + \beta_1 D_k + \Delta D_k * H_{i,k} + \Lambda H_{i,k} + \pi_1 ST_k + \pi_2 A_{i,t=0} + \pi_3 (A_{i,t=0} * F_i) + \pi_4 Y_{i,j,k,t=0} + \epsilon_{k2} \quad (3)$$

where H is the vector of sources of heterogeneity described below and thus Δ and Λ are vectors of coefficients.[11]

The following describes a set of subgroups where we will examine the impact of treatment. We divide the subgroups into two categories. Literature based subgroups will look at heterogeneity that is frequently of interest in the child labor literature but that could not be built into our design. Design based heterogeneity is built explicitly into the research design.

3.4.1 Literature Based

The child labor literature and policy space is sensitive to heterogeneity in how program impacts differ by age and gender, and it is inevitable that readers of this study will ask about gender and age differences in treatment effects. As such, we will look at the impact of KASAMA by age groups and gender. Because randomization is at the community level, we cannot stratify rollout by age and gender groups. Thus the validity of age group and gender comparisons depends on fortune and requires the evaluation of balance using the baseline data.

For age heterogeneity, we will estimate Equation 3 separately for children who are 12-14 and 15-17 at endline. The decision to focus on age 12 and above is driven by the fact that we only have baseline time allocation from children age 12 and above at endline. Child labor laws in the Philippines treat children above 14 differently than those below, hence the age partition.[12] This partitioning of age maps to ages 10-12 and 13-15 at baseline.

In Appendix Table 1, we evaluate the validity of random assignment within each age group and consider whether the households with a 10-12 year old at baseline are comparable to households with a 13-15 year old at baseline. The data are consistent with our hypotheses that the two age groups come from comparable households and that random assignment looks valid within each group. The F-Statistics associated with the hypothesis that all the treatment - control differences are jointly zero are 0.96 and 0.84 for the young and older group respectively. In terms of the individual differences, it appears that we wind up with slightly older children in the treatment

[11] We do not include the 4Ps stratum in this analysis, because we are not comparing results in the complete 4Ps stratum to findings in the incomplete stratum as discussed elsewhere.

[12] This age partitioning was specified in the analysis plan although the younger age group was listed as 10-14 as we were not attentive to the lack of baseline time allocation for children below 12 at endline.

group in both age groupings, but the difference is only 8 hundredths of a year. We suspect that is unlikely to be meaningful, but we do control for age in estimating (2). The large difference in income is driven by an outlier as discussed above. The F-Statistic associated with the hypothesis that the treatment-control difference for the young group is the same as that of the old group is 1.23 (p-value=0.50). Hence, the data do not present any reason to be concerned about looking at young and old child results separately.

Gender differences may arise because of differences in the treatment of children, differences in the desires of children, or differences in the opportunities available to children (parental, child, external). To look at gender differences, we will estimate Equation 3 separately by gender. Appendix Table 2 examines balance for each child gender group and tests whether the difference in the gender differences is significant. The two gender groups appear comparable, and we cannot reject the null hypotheses that all the treatment - control differences are jointly zero or that the treatment-control difference for females is the same as that of males.

The child labor literature often finds that it is harder to get children to stop working than it is to get children to forgo starting work. Hence, we examine whether treatment effects vary with child baseline time allocation by estimating Equation 3 separately for children that are engaged in child labor or hazardous child labor in the last 12 months at baseline.[13] Appendix Table 3 examines balance by whether the child is involved in child labor at baseline, and Appendix Table 4 examines balance by whether the child is engaged in hazardous child labor at baseline. In both cases, we cannot reject the null hypothesis that the treatment-control differences are jointly zero for these subgroups. Thus, we can estimate the impact of treatment in each subgroup without any reason to reject our null that the treatment and control groups are comparable. For hazardous child labor, we can reject the null that children in hazardous child labor are comparable to children not in hazardous child labor. This implies that when we compare treatment effects for children in hazardous child labor at baseline to those that are not, we should be careful to note that a difference in treatment effect may owe to differences in settings rather than hazardous child labor in and of itself.

Appendix Tables 7 through 10 calculate minimum detectable effects for all key outcome variables by each subgroup. The MDEs are similar to those shown for the full sample in Table 5, and are again smaller than the effects found in other similar studies, as discussed in Section 3.3.4. The main

[13] In our PAP, we split hypothesis 3 into two hypotheses that varied based on whether the child was in child labor at the time of baseline. We have eliminated that split in reaction to referee feedback.

exception to this is for children not engaged in child labor where the MDEs are slightly larger, likely due to the small number of children not engaged in child labor given the nature of our sample.

3.4.2 Design Based

The above sources of heterogeneity vary at the individual level and thus it was not possible to design the intervention with those tests of heterogeneity. We built two types of heterogeneity into the experiment design. All communities were divided into urban and rural areas. They were also divided into whether all households in our study were receiving the government's consumption support program 4Ps. Interacted, every community was then assigned to one of four stratum and randomization was conducted by the authors within each stratum. Thus, we can test for differences in the effect of KASAMA between urban and rural areas as well as between areas with complete 4Ps and those without.

The decision to stratify by urbanity was driven by there being lots of possible explanations for why the impact of KASAMA would differ by urbanity (including differences in the completeness of markets). We estimate Equation 3 separately for urban and rural areas and test the equality of β_1 across subgroups. Appendix Table 5 examines balance by community level urbanity at baseline and whether the difference in the differences is significant. We cannot reject the null hypotheses that the subgroup treatment and control differences are the same, or that the difference in differences is jointly equal to zero, suggesting that we can make valid comparisons by urbanity subgroups.

The decision to stratify by whether all subjects were receiving 4Ps was driven by our interest in contributing to the literature about whether asset transfers are important in households receiving consumption support. We use 4Ps at the community level rather than the household level, because we are concerned about within community selection given that all of our beneficiaries should be receiving 4Ps. In complete 4Ps communities, we can evaluate the impact of the asset on child labor beyond the other components of 4Ps. Comparing treatment effects in communities everyone receives 4Ps to communities where that is not the case might allow us a sense of how important consumption support is for the asset's impact, although we have some concern that measurement error might drive our definition of ommunities with incomplete 4Ps.

We estimate Equation 3 separately for communities with complete 4Ps and communities without and test the equality of β_1 across subgroups. Based on the tests of balance and joint significance shown in Appendix Table 6, the data do not present any reason to be concerned about looking at treatment effect differences with baseline 4Ps completeness status although the lack of a difference

is also consistent with our concern about measurement error in 4Ps status.

Appendix Table 11 and 12 calculate minimum detectable effects for all key outcome variables by these design-based subgroups. In general, the MDEs are similar to those shown for the full sample in Table 5, though they are larger for the urban subgroup. There are fewer urban communities in our study.

3.5 Preliminary Midline Results

Our study did not involve a formal, researcher-led pilot, because of DOLE's extensive experience in implementing KASAMA. While their internal assessments of the program's impact seem large, we have baseline and midline data which can offer some insight into our project. The primary purpose of the midline survey was maintaining contact with our households, but we are able to conduct some exploratory analysis of some of our key outcomes using the midline data. These midline results will not be included in the final Stage 2 submission.

First, we demonstrate that random assignment is associated with the take-up of KASAMA benefits and changes in household enterprises, which provides an initial test of Hypothesis 1. We examine five measures related to KASAMA benefits available in the midline survey, with each outcome variable defined as follows:

(1) Report KASAMA: In the past 12 months, did you or any member of your household receive KASAMA (Kabuhayan para sa Magulang ng Batang Manggagawa), also known as DILEEP (DOLE Integrated Livelihood and Emergency Program) benefits?

(2) Owns Enterprise: Does anyone in this household fully, or partly, own and operate one or more non-agricultural, non-livestock, income generating enterprises?

(3) New Enterprise: In the past 12 months, has anyone in this household opened an ENTIRELY new non-agricultural enterprise?

(4) Expanded Enterprise: In the past 12 months, has anyone in this household expanded an EXISTING non-agricultural enterprise that was opened more than 12 months ago?

(5) Closed Enterprise: Has anyone in this household closed a non-agricultural, non-livestock, income generating enterprise in the last 12 months?

In Table 6, we present the effect of assignment to the treatment group on each outcome variable for the full sample (first row) as well as in each stratum (subsequent rows). These intent to treat (ITT) estimates suggest that assignment to the treatment group increases the probability a household reports receiving KASAMA benefits by 61 percentage points (Column 1) and increases the probability a household owns an enterprise by 22 percentage points (Column 2). This effectively doubles the probability of a household owning an enterprise compared to baseline levels. Random assignment also increases the probability that a household starts a new enterprise by 13 percent-

age points. Respondents do not report expanding existing enterprises, and we also see some old enterprises closing. The later may owe to KASAMA benefits diverting the household out of one activity into another. Taken together, Table 6 provides strong evidence of an impact of assignment to treatment on household engagement with activities the intervention aimed to affect. These estimates use the full sample despite the fact that some communities had not completed KASAMA rollout by midline. Hence, we expect to see treatment effects related to hypothesis 1 in endline that are at least this large.

While the midline data related to hypothesis 1 presented in Table 6 are similar to baseline and endline, children were not interviewed at midline. Hence, our time allocation measures available at midline (which only interviews the household) are substantively different than we have at baseline and endline. With that caveat in mind, Table 7 contains the impact of random assignment on parental reports of child time allocation. These preliminary results show largely insignificant effects of treatment on child time allocation outcomes both for the overall sample and for each stratum. The signs of the coefficients for our child labor and schooling outcomes suggest that both child labor and schooling may increase in response to the treatment.

3.6 Interpreting Results

The possibility that we may observe increases in child labor and increases in schooling as a result of KASAMA highlight the importance of exploratory analysis that allows us to understand why we might see such changes.

The fact that KASAMA stimulates new enterprises raises the prospect of liquidity constraints in our households. If KASAMA generates additional income, it may help the household overcome some of those liquidity constraints, driving changes in child time allocation and potentially household composition. For example, reductions in liquidity constraints have been shown to increase migration for poor households (Angelucci, 2015; Bazzi, 2017). In the baseline and endline surveys, we collect data on all household members, and also ask about all household migrants in the past 12 months. We will examine household size, composition, and the number of adult and child migrants in response to KASAMA. These variables are precisely defined in Appendix 5.6.4. Changes in household composition can influence child time allocation of existing children as well as inducing selection into what types of children are present. Hence, it is important to understand changes in household composition to understand the changes we observe in children.

We also anticipate that KASAMA may influence parental time allocation in ways that impact

child time allocation. To evaluate this, we collect data on parental time allocation and migration status at baseline and endline. We think understanding parent-child interactions might be especially important and have questions on parenting styles in endline and baseline. Though our parenting style questions appear to be standard in clinical psychology (Parker, Tupling and Brown, 1979), our analysis of parentings styles using the baseline data spurred us to realize economists have focused more on the World Values Survey questions (e.g.Doepke and Zilibotti (2017)). We have added those to the endline. We have also added questions about how much time each household member spends with children in the household, sleeping, and relaxing. One possible mechanism for changes in parent - child interactions beyond time allocation could be changes in parental stress levels, and we have added the Perceived Stress Scale (Cohen, Kamarck and Mermelstein, 1983) to measure this in the caregiver at endline.

The possibility that we will find both increases in child labor and schooling also increased the saliency of being able to say something about child well-being beyond just the outcomes included in Hypothesis 2. While the life satisfaction outcomes discussed in Section 3.3.3 provide our key measures of child welfare, in response to the preliminary midline results we added a number of additional questions to the endline survey to further explore child welfare. We added a module to the household survey to ask caregivers of children 10-17 about the challenges their children face in their day to day lives, specifically the strength and difficulties questionnaire (Goodman, 1997). To the child survey, we added questions that allow us to understand child leisure and rest time as well as several questions designed to measure child mental well-being. In measuring child mental well-being, we relied on instruments that have been measured and validated with adolescents in many country contexts. These instruments include the Student Life Satisfaction Scale (Huebner, 1991), the Center for Epidemiological Studies Depression Scale for Children (Radloff, 1977), and several questions capturing the child's aspirations for the future. When using scales developed by others, we will always follow their coding instructions for interpretation.

One other possible explanation for our child labor results is that the component of the training program that discusses child labor could influence child time allocation through changing the household's understanding of when children can and cannot work. We are extremely skeptical about this channel for several reasons. The training presentation is short (approximately 20 slides in English) and not mandatory for beneficiaries. It is also unusual in child labor training presentations, focused on explaining the law rather than narratives filled with judgments about child labor. We are also not aware of any research that suggests that such training impacts child time allocation. Nonethe-

less, we have added to the endline survey questions designed to assess parental views related to child labor. Because questions on child labor could be sensitive, we implemented these questions as a list experiment (Karlan and Zinman, 2012). We randomly assigned respondents to a treatment and control group, stratifying by KASAMA treatment status. The control group is shown a list of non-sensitive statements and asked to respond how many statements are true for them. The treatment group is shown the same list of non-sensitive statements, plus one additional sensitive statement on child labor. By comparing the average number of "true" responses in the treatment group relative to the control group, we are able to obtain a measures of parental perceptions on child labor and evaluate whether those change with treatment status.

Taken together, this additional analysis should allow us to understand how KASAMA, and similar livelihood programs, influences child time allocation and well-being. This analysis is important, because even if we find increases in child labor, this increase does not necessarily mean the child is worse off. Ultimately, the goal of this policy is to improve child well-being even though it explicitly targets reductions in child labor.

4 References

Anderson, Michael L. 2008. "Multiple inference and gender differences in the effects of early intervention: A reevaluation of the Abecedarian, Perry Preschool, and Early Training Projects." *Journal of the American statistical Association*, 103(484): 1481–1495.

Angelucci, Manuela. 2015. "Migration and financial constraints: evidence from Mexico." *Review of Economics and Statistics*, 97(1): 224–228.

Bandiera, Oriana, Robin Burgess, Narayan Das, Selim Gulesci, Imran Rasul, and Munshi Sulaiman. 2017. "Labor markets and poverty in village economies." *Quarterly Journal of Economics*, 132(2): 811–870.

Banerjee, Abhijit, Dean Karlan, Robert Darko Osei, Hannah Trachtman, and Christopher Udry. 2018. "Unpacking a multi-faceted program to build sustainable income for the very poor." *NBER Working Paper*.

Banerjee, Abhijit, Esther Duflo, Nathanael Goldberg, Dean Karlan, Robert Osei, William Parienté, Jeremy Shapiro, Bram Thuysbaert, and Christopher Udry. 2015. "A multifaceted program causes lasting progress for the very poor: Evidence from six countries." *Science*, 348(6236): 1260799.

Basu, Kaushik, and Pham Hoang Van. 1998. "The economics of child labor." *American Economic Review*, 412–427.

Basu, Kaushik, Sanghamitra Das, and Bhaskar Dutta. 2010. "Child labor and household wealth: Theory and empirical evidence of an inverted-U." *Journal of Development Economics*, 91(1): 8–14.

Bazzi, Samuel. 2017. "Wealth heterogeneity and the income elasticity of migration." *American Economic Journal: Applied Economics*, 9(2): 219–255.

Benjamin, Dwayne. 1992. "Household composition, labor markets, and labor demand: testing for separation in agricultural household models." *Econometrica*, 287–322.

Benjamini, Yoav, and Yosef Hochberg. 1995. "Controlling the false discovery rate: a practical and powerful approach to multiple testing." *Journal of the royal statistical society. Series B (Methodological)*, 289–300.

Bhalotra, Sonia, and Christopher Heady. 2003. "Child farm labor: The wealth paradox." *The World Bank Economic Review*, 17(2): 197–227.

Blattman, Christopher, and Stefan Dercon. 2016. "Occupational choice in early industrializing societies: Experimental evidence on the income and health effects of industrial and entrepreneurial work." *NPER Working Paper*.

Blattman, Christopher, Eric P Green, Julian Jamison, M Christian Lehmann, and Jeannie Annan. 2016. "The returns to microenterprise support among the Ultrapoor: A field experiment in Postwar Uganda." *American Economic Journal: Applied Economics*, 8(2): 35–64.

Blattman, Christopher, Nathan Fiala, and Sebastian Martinez. 2013. "Generating skilled self-employment in developing countries: Experimental evidence from Uganda." *The Quarterly Journal of Economics*, 129(2): 697–752.

Cantril, Hadley, et al. 1965. *Pattern of Human Concerns.* Rutgers University Press.

Cockburn, John, and Benoit Dostie. 2007. "Child work and schooling: The role of household asset profiles and poverty in rural Ethiopia." *Journal of African Economies*, 16(4): 519–563.

Cohen, Sheldon, Tom Kamarck, and Robin Mermelstein. 1983. "A global measure of perceived stress." *Journal of Health and Social Behavior*, 385–396.

Das, Narayan C, Farzana A Misha, et al. 2010. "Addressing extreme poverty in a sustainable manner: Evidence from CFPR programme." *BRAC CFPR Work. Pap*, 19.

De Mel, Suresh, David McKenzie, and Christopher Woodruff. 2008. "Returns to capital in microenterprises: Evidence from a field experiment." *The Quarterly Journal of Economics*, 123(4): 1329–1372.

Doepke, Matthias, and Fabrizio Zilibotti. 2017. "Parenting with style: Altruism and paternalism in intergenerational preference transmission." *Econometrica*, 85(5): 1331–1371.

Dumas, Christelle. 2007. "Why do parents make their children work? A test of the poverty hypothesis in rural areas of Burkina Faso." *Oxford Economic Papers*, 59(2): 301–329.

Dumas, Christelle. 2013. "Market imperfections and child labor." *World Development*, 42: 127–142.

Edmonds, Eric V., and Maheshwor Shrestha. 2014. "You get what you pay for: Schooling incentives and child labor." *Journal of Development Economics*, 111: 196–211.

Edmonds, Eric V., and Norbert Schady. 2012. "Poverty alleviation and child labor." *American Economic Journal: Economic Policy*, 4(4): 100–124.

Emran, M. Shahe, Virginia Robano, and Stephen C. Smith. 2014. "Assessing the grontiers of ultrapoverty reduction: Evidence from challenging the frontiers of poverty reduction/targeting the ultra-poor, an innovative program in Bangladesh." *Economic Development and Cultural Change*, 62(2): 339–380.

Goodman, Robert. 1997. "The Strengths and Difficulties Questionnaire: a research note." *Journal of Child Psychology and Psychiatry*, 38(5): 581–586.

Haseen, Farhana. 2006. "Change in food and nutrient consumption among the ultra poor: Is the CFPR/TUP programme making a difference?" *BRAC CFPR Work. Pap.*

Haushofer, Johannes, and Jeremy Shapiro. 2016. "The short-term impact of unconditional cash transfers to the poor: Experimental evidence from Kenya." *The Quarterly Journal of Economics*, 131(4): 1973–2042.

Hedges, Larry V., and E.C. Hedberg. 2007. "Interclass correlation values for planning group-randomized trials in education." *Educational Evaluation and Policy Analysis*, 29(1): 60–87.

Huebner, E Scott. 1991. "Initial development of the student's life satisfaction scale." *School Psychology International*, 12(3): 231–240.

Kafle, Kashi, Alex Winter-Nelson, and Peter Goldsmith. 2016. "Does 25 cents more per day make a difference? The impact of livestock transfer and development in rural Zambia." *Food Policy*, 63: 62–72.

Karlan, Dean, and Jonathan Zinman. 2012. "List randomization for sensitive behavior: An application for measuring use of loan proceeds." *Journal of Development Economics*, 98(1): 71–75.

Karlan, Dean, Ryan Knight, and Christopher Udry. 2015. "Consulting and capital experiments with microenterprise tailors in Ghana." *Journal of Economic Behavior & Organization*, 118: 281–302.

LaFave, Daniel, and Duncan Thomas. 2016. "Farms, families, and markets: New evidence on completeness of markets in agricultural settings." *Econometrica*, 84(5): 1917–1960.

LaFave, Daniel, Evan Peet, and Duncan Thomas. 2017. "Who behaves as if rural markets are complete?"

Lee, David S. 2009. "Training, wages and sample selection: Estimating sharp bounds on treatment effects." *Review of Economic Studies*, 76(3): 1071–1102.

Parker, Gordon, Hilary Tupling, and Laurence B Brown. 1979. "A parental bonding instrument." *British Journal of Medical Psychology*, 52(1): 1–10.

Radloff, Lenore Sawyer. 1977. "The CES-D scale: A self-report depression scale for research in the general population." *Applied Psychological Measurement*, 1(3): 385–401.

Singh, Inderjit, Lyn Squire, and John Strauss. 1986. *Agricultural household models: Extensions, applications, and policy.* The World Bank.

Thompson, William M, and Nicholas Magnan. 2017. "Predicting Success in a Productive Asset Transfer Program: A Goat Program in Haiti." *Applied Economic Perspectives and Policy*, 39(2): 363–385.

5 Appendices

5.1 Administration of the Intervention

DOLE implemented the intervention of the KASAMA program following their normal operating procedures. After determining target barangays, they adhere to the following implementation process:

1. Eligible households in the barangay are identified based on DOLE's lists of households with child labor present. These lists are based on the national targeting system for poverty reduction (Listahanan) and information from the LGU.
2. Verify with barangay and LGU officials that child laborers are present in the identified households.
3. DOLE's regional focal person decides whether to subcontract or directly provide the assets.
4. DOLE's regional staff makes household visits to discuss KASAMA with eligible households.
5. DOLE or an accredited co-partner conducts 3 one-day trainings for beneficiary households. During the trainings, beneficiaries develop a business plan and determine the type of asset they will receive. They also receive some education on bookkeeping, marketing, and financial literacy, and an orientation on child labor, including laws and risks.
6. Assets are procured by DOLE following the Government of the Philippines rules for procurement.
7. Assets are distributed directly to households.

5.2 Impact of KASAMA on Child Labor

In this appendix, we work through the impact a capital influx from KASAMA. In what follows in this section, we mimic the framework of Basu, Das and Dutta (2010) including functional form assumptions, definitions, and approach.

5.2.1 Preferences

The household consists of one child and one adult. The adult is the decision-maker with preferences over consumption x and child labor e. The absence of child labor is assumed to be a luxury good (Basu and Van, 1998). This can be captured by taking the utility representation of preferences to be quasi-linear:

$$u = u(x, e) = \phi(x) - ce$$

with c a positive real number, $\phi'(x) \geq 0$ and $\phi''(x) \leq 0$.

5.2.2 Complete (Child) Labor Markets

When all factor markets are perfect in the sense that the family is a price taker in all inputs into production, the family firm chooses capital, adult, and child labor to maximize profits irrespective of preferences (Singh, Squire and Strauss, 1986). The resulting profits are $\pi(r, w)$ where r is rental rate on capital and w is the vector of wages available to different types of labor in the labor market. Suppose there are only two types of labor, adult and child, earning w^a and w^e respectively: $w^e \leq w^a$.

Consumption consists of the profit from the family firm and labor earnings. The adult inelastically supplies her 1 unit of labor to the labor market and earns the adult wage. She earns the same wage regardless of whether she works in the family firm. The child's contribution to consumption is a choice and depends on whether she works. Hence: $x = w^e * e + w^a + \pi(r, w^e, w^a)$.

Basu, Das and Dutta (2010) shutdown capital markets throughout their discussion. Hence, the family firm's profits depend on the capital endowment k rather than the rental rate on capital r. In our case, it is trivial to show that if capital markets are complete, the marginal product of capital in the family firm equals its marginal cost (r). Under the assumption of diminishing marginal product of capital, an influx of additional capital through KASAMA would reduce capital's marginal product below r, inducing the family to sell the additional capital until it reaches the its original equilibrium. KASAMA is just an income transfer to the household in the case of complete capital markets. Hence, it is more interesting to consider the impact of KASAMA when capital markets are incomplete perhaps because of liquidity constraints, limited liability, and asymmetric information problems in capital markets. Thus, we rewrite consumption as $x = w^e * e + w^a + \pi(k, w^e, w^a)$.

The household's problem then is to choose child labor given the capital endowment and the adult and child wage rates. This generates the first order condition:

$$\phi'(\pi(k, w^a, w^e) + w^a + w^e * e) = \frac{c}{w^e}.$$

In order to examine the impact of an influx of capital k on the child labor decision, we differentiate, rearrange, and find:

$$\frac{de}{dk} = -\frac{\pi_k(k, w^a, w^e)}{w^e}.$$

If additional capital to the family firm increases profits, child labor declines with capital. This highlights that a positive impact of KASAMA on family firm profit is necessary for it to reduce child labor in the case of capital market imperfections although the impact of KASAMA on child labor is similar if there are perfect capital markets and KASAMA is just a wealth transfer. Higher child wages imply less of an effect of KASAMA, because the foregone consumption of a reduction in child labor will be larger.

5.2.3 No Labor Markets

To see how the impact of KASAMA can vary when there are multiple factor market failures, we begin with the simplest case of no markets for any factors of production. In this case, the only way for the household to generate consumption is to produce it in the family firm. This necessitates more detail on the family firm's production function. Consumption comes from capital and labor and has the following representation: $x = f(k, L)$. We assume positive, diminishing marginal returns in both factors of production and positive cross-partial derivatives.

Most child labor is in tasks that adults also perform. For this reason, Basu and Van (1998) impose the substitution axiom: child and adult labor are perfect substitutes subject to a productivity shifter $0 < \alpha \leq 1$. Thus total labor in the family firm is $L = 1 + \alpha e$ and the production function can be rewritten as $f(k, 1 + \alpha e)$. Plugging this in for x in the household's problem yields the solution: $u_x * \alpha * f_L = c$. $\alpha * f_L$ is the marginal product of child labor. Hence, equilibrium is just where the household equalizes the marginal utility of consumption from child labor to its marginal cost.

The impact of KASAMA on child labor decisions when there are no labor markets can be found by differentiating the equilibrium condition and rearranging:

$$\frac{de}{dk} = -\frac{f_L * f_k * \phi_{xx} + \phi_x * f_{LK}}{\alpha\left(f_L^2 * \phi_{xx} + \phi_x * f_{LL}\right)}.$$

By assuming positive diminishing marginal utility of consumption and positive diminishing marginal productivity of labor, the denominator is always negative. The sign of the numerator depends on the shape of the marginal utility of consumption and the extent to which capital and labor are compliments in the production function. If additional capital makes labor more productive, then we can see increases in child labor with KASAMA when the marginal utility of consumption is very large. Hence, it is not necessarily the case that additional capital leads to higher levels of child labor when there are multiple factor market failures. We can still observe declines in child labor with increases in assets, especially when the marginal utility of consumption is low. We need market failures to explain an increase in child labor when assets increase, but a decline in child labor is not informative about separation.

5.2.4 No Child Labor Markets

Obviously, no labor markets is an extreme assumption. Benjamin (1992) considers a wide range of settings with separation failures, and the fundamental insight for our setting (an increase in capital can increase child labor if the marginal utility of consumption is sufficiently high) does not vary across different reasons for the failure of separation. However, one issue that may be more important in our settings is what happens when there is a partial failure in the labor market. Specifically, there are competitive markets for adult labor but no external market for child labor. This scenario may be relevant in a setting where child labor laws are enforced.

Denote h as the fraction of the adult's time that is spent in the family firm. $1-h$ is the adult's time spent in the labor market earnings wage w^a. It is straightforward to show that a necessary condition for an adult to work both in the labor market and in the family firm is that the marginal product of labor in the family firm is the adult wage: $f_L = w^a$. When there is no external labor market for the child, the child's shadow wage would then be αw^a which is identical to its actual wage in the complete labor markets case. Hence, when there are no constraints on adult employment and adults work in both the family firm and the external labor market, additional capital into the household induces a reshuffling of adult labor between the home and labor market without effecting the shadow value of child time. The only effect on child labor of an influx of capital on child labor comes through the wealth effect when adults work both in the family firm and the labor market.

The more interesting case is then one where capital is added to a family in an equilibrium with a child only family firm. When the firm is sufficiently unproductive such that the shadow wage is below αw^a, we have the same dynamics as in the previous section without a labor market. If the capital injection raises the marginal product of labor to above αw^a absent adult labor, the family firm then draws in adult labor to the family firm. Hence, for sufficiently unproductive family firms, the no child labor market case will impact child labor as in the no labor market case, but with a sufficiently productive family firm (specifically $f_L > \alpha w^a$), additional capital will influence child labor like the complete labor markets case.

5.3 Data Definitions - Hypothesis 1 (Is there a treatment?) Related

All data definitions below reference specific questions on questionnaires. The questionnaires are available at http://www.dartmouth.edu/ eedmonds/kasama/kasama.html:

The data definitions used to test Hypothesis 1 follow.

- Reports Kasama – Household reports receiving Kasama in the past 12 months in either the midline or endline household survey.
- Reports Family Firm (own-income generating activity) – Household member fully, or partly, owns and operates one or more enterprises (including agricultural and livestock generating activities) in the past 12 months. Defined by Question 1 of Section 8 of the Household Survey, Questions 2, 21, and 35 of Section 7 of the Household Survey, and Question 15 of Section 6 of the Household Survey.
- Family-Based Economic Activity Index – weighted standardized average following Anderson (2008) of the following variables. All variables below will be defined so a positive outcome is the "better" outcome.
  - Number of non-farm household enterprises - Number of enterprises owned or partly owned by household members. Defined by Questions 1 and 2 of Section 8 of the household survey.
  - Number of livestock - Number of large livestock, small livestock, or poultry owned by the household, as defined by Section 7, Questions 2, 21, and 35.
  - Amount of land owned by household – Units of land owned by the household in square meters. Defined by Section 6, Questions 1, 2, and 3 in the household survey.
  - Number of new non-farm household enterprises (opened in the last 24 months) – Indicator equal to 1 if Question 4 of Section 8 is less than or equal to 24.
  - Family Firm Generated Income – PPP adjusted US dollar value of all income in the past 12 months from family firms, including agricultural, livestock, or enterprise activities.
    - Agricultural income is defined as all revenue from crops (Section 6, Question 26), land rentals (Section 6, Question 15) and sharecropping earnings (Section 6, Question 13), minus land rental fees (Section 6, Question 10) and farming input expenditures (Section 6, Questions 27-39).
    - Livestock income is defined as total revenue received from milk sales (Section 7, Question 9), other income received from large livestock (Section 7, Question 12), income earned from large livestock sales (Section 7, Question 16), total revenue of butchered meat from large livestock (Section 7, Question 19), other income received from small livestock (Section 7, Question 29), amount earned from small livestock sales (Section 7, Question 33, total revenue of butchered meat from small livestock (Section 7, Question 36), total revenue from eggs (Section 7, Question 47), income from bird sales (Section 7, Question 50), and total revenue from butchered birds (Section 7, Question 54), minus amount spent on care of large livestock (Section 7, Question 10), amount spent on care of small livestock (Section 7, Question 27), and amount spent on care of birds (Section 7, Question 48).
    - Enterprise income is defined as revenue from enterprises (Section 8, Question 21) minus costs, where costs are: amount spent on machinery or durable goods (Section 8, Question 10), amount spent on electricity (Section 8, Question 13), amount spent on salaries/wages (Section 8, Question 14), amount spent on water (Section 8, Question 15), amount spent on transport (Section 8, Question 16), amount spent on purchase of inputs (Section 8, Question 17), and other costs (Section 8, Question 18).

- Share of adults employed in family based economic activity (in the last 12 months) – The number of adults employed in a household based economic activity divided by the total number of adults in the household. An adult is engaged in household based economic activity if the response to Questions 20, 21, 22, or 23 are equal to 1 or >0 response to Question 29 in Section 1 of the Household Survey.
- Value of household assets – PPP adjusted US Dollar value of non-land assets (house, telephones, sofa, chairs, tables, clocks/watches, bicycles, tricycles, motorbikes, boats, other motorized vehicles, radio or CD player, beds, mattresses, solar panels, generators, televisions, VCR/DVD, computer, farm tools, wheelbarrow, car, kerosene or propane stove, refrigerator, washing machine, air conditioner, electric fan, fishing net, pedicab, and rice stocks), as defined in Questions 1 through 32 of Section 5.

5.4 Data Definitions - Hypothesis 2 (Are subjects better off?) Related

- Household Per Capita Consumption (in past 30 days) – Food expenditures plus alcohol, tobacco, medical, education, social and other expenditures, divided by the number of household members. Food, alcohol, and tobacco expenditures are measured in Section 9, Questions 1-15 in the Household Survey. Medical expenditures are measured in Question 31 of Section 9 in the Household Survey, while education expenditures are measured in Question 32 of Section 9 of the Household Survey. Social expenditures include charitable donations, dowry fees, fees paid to barangay officials, religious expenses, funeral expenses, weddings, and recreation expenses, as defined in Questions 20, 27, 28, 29, 30, 34, and 35 of Section 9 of the Household Survey. Other expenditures include airtime, travel and transportation, gambling expenditures, clothing, personal items, household items, firewood, electricity, water, home repairs and improvements, and household durables as defined by Questions 16, 17, 18, 19, 21, 22, 23, 24, 25, 26, and 33 of Section 9 of the Household Survey.

- Food security index – weighted standardized average of indicator variables of the following food security variables. All variables below will be turned into indicator variables where a non-zero value is equal to 1 and defined so a positive outcome is the "better" outcome.

  - Meals skipped (adults in past 30 days) – The number of meals cut or skipped in the last 30 days, as measured in Questions 1 and 2 of Section 11 of the Household Survey.
  - Whole days without food (adults in past 30 days) – The number of days without food in the last 30 days, as measured in Questions 3 and 4 of Section 11 of the Household Survey.
  - Meals skipped (children in past 30 days) – The number of meals cut or skipped in the last 30 days by children less than 14 years of age, as measured in Questions 5 and 6 of Section 11 of the Household Survey.
  - Whole days without food (children in past 30 days) – The number of days without food in the last 30 days by children less than 14 years of age, as measured in Questions 7 and 8 of Section 11 of the Household Survey.
  - Eat less preferred/cheaper foods (in past 30 days) – The number of times household members have eaten less preferred or cheaper foods in the last 30 days, as measured in Questions 9 and 10 of Section 11 of the Household Survey.
  - Rely on help from others for food (past 30 days) – The number of times household members have to borrow food or rely on help from a neighbor or relative in the last 30 days, as measured in Questions 11 and 12 of Section 11 of the Household Survey.

- Purchase food on credit (past 30 days) – The number of times the household has had to purchase food on credit in the last 30 days, as measured in Questions 13 and 14 of Section 11 of the Household Survey.
- Gather wild food (past 30 days) – The number of times the household has had to hunt or gather wild food in the last 30 days, as measured in Questions 15 and 16 of Section 11 of the Household Survey.
- Beg for food (past 30 days) – The number of times the household has had to beg for food in the last 30 days, as measured in Questions 17 and 18 of Section 11 of the Household Survey.
- All members usually eat two meals – Indicator variable equal to 1 if yes response to Question 19 of Section 11 of the Household Survey.
- All members usually eat until content – Indicator variable equal to 1 if yes response to Question 20 of Section 11 of the Household Survey.
- Ate fish or meat in last week – The number of times the respondent ate fish, meat, or eggs in the last 7 days, as measured in Question 21 of Section 11 of the Household Survey.
- Enough food in house for tomorrow – Indicator variable equal to 1 if the household has enough food in it for tomorrow, as measure in Question 22 of Section 11 of the Household Survey.

- Child Schooling Index – weighted standardized average of the following schooling variables. All variables below will be defined so a positive outcome is the "better" outcome.
  - Attends School (in current academic year): Indicator that Question 6 of Section 2 of Child Survey is greater than 0 [second measure based on response to Question 14 of Section 1 of Household Survey >0]
  - School Attendance Rate (in the last 7 days): 0 for children not attending school. Child Survey Question 8 / Child Survey Question 9 if attend school. [second measure based on Question 14 of Household Survey divided by Question 15 of Household Survey]
  - Behind Grade: Indicator that response to Question 7 of Section 2 of the Child Survey is less than child age minus 6

- Child Well-Being Index – weighted standardized average of the following variables. All variables below will be defined so a positive outcome is the "better" outcome.
  - Cantril's ladder (based on Q501)
  - Attentiveness (based on Q603): child is not frequently or often drifting off during interview.
  - Carefulness (based on Q604): child is not reported as unfocused or careless at times.
  - Engagement (based on Q605): Child is not difficult to engage or in need of frequent encouragement.
  - Non-Shy (Based on Q606): Child is not reported as shy or hesitant to speak.
  - Care Index score with Mother and Father Figure (each separately). The following questions are scored positively so that the "Very Like" response is given a 3 and the "Very Unlike" response is a 0: 502 506 507 512 513 518 for mothers / 527 531 532 537 538 542 for fathers. The following questions are scored negatively so that the "Very Like"

response is given a 0 and the "Very Unlike" response is a 3: 503 505 515 517 519 525 for mothers / 528 530 540 542 544 550 for fathers.

The following items will enter into the child well-being index at endline (in addition to the above) although they are not available in baseline for inclusion in the index's MDE calculations.

- Huebner's Student Life Satisfaction Score aggregated as per Huebner (1991), summing the scores across all 7 questions.
- Reports having Short Term goal (based on Q454)
- Reports having Longer Term goal (Q455)
- Reports Planning for Long Term Goal (Q456)
- Score on the Center for Epidemiological Studies Depression Scale for Children (Radloff, 1977), scored as per instructions
- Caregiver's assessment of child's strengths and difficulties using Goodman (1997)'s SDQ instrument and scored as per instructions

5.5 Data Definitions - Hypothesis 3 (What happens to child labor?) Related

- Child Economically Active (Last 7 Days) – The U.N System of National Accounts defines economic activity as all production that could be destined for the market, regardless of whether the decision is made to sell or retained for own use. Thus, economic activity occurs both inside and outside of the home, regardless of whether the good or n service produced is sold in the market. It includes collection activities such as the collection of wood or water. A child is employed if the child answers any days in the last 7 days (Question 302) or hours in the last 7 days (Question 303) for items D, E, G, H, I, J, K, L, M, N, or O. [second measure for the last 12 months based on response to Questions 20, 21, 22, 23, 24, 25, 26, 27 equal to 1 or >0 response to Question 29 in Section 1 of the Household Survey]

- Child Works for Pay (Last 7 Days)– A child works for pay if the child answers answers positive days or positive hours to Q302 and Q303 activities H or I [second measure based on Section 1 of the Household survey, answering positive to Q32].

- Child is in Child Labor (Last 12 months) – Project definitions of child labor will be based on definitions set by the evaluation partner, DOLE, as they are implemented in the Philippine context. DOLE defines child labor on the basis of Philippine Republic Act Nos. 9231 and 7610 and ILO Convention 182 or the Worst Forms of Child Labor Conventions. Child labor is referred to as "any work or economic activity performed by a child that subjects him/her to any form of exploitation or is harmful to his/her health and safety or physical, mental or psychosocial development."

  Republic Act 7610 defines children as "persons below eighteen (18) years of age or those over but are unable to fully take care of themselves or protect themselves from abuse, neglect, cruelty, exploitation or discrimination because of a physical or mental disability or condition."

  Section 3 of Republic Act No. 9231 enumerates the worst forms of Child labor:

  1. all forms of slavery, as defined under the "Anti-Trafficking in Persons Act of 2003", or practices similar to slavery, such as sale and trafficking of children, debt bondage and serfdom and forced or compulsory labor, including recruitment of children for use in armed conflict;

2. use, procuring, offering or exposing of a child for prostitution, for the production of pornography, or for pornographic performances;
3. use, procuring, or offering of a child for illegal or illicit activities, including the production and trafficking of dangerous drugs and volatile substances prohibited under existing laws; and
4. work which, by its nature or the circumstances in which it is carried out, is hazardous or likely to be harmful to the health, safety or morals of children.

It should be noted that in the Philippines, it is not considered child labor if children aged 15 years to below 18 years of age work if the following conditions are met: a) not more than eight (8) hours a day, b) not beyond forty (40) hours a week, c) not during 10:00 pm to 6:00 am the following day. It is required that if they do work under these circumstances, they should be provided with elementary and secondary education.

Children below age 15 may be economically active if the child is supervised by a senior family member such as a parent, if the child works in a location where only member of the child's family are employed, if the work is not hazardous, if the child attends school, and if the child's employer has a work permit for the child.

Implementation
The project codes children below the age of 18 as child laborers if they meet any of the following criteria (definitions defined above):

- A child participates in hazardous economic activity (defined below)
- A child is potentially a bonded laborer, where bonded labor is defined as an indicator that is 1 if the child works around non-family members (YES to Question 417 of the Child Survey) or works outside of his family dwelling or field (Answer to Question 416 of the Child Survey is not family dwelling (1) or family field (2)) and meets any of the following criteria:
  - Child is unable to take days off work (Answer to Question 418 is NO)
  - Child cannot refuse tasks at work (Answer to 419 is NO)
  - Child is unable to leave work because of debt owed (Answer to 420 is NO and Answer to 421 is Yes)
  - Child is unable to leave work because family would be punished (Answer to 420 is NO and Answer to 423 is Yes)
  - Child is not paid for work (Answer to 434 is Yes)
  - All income is turned over to others (Answer to 436 is 1)
- A child is potentially a trafficked person, where a child is coded as trafficked if the child is not born in the community (Question 6 of Section 1 of the Household Survey is NO), the child does not have a parent present (Question 40 and 48 are both NO), the child does not attend school (Question 6 of Section 2 of the Child Survey is NO), and the child meets any of the following criteria:
  - Child is unable to take days off work (Answer to Question 418 of the Child Survey is NO)
  - Child cannot refuse tasks at work (Answer to 419 is NO)
  - Child is unable to leave work because of debt owed (Answer to 420 is NO and Answer to 421 is Yes)

    - Child is unable to leave work because family would be punished (Answer to 420 is NO and Answer to 423 is Yes)
    - Child is not paid for work (Answer to Question 434 is Yes)
    - All income is turned over to others (Answer to 436 is 1)
  - A child is economically active and reports more than 8 hours a day in a typical day last week
  - A child is working more than full time
  - A child is economically active and does not attend school (as defined above)

  The project codes children below the age of 15 as a child laborer if they meet any of the above criteria. In addition, a child below the age of 15 is a child laborer if they are economically active unless the economically active child satisfies all of the following criteria:

  - The child is economically active in a location where only family members are employed
  - The child does not participate in an hazardous activity
  - The child is not potentially a bonded laborer
  - The child is not potentially a trafficked person
  - The child does not report more than 8 hours a day in economic activity in a typical day last week
  - The child does not engage in economic activity between the hours of 10pm and 6am in a typical day last week
  - The child is not economically active for more than 40 hours per week according to the household roster response
  - The child attends school

- Child is in Hazardous Child Labor (Last 12 months) – a child participates in hazardous economic activity if any of the following are true:

  - The child's work code in answer to Question 304, 305, 306, or 307 of the Child Survey is on the list of hazardous occupations (http://www.oshc.dole.gov.ph/330/) or indicates begging or scavenging work:
    - Deep-Sea Fishermen
    - Mining And Quarrying Including Gold Extraction
    - Manufacturing Pyrotechnics
    - Street Work Including Scavenging And Begging
    - Scavenging In Dumpsites
    - Commercial Sexual Activity
    - Artistic and Entertainment Associate Professionals (Entertainers)
    - Plumbers
    - Brick making
    - Extraction of lard/oil
    - Vulcanizing (rubber workers)
    - Grain mill workers
    - Heavy Equipment Operator (ie., bulldozer operator)

    - Guard
    - Firefighter
    - Blacksmiths, Tool-Makers And Related Trades Workers
    - Charcoal Makers And Related Workers
    - Loggers
    - Garbage Collectors And Related Laborers
    - Handicraft Workers In Wood, Textile, Leather, Chemicals And Related Workers
    - Hotel Housekeepers And Restaurant Services Workers
    - Machinery Mechanics, Fitters And Related Trades Workers
    - Metal Molders, Welders, Sheet-Metal Workers, Structural-Metal Preparers And Related Trades Workers
    - Motor Vehicle Drivers
    - Shotfirers, Stone Cutters And Carvers
    - Textile, Garment And Related Trades Workers
    - Wood Treaters, Cabinet Makers And Related Trades Workers
  - The child answers yes to any one of the following questions about their experiences while working over the last 12 months:
    - Was any of this work done after the sunset or before sunrise?
    - Do you ever have problems seeing while doing any of this work because of inadequate lighting?
    - Are there loud noises from machinery or people when you do this work?
    - Have you ever had to do this work in extreme temperatures or in a setting with poor ventilation?
    - Have you worked in an environment with lots of dust or debris?
    - Do you carry heavy loads while doing this work?
    - Do you operate any machinery or heavy equipment in this work?
    - Do you operate a motor vehicle in this work?
    - Are you ever exposed to an open flame or need to be concerned about being burned in this work?
    - Have you been injured while doing any of this work?
    - Do you handle any chemicals or toxic substances in this work including pesticides or fertilizers?
    - Do you wear protective gear such as gloves and masks when working with these chemicals?
    - Have you noticed headaches, skin problem, breathing problems, stomach problems, or a general feeling of unwellness after doing this work?
    - Do you think any of the work you've done is hazardous or dangerous to you?

5.6 Other Variable Definitions

5.6.1 Economic Activity Related

- Employed in Family Based Economic Activity (in the last 7 days): A child is employed in a household based economic activity if the child answers any days in the last 7 days (Question

302) or hours in the last 7 days (Question 303) for items D, E, G, J, K, or L. [second measure for the last 12 months based on response to Questions 20, 21, 22, 23 equal to 1 or >0 response to Question 29 in Section 1 of the Household Survey]

- Child Works outside the Family (Last 7 Days) – A child is employed in economic activity outside the family if the child answers any days in the last 7 days (Question 302) or hours in the last 7 days (Question 303) for items H, I, or M. [second measure for the last 12 months based on response to Questions 23, 24, 25, 26, 27 equal to 1 in Section 1 of the Household Survey]

- Collects Wood or Water (in the last 7 days): A child is employed in collection activities if the child answers any days in the last 7 days (Question 302) or hours in the last 7 days (Question 303) for items D or E. [second measure for the last 12 months based on less than 0 response to Question 29 in Section 1 of the Household Survey]

- Hours Employed (in the last 7 days): The sum of answers to hours worked in the last 7 days (Question 303) for items listed in the working child definition. [second measure for the last 12 months from Question 28 of Section 1 in Household Survey (recall period is for a typical week in past 7 days)]

- Earnings: Total earnings from employment over the last 12 months as collected in Question 32 of Section 1 in the Household Survey.

5.6.2 Non-Economic Activity Related

Hours in Unpaid Household Services (in the last 7 days): Codes similar to hours employed except for activities that meet the definition of unpaid household services (items A, B, C, and F in Section 3). [second measure from Question 30 of Section 1 in Household Survey (recall period is for a typical week in past 7 days)]

5.6.3 Child Behavior Related Definitions for the KASAMA Project

The constructs in this section are only available for persons in the child survey (conducted for persons 10-17). Hence, we will only be able to look at these outcomes for persons 17 or younger at followup.

- Parental Attention – One consequence of the KASAMA intervention may be changes in parental attention. The survey includes a detailed module on parenting bonding that has been developed by Parker et al (1979). We follow their guidelines in the construction of outcomes based on the instruments. There are two indices (Care and Overprotection) and four indicators of parenting style based on the combination of the two indices.

  We construct indices of care and protection. Not all responses on the parental attention questionnaire are scored in the same direction. For the construction of these indices, we will use the scoring recommended in the guidelines. These scorings differ from the response codes in the questionnaire.

  - Care Index. The following questions are scored positively so that the "Very Like" response is given a 3 and the "Very Unlike" response is a 0: 502 506 507 512 513 518 for mothers / 527 531 532 537 538 542 for fathers. The following questions are scored negatively so that the "Very Like" response is given a 0 and the "Very Unlike" response is a 3: 503 505 515 517 519 525 for mothers / 528 530 540 542 544 550 for fathers.

- Protection Index. The following questions are scored positively so that the "Very Like" response is given a 3 and the "Very Unlike" response is a 0: 509 510 511 513 520 521 524 for mothers / 534 535 536 538 545 546 549 for fathers. The following questions are scored negatively so that the "Very Like" response is given a 0 and the "Very Unlike" response is a 3: 504 508 516 522 523 526 for mothers / 529 533 541 547 548 551 for fathers.
  We will construct indices separately for mothers and fathers.

Indicators of parenting style:

- Affectionate Constraint–high care and high protection
- Affectionless Control–low care and high protection
- Optimal Parenting–high care and low protection
- Neglectful Parenting–low care and low protection

The definitions of high and low vary by gender according to the guidelines. For mothers, a care score above 27 and a protection score above 13.5 are considered high. For fathers, a care score above 24 and a protection score above 12.5 are considered high.

In our analysis, we will examine the care index, the protection index, and each of the four indicators of parenting style as outcomes. We will examine father and mother parenting measures separately. We will consider heterogeneity by each of the sources of heterogeneity described elsewhere in this document. We will also consider heterogeneity by the type of new enterprise created between baseline and followup and whether the mother and father were engaged in a new enterprise between baseline and followup.

- Life satisfaction – self-reported by the child in response to Cantril et al. (1965) Ladder in Question 501 of the Child Survey. The respondent provides a scaled response of their life quality ranging between 0 to 10, and we include the raw score in the child well-being index. We proposed also considering indicators for poor life (0 or 1 on the ladder) and great life (9 or 10), but consistent with how the Gallop Organization uses these measures, we propose to also examine splitting the responses into thriving (7+) and suffering (4-).

  In the endline, we have also added the Students Life Satisfaction Scale of (Huebner, 1991). This is a measure of global life satisfaction. 7 statements are read to subjects, and they respond how they feel about the statement from strongly disagreeing to strongly agreeing to each. We score each response so that higher life satisfaction is the higher number and sum across all questions.

5.6.4 Migration and Household Composition

- Number of Out Migrants–Based on Section 2 of the Household Survey, number of individuals who have been members of the household at sometime over the last 24 months that are currently not household members
- Any Out Migrants–An indicator that is 1 if the household reports any out migrants
- Number of Child Out Migrants–Based on Section 2 of the Household Survey, number of individuals below the age of 18 who have been members of the household at sometime over the last 24 months that are currently not household members

- Any child out migrants–An indicator that is 1 if the household reports any child out migrants
- Number of Working Child Out Migrants–Based on Section 2 of the Household Survey, number of individuals below the age of 18 who have been members of the household at sometime over the last 24 months that are currently not household members and report economic activity in their current location
- Any working child out migrants–An indicator that is 1 if the household reports any working child out migrants
- Household size–Based on the household roster, number of household members
- Number of Adults–Based on the household roster, number of household members above age 24
- Number of Young Adults–Based on the household roster, number of household members 18-24 inclusive
- Number of Children–Based on the household roster, number of household members below 18
- Number of School Age Children–Based on the household roster, number of household members 6-17 inclusive
- Number of Young Children –Based on the household roster, number of household members under 6
- Number of Baseline Children not present at followup–Based on the household roster, the number of children who were in the household at baseline that are not present at follow-up
- Number of Baseline Children Married and Living Elsewhere at followup–Based on the household roster, the number of children who were in the household at baseline that are not present at follow-up and who are currently married and living elsewhere

5.6.5 Adult Time Allocation

We construct the following measures of adult time allocation for all prime age adults (aged 25-50) in the household. In order to measure the transition to the labor market of young adults, all variables below will also be examined for young adults, aged 17 to 19.

- Employed – Engaged in economic activity (in the last 12 months). The U.N System of National Accounts defines economic activity as all production that could be destined for the market, regardless of whether the decision is made to sell or retained for own use. Thus, economic activity occurs both inside and outside of the home, regardless of whether the good or service produced is sold in the market. It includes collection activities such as the collection of wood or water. An adult is employed if the response to Questions 20, 21, 22, 23, 24, 25, 26, 27 equal to 1 or >0 response to Question 29 in Section 1 of the Household Survey.
- Employed in Family Based Economic Activity (in the last 12 months) – An adult is employed in a household based economic activity if the response to Questions 20, 21, 22, 23 equal to 1 or >0 response to Question 29 in Section 1 of the Household Survey.

- Employed outside the Family (in the last 12 months) – An adult is employed in economic activity outside the family if the response to Questions 23, 24, 25, 26, 27 equal to 1 in Section 1 of the Household Survey.
- Hours Employed (in typical week) – Hours worked in a typical week in the past 12 months as measured from Question 28 of Section 1 in Household Survey.
- Hours of Home Production (in a typical week) – Hours spent on household chores in the past 12 months as measure from Question 30 of Section 1 in the Household Survey.
- Earnings (in the last 12 months) – Total earnings from employment (excluding self-employment) over the last 12 months as collected in Question 32 of Section 1 in the Household Survey.
- New Economic Activity – Indicator for if an adult undertook a new economic activity in the past 12 months, as defined by Question 31 of Section 1 in the Household Survey.
- Migrated for Employment (in the last twelve months) – Indicator if an adult in the household worked in another village, town, city or country, as defined by Question 27 of Section 1 in the Household Survey.

5.6.6 Consumption Related

All variables will be expressed as natural logs.

- Total Food Expenditures (in the past 7 days) – Per Capita PPP adjusted U.S. Dollar value of breads and cereals, roots and tubers, vegetables, meat, fish, dairy products and eggs, oils and fats, fruits, sugar, jam, honey, sweets, and candies, non-alcoholic drinks, spices and condiments, prepared foods, and other foods, as defined by Questions 1 through 10 and 13 through 15 of Section 9 of the Household Survey.
- Medical Expenditures (in the past 4 weeks) – Per Capita PPP adjusted U.S. Dollar value of Question 39 of Section 1 in the Household Survey.
- Children's Medical Expenditures (in the past 4 weeks) – Per Capita PPP adjusted U.S. Dollar value of all medical expenditures as defined in Question 39 of Section 1 of the Household Survey for all household members less than 18 years of age. Children's medical expenses are also calculated separately by gender of the child.
- Education Expenditures (in past 12 months) – Per Capita PPP adjusted U.S. Dollar value of school fees and all other education related expenses as defined in Questions 13 and 14 of Section 1 in the Household Survey.
- Durable Expenditures (in the past twelve months) – Per Capita PPP adjusted U.S. Dollar value of Question 33 of Section 9 in the Household Survey.

5.6.7 Income Related

- Agricultural revenue (in the past 12 months) – PPP adjusted US Dollar value of all revenue from crops (Section 6, Question 26), land rentals (Section 6, Question 15) and sharecropping earnings (Section 6, Question 13).

- Agricultural income (in the past 12 months) – PPP adjusted US Dollar value of all revenue from crops (Section 6, Question 26), land rentals (Section 6, Question 15) and sharecropping earnings (Section 6, Question 13), minus land rental fees (Section 6, Question 10) and farming input expenditures (Section 6, Questions 27-39).

- Livestock revenue (in the past 12 months) – PPP adjusted US Dollar value of all revenue from livestock. Livestock revenue is defined as: total revenue received from milk sales (Section 7, Question 9), other income received from large livestock (Section 7, Question 12), income earned from large livestock sales (Section 7, Question 16), total revenue of butchered meat from large livestock (Section 7, Question 19), other income received from small livestock (Section 7, Question 29), amount earned from small livestock sales (Section 7, Question 33, total revenue of butchered meat from small livestock (Section 7, Question 36), total revenue from eggs (Section 7, Question 47), income from bird sales (Section 7, Question 50), and total revenue from butchered birds (Section 7, Question 54)

- Livestock income (in the past 12 months) – PPP adjusted US Dollar value of all revenue from livestock minus costs. Livestock income is defined as: total revenue received from milk sales (Section 7, Question 9), other income received from large livestock (Section 7, Question 12), income earned from large livestock sales (Section 7, Question 16), total revenue of butchered meat from large livestock (Section 7, Question 19), other income received from small livestock (Section 7, Question 29), amount earned from small livestock sales (Section 7, Question 33, total revenue of butchered meat from small livestock (Section 7, Question 36), total revenue from eggs (Section 7, Question 47), income from bird sales (Section 7, Question 50), and total revenue from butchered birds (Section 7, Question 54), minus amount spent on care of large livestock (Section 7, Question 10), amount spent on care of small livestock (Section 7, Question 27), and amount spent on care of birds (Section 7, Question 48).

- Enterprise revenue (in the past 12 months) – PPP adjusted US Dollar value of revenue from enterprises (Section 8, Question 21).

- Enterprise income (in the past 12 months) – PPP adjusted US Dollar value of revenue from enterprises (Section 8, Question 21) minus costs, where costs are defined as: amount spent on machinery or durable goods (Section 8, Question 10), amount spent on electricity (Section 8, Question 13), amount spent on salaries/wages (Section 8, Question 14), amount spent on water (Section 8, Question 15), amount spent on transport (Section 8, Question 16), amount spent on purchase of inputs (Section 8, Question 17), and other costs (Section 8, Question 18).

- Interest income (in the past 12 months) – Any interest income from savings accounts in PPP adjusted US Dollars, as defined in Section 10, Questions 29, 35, 41, and 47.

- Borrowing (in the past 12 months) – PPP adjusted US Dollar value of interest paid on loan payments as defined in Section 10, Questions 3, 6, 9, 12, 15, 18, and 21.

- Access to credit (in past 12 months) – indicator variable equal to 1 if the household had a loan from a bank, MFI, family or friend, agricultural traders, informal money lenders, sari-sari stores, or other loans, as measured in Questions 1, 4, 7, 10, 13, 16, and 19 in Section 10 of the Household Survey.

- Transfer income (in the past 12 months) – PPP adjusted US Dollar value of government transfers received in the last 12 months, including the Philippines' conditional cash transfer program, 4Ps (Section 5, Question 32), and other government transfers (Section 5, Q36).
- Remittance income (in the past 12 months) – PPP adjusted US Dollar value of monetary gifts received (Section 3, Question 5) minus peso value of monetary gifts made (Section 3, Question 2) .
- Total revenue (in the past 12 months) – The sum of revenue from agriculture, livestock, and enterprises, as defined above.
- Total Income (in the past 12 months) – The sum of income from agriculture, livestock, enterprises, interest, remittances, and transfers as defined above plus the amount won from gambling (Section 4, Question 23) minus the amount spent on gambling (Section 4, Question 22)
- Report start-up capital from government transfer – Indicator variable equal to 1 if enterprise started in the last 24 months used start-up capital from a government transfer, as measured in Question 8 of Section 8 of the Household Survey.
- Presence of Household Enterprise – Household member fully, or partly, owns and operates one or more enterprises (non-agricultural, non-livestock income generating activities). Defined by Question 1 of Section 8 of the Household Survey.
- Number of Household Enterprises – Number of enterprises owned or partly owned by household members. Defined by Questions 1 and 2 of Section 8 of the Household Survey.
- New Enterprise (opened in last 24 months) – Indicator equal to 1 if Question 4 of Section 8 is equal to less than or equal to 24.
- Number of New Enterprises (opened in last 24 months) – Number of enterprises owned or partly owned by the household that were opened in the last 24 months, as defined by Questions 2 and 4 of Section 8 of the Household Survey.
- Household had a shock (in last 12 months) – Indicator equal to 1 if Questions 29 through 34 of Section 4 of the household survey are equal to 1, such that the household reports a death, grave illness, loss of employment or business failure, loss due to a disaster, harvest failure, or displacement for any member of the household in the last 12 months.

5.6.8 Asset Related

- Value of durable goods – PPP adjusted US Dollar value of non-land assets (house, telephones, sofa, chairs, tables, clocks/watches, bicycles, tricycles, motorbikes, boats, other motorized vehicles, radio or CD player, beds, mattresses, solar panels, generators, televisions, VCR/DVD, computer, farm tools, wheelbarrow, car, kerosene or propane stove, refrigerator, washing machine, air conditioner, electric fan, fishing net, pedicab, and rice stocks), as defined in Questions 1 through 32 of Section 5.
- Number of large livestock – Number of large livestock owned by the household as measured in Question 1 of Section 7 of the Household Survey.

- Number of small livestock – Number of small livestock owned by the household as measured in Question 21 of Section 7 of the Household Survey.
- Number of birds – Number of birds owned by the household as measured in Question 35 of Section 7 of the Household Survey.
- Value of furniture – PPP adjusted US Dollar value of all furniture, including sofas, chairs, tables, beds, and mattresses, and measured in Questions 4, 5, 6, 14, and 15 of Section 5 of the Household Survey.
- Value of agricultural tools – PPP adjusted US Dollar value of all agricultural tools, including farm tools, wheelbarrow, and cart, and measured in Questions 21, 22, and 23 of Section 5 of the Household Survey.
- Value of radio/tv – PPP adjusted US Dollar value of all radios, televisions, and VCR/DVD players, as measured in Questions 13, 18, and 19 of Section 5 of the Household Survey.
- Value of bike/motorbike – PPP adjusted US Dollar value of all bicycles, tricycles, and motorbikes, as measured in Questions 8, 9, and 10 of Section 5 of the Household Survey.
- Value of appliances – PPP adjusted US Dollar value of all appliances, including solar panels, generators, stoves, refrigerators, washing machines, and air conditioners as measured in Questions 16, 17, 24, 25, 26, 27, and 28 of Section 5 of the Household Survey.
- Value of cell phone – PPP adjusted US Dollar value of cell phones as measured in Question 3 of Section 5 of the Household Survey.
- Value of savings – PPP adjusted US Dollar value of all savings, as measured in Questions 25, 31, 37, and 43 of Section 10 of the Household Survey.

5.6.9 Food Security Related

- Meals skipped (adults in past 30 days) – The number of meals cut or skipped in the last 30 days, as measured in Questions 1 and 2 of Section 11 of the Household Survey.
- Whole days without food (adults in past 30 days) – The number of days without food in the last 30 days, as measured in Questions 3 and 4 of Section 11 of the Household Survey.
- Meals skipped (children in past 30 days) – The number of meals cut or skipped in the last 30 days by children less than 14 years of age, as measured in Questions 5 and 6 of Section 11 of the Household Survey.
- Whole days without food (children in past 30 days) – The number of days without food in the last 30 days by children less than 14 years of age, as measured in Questions 7 and 8 of Section 11 of the Household Survey.
- Eat less preferred/cheaper foods (in past 30 days) – The number of times household members have eaten less preferred or cheaper foods in the last 30 days, as measured in Questions 9 and 10 of Section 11 of the Household Survey.
- Rely on help from others for food (past 30 days) – The number of times household members have to borrow food or rely on help from a neighbor or relative in the last 30 days, as measured in Questions 11 and 12 of Section 11 of the Household Survey.

- Purchase food on credit (past 30 days) – The number of times the household has had to purchase food on credit in the last 30 days, as measured in Questions 13 and 14 of Section 11 of the Household Survey.
- Gather wild food (past 30 days) – The number of times the household has had to hunt or gather wild food in the last 30 days, as measured in Questions 15 and 16 of Section 11 of the Household Survey.
- Beg for food (past 30 days) – The number of times the household has had to beg for food in the last 30 days, as measured in Questions 17 and 18 of Section 11 of the Household Survey.
- All members usually eat two meals – Indicator variable equal to 1 if yes response to Question 19 of Section 11 of the Household Survey.
- All members usually eat until content – Indicator variable equal to 1 if yes response to Question 20 of Section 11 of the Household Survey.
- Ate fish or meat in last week – The number of times the respondent ate fish, meat, or eggs in the last 7 days, as measured in Question 21 of Section 11 of the Household Survey.
- Enough food in house for tomorrow – Indicator variable equal to 1 if the household has enough food in it for tomorrow, as measure in Question 22 of Section 11 of the Household Survey.

6 Administrative Information

6.1 Funding

This work was supported by the US Department of Labor's Bureau of International Affairs (ILAB) IL-27208.

6.2 Institutional Review Board

All necessary ethics approvals are in place. We received IRB approval from the IPA Institutional Review Board, #9932.

6.3 Declaration of Interest

Neither author has any conflicts of interest to disclose.

6.4 Acknowledgements

We thank the Philippine Department of Labor and Employment (DOLE) for their partnership with this project. Odbayar Batmunkh, Marius Karabaczek, and Ryan McLaughlin provided excellent research assistance, and Peter Srouji was an outstanding project manager. We are also grateful to IPA Philippines and our field staff who made this project possible.

Table 1. Balance of Baseline Variables

Variable	Treatment Mean	Control Mean	Difference
Age of child	13.33	13.26	0.07
	(2.19)	(2.22)	(0.06)
Child is female	0.46	0.47	-0.00
	(0.50)	(0.50)	(0.01)
School attendance rate of child over last 7 days	0.47	0.45	0.02
	(0.46)	(0.46)	(0.05)
Child is grade(s) behind	0.04	0.04	-0.00
	(0.19)	(0.19)	(0.01)
Child is economically active in last 7 days	0.84	0.81	0.03
	(0.37)	(0.39)	(0.02)
Child is in child labor in last 12 months	0.73	0.74	-0.01
	(0.45)	(0.44)	(0.02)
Child is in hazardous child labor in last 12 months	0.44	0.45	-0.01
	(0.50)	(0.50)	(0.03)
Child works for pay in last 7 days	0.15	0.16	-0.01
	(0.36)	(0.37)	(0.02)
Household survey respondent is female	0.81	0.82	-0.01
	(0.39)	(0.39)	(0.02)
Household size	6.78	6.93	-0.15
	(2.22)	(2.28)	(0.15)
Number of children in household	3.87	3.97	-0.10
	(1.63)	(1.78)	(0.12)
Household receives government transfers other than 4Ps or KASAMA in last 12 months	0.07	0.07	0.00
	(0.25)	(0.25)	(0.01)
Household reports family firm in last 12 months (own-income generating activity including non-farm activities, agriculture and livestock)	0.63	0.61	0.02
	(0.48)	(0.49)	(0.04)
Family firm generated income in last 12 months (PPP adjusted USD)	662.25	384.55	277.69
	(3296.61)	(15214.33)	(386.67)
Food expenditure as a share of non-durable expenditure in past 30 days	0.64	0.64	-0.00
	(0.15)	(0.15)	(0.01)
ln(PPP adjusted USD household total monthly per capita expenditure)	4.30	4.29	0.01
	(0.55)	(0.61)	(0.04)
Household has savings	0.34	0.34	0.00
	(0.47)	(0.47)	(0.03)
Household has loans	0.78	0.78	0.01
	(0.41)	(0.42)	(0.02)
Household had a shock in last 12 months (death, grave illness, loss of employment or business failure, loss due to a disaster, harvest failure, or displacement)	0.64	0.65	-0.01
	(0.48)	(0.48)	(0.03)
Household had an illness in past 30 days	0.20	0.19	0.01
	(0.40)	(0.39)	(0.02)
Household has outmigrants in last 24 months	0.17	0.19	-0.02
	(0.38)	(0.39)	(0.02)
Barangay population (2010 Census)	3677.40	3428.41	248.99
	(3567.83)	(3776.33)	(574.52)
Family Economic Activity Index	0.03	-0.00	0.03
	(0.36)	(0.47)	(0.02)
Food Security Index	-0.01	0.00	-0.01
	(0.44)	(0.45)	(0.03)
Schooling Index	0.01	-0.00	0.01
	(0.63)	(0.65)	(0.04)
Child Well-Being Index	-0.03	0.00	-0.03
	(0.68)	(0.66)	(0.03)
Observations	2157	2149	4306
F-statistic on test of joint significance			0.60
p-value on test of joint significance			0.937

The sample includes all children 10-17 interviewed in the baseline child survey. Columns 1 and 2 report the mean of the variable for the treatment and control groups respectively. Column 3 reports the difference (Column 1 - Column 2). Standard errors are in parentheses. The final two rows of the table report the omnibus F-test of the joint significance of all the differences in the column above and the associated p-value. Indices are created following Anderson (2008)'s approach. The standard deviation of an index created is not mechanically 1 because of weighting by the inverse of the covariance matrix in index construction. ***p<0.01, **p<0.05, *p<0.10.

Table 2. Effect of KASAMA on the Economic Organization of the Household (Hypothesis 1)

	Endline Co-resident Children		Endline and Baseline Data Panel Children	
	Control Mean	ITT	ITT	ITT
	(1)	(2)	(3)	(4)
Reports KASAMA				
Reports family firm (own income generating activity)				
Family Based Economic Activity Index				
Stratum Fixed Effects		Yes	Yes	Yes
Baseline Controls		No	No	Yes

An observation is a child 12-17. Each outcome is a characteristic of the household the child was assigned to at baseline. Column 1 contains the mean of the outcome indicated by the row for the control group. Each cell in columns 2-4 reports the coefficient on an indicator that the child is associated with a household in a community randomly assigned to receive KASAMA. For column 2, this means the child at endline is living in a household that at baseline was in a community that was assigned treatment. For columns 3 and 4, this means that the child at baseline resided in a household that at baseline was in a community that was assigned treatment. Stratum fixed effects are dummies indicating which of the four strata that the child's household of residence resided in at baseline. Baseline controls are measured at baseline and include age*gender fixed effects and the baseline value of the row variable except for "Reports KASAMA" which is not available at baseline. Standard errors in parenthesis and clustered on unit of randomization throughout (Barangay). FDR corrected q-values in brackets following Benjamini and Hochberg (1995); all coefficients with the same specification (eg column 2, 3, or 4) across tables 2, 3, and 4 are grouped for calculation of q-values. The standard deviation of an index created using Anderson (2008)'s approach is not mechanically 1 because of weighting by the inverse of the covariance matrix in index construction.

Table 3. Effect of KASAMA on the Well-Being of Household Residents (Hypothesis 2)

	Endline Co-resident Children		Endline and Baseline Data Panel Children	
	Control Mean	ITT	ITT	ITT
	(1)	(2)	(3)	(4)
ln(PPP Adjusted USD Household Monthly Per Capita Expenditure)				
Food Security Index				
Child Schooling Index				
Child Well Being Index				
Stratum Fixed Effects		Yes	Yes	Yes
Baseline Controls		No	No	Yes

An observation is a child 12-17. Household PCX and Food Security Index are characteristics of the household the child was assigned to at baseline. Column 1 contains the mean of the outcome indicated by the row for the control group. Each cell in columns 2-4 reports the coefficient on an indicator that the child is associated with a household in a community randomly assigned to receive KASAMA. For column 2, this means the child at endline is living in a household that at baseline was in a community that was assigned treatment. For columns 3 and 4, this means that the child at baseline resided in a household that at baseline was in a community that was assigned treatment. Stratum fixed effects are dummies indicating which of the four strata that the child's household of residence resided in at baseline. Baseline controls are measured at baseline and include age*gender fixed effects and baseline values of the dependent variable. Standard errors in parenthesis and clustered on unit of randomization throughout (Barangay). FDR corrected q-values in brackets following Benjamini and Hochberg (1995); all coefficients with the same specification (eg column 2, 3, or 4) across tables 2, 3, and 4 are grouped for calculation of q-values. The standard deviation of an index created using Anderson (2008)'s approach is not mechanically 1 because of weighting by the inverse of the covariance matrix in index construction.

Table 4. Effect of KASAMA on Child Labor Related Outcomes (Hypothesis 3)

	Endline Co-resident Children		Endline and Baseline Data Panel Children	
	Control Mean	ITT	ITT	ITT
	(1)	(2)	(3)	(4)
Child Economically Active (Last 7 Days)				
Child Works for Pay (Last 7 Days)				
Child is in Child Labor (Last 12 months)				
Child is in Hazardous Child Labor (Last 12 months)				
Stratum Fixed Effects		Yes	Yes	Yes
Baseline Controls		No	No	Yes

An observation is a child 12-17. Column 1 contains the mean of the outcome indicated by the row for the control group. Each cell in columns 2-4 reports the coefficient on an indicator that the child is associated with a household in a community randomly assigned to receive KASAMA. For column 2, this means the child at endline is living in a household that at baseline was in a community that was assigned treatment. For columns 3 and 4, this means that the child at baseline resided in a household that at baseline was in a community that was assigned treatment. Stratum fixed effects are dummies indicating which of the four strata that the child's household of residence resided in at baseline. Baseline controls are measured at baseline and include age*gender fixed effects and baseline values of the dependent variable. Standard errors in parenthesis and clustered on unit of randomization throughout (Barangay). FDR corrected q-values in brackets following Benjamini and Hochberg (1995); all coefficients with the same specification (eg column 2, 3, or 4) across tables 2, 3, and 4 are grouped for calculation of q-values. The standard deviation of an index created using Anderson (2008)'s approach is not mechanically 1 because of weighting by the inverse of the covariance matrix in index construction.

Table 5. Minimum Detectable Effects for Key Outcomes

Variable	Baseline Mean	SD	Minimum Detectable Effect	Intracluster Correlation Coefficient
Reports Family Firm, Ag or Non-Ag (%)	61.84	48.58	9.67	0.17
Family-Based Economic Activity Index	0.01	0.42	0.06	0.09
ln(PPP Adjusted USD Household Monthly Per Capita Expenditure)	4.29	0.58	10.04	0.12
Food Security Index	-0.01	0.45	0.08	0.12
Child Schooling Index	0.00	0.64	0.11	0.13
Child Well-Being Index	-0.01	0.67	0.08	0.04
Child Economically Active in Past 7 Days (%)	82.66	37.86	6.16	0.10
Child Works For Pay in Past 7 Days (%)	15.43	36.13	4.42	0.04
Child is in Child Labor in Past 12 Months (%)	73.17	44.31	6.24	0.07
Child is in Hazardous Child Labor in Past 12 Months (%)	44.40	49.69	7.29	0.08

The sample includes all children 10-17 interviewed in the baseline child survey. Baseline means, standard deviations, and intracluster correlation coefficients for each variable are calculated using baseline survey data. Minimum detectable effects (MDE) indicate the smallest change from baseline detectable at the 5% level of significance. The MDEs for all index variables are in standard deviations, the MDE for ln(PCX) is a percent, and the MDEs for all other other variables are in percentage points. The standard deviation of an index created using Anderson (2008)'s approach is not mechanically 1 because of weighting by the inverse of the covariance matrix in index construction.

Table 6. First Stage Results: Effects of KASAMA Intervention on Livelihood Generation at Midline

	Report KASAMA	Owns Enterprise	New Enterprise	Expanded Enterprise	Closed Enterprise
	(1)	(2)	(3)	(4)	(5)
Full Sample	0.61***	0.22***	0.13***	0.02	0.03**
	(0.04)	(0.03)	(0.02)	(0.02)	(0.01)
Urban	0.33***	0.11*	0.09**	0.04	-0.02
	(0.09)	(0.06)	(0.04)	(0.03)	(0.02)
Rural	0.70***	0.26***	0.15***	0.01	0.05***
	(0.05)	(0.04)	(0.02)	(0.02)	(0.02)
Complete 4Ps	0.60***	0.24***	0.19***	0.01	0.03
	(0.07)	(0.05)	(0.03)	(0.03)	(0.03)
Incomplete 4Ps	0.62***	0.21***	0.10***	0.03*	0.03***
	(0.06)	(0.04)	(0.02)	(0.02)	(0.01)

An observation is a child 11-17 at the time of the midline survey, and the sample includes children surveyed in both the baseline and midline surveys (panel children). Each outcome is a characteristic of the household the child was assigned to at baseline. For the purposes of this table only, an enterprise is a non-agricultural, non-livestock, income generating activity fully or partially owned by the household. The full sample regressions include controls for urbanity and 4Ps groupings, while the urban and rural regressions include controls for the 4Ps groupings and the 4Ps regressions include controls for urbanity. All regressions include age fixed effects and age fixed effects interacted with gender. Columns 2 and 3 also control for the baseline outcome variable. In columns 1, 4, and 5 the baseline outcome was not available. Standard errors in parenthesis and clustered on unit of randomization throughout (Barangay). ***p<0.01, **p<0.05, *p<0.10.

Table 7. Effects of KASAMA Intervention on Child Labor and Time Allocation at Midline

	Full Sample	Urban	Rural	Complete 4Ps	Incomplete 4Ps
	(1)	(2)	(3)	(4)	(5)
Engaged in economic activity (last 7 days)	0.04	0.01	0.04	0.06*	0.02
	(0.02)	(0.04)	(0.03)	(0.03)	(0.03)
Employed in family based economic activity (last 7 days)	0.04	0.02	0.05	0.07*	0.03
	(0.03)	(0.04)	(0.03)	(0.03)	(0.04)
Employed outside the family (last 7 days)	-0.01	-0.02	-0.01	0.04	-0.04
	(0.02)	(0.03)	(0.03)	(0.04)	(0.03)
Collects wood or water (last 7 days)	0.04	0.01	0.04	0.07*	0.02
	(0.03)	(0.04)	(0.04)	(0.04)	(0.04)
Unpaid household services (last 7 days)	-0.01	-0.01	-0.01	-0.03	-0.00
	(0.02)	(0.04)	(0.02)	(0.03)	(0.02)
Attends school (last 7 days)	0.03	-0.08	0.07	0.09	-0.02
	(0.06)	(0.15)	(0.06)	(0.10)	(0.08)
School attendance rate (last 7 days)	0.04	-0.07	0.08	0.11	-0.01
	(0.06)	(0.14)	(0.06)	(0.09)	(0.08)
Inactive: not employed, not attending school (last 7 days)	-0.03	0.02	-0.05	-0.08	0.00
	(0.03)	(0.08)	(0.04)	(0.05)	(0.04)
Idle: Inactive, not in unpaid household services (last 7 days)	-0.01	-0.01	-0.01	-0.02	-0.00
	(0.01)	(0.02)	(0.02)	(0.02)	(0.02)
Hours employed (last 7 days)	0.82	0.52	0.99	2.29*	-0.09
	(0.84)	(1.33)	(1.02)	(1.21)	(1.14)

An observation is a child 11-17 at the time of the midline survey, and the sample includes children surveyed in both the baseline and midline surveys (panel children). All regressions include controls for the baseline outcome variable, as well as age fixed effects and age fixed effects interacted with gender. Column 1 includes controls for urbanity and complete 4Ps, while Columns 2 and 3 include controls for complete 4Ps and Columns 4 and 5 include controls for urbanity. Standard errors in parenthesis and clustered on unit of randomization throughout (Barangay). ***p<0.01, **p<0.05, *p<0.10.

Appendix Table 1. Balance by Child Age Subgroups

Variable	Age 10-12 at Baseline (T-C Difference)	Age 13-15 at Baseline (T-C Difference)	Difference in Difference (Column 1 - Column 2)
Age of child	0.08**	0.08**	-0.00
	(0.04)	(0.04)	(0.05)
Child is female	-0.01	-0.00	-0.01
	(0.02)	(0.02)	(0.03)
School attendance rate of child over last 7 days	0.02	0.01	0.01
	(0.06)	(0.05)	(0.03)
Child is grade(s) behind	0.01	-0.01	0.02
	(0.01)	(0.01)	(0.01)
Child is economically active in last 7 days	0.03	0.02	0.01
	(0.03)	(0.03)	(0.03)
Child is in child labor in last 12 months	0.00	-0.01	0.01
	(0.03)	(0.03)	(0.03)
Child is in hazardous child labor in last 12 months	-0.01	0.01	-0.02
	(0.03)	(0.03)	(0.03)
Child works for pay in last 7 days	-0.01	-0.01	0.00
	(0.02)	(0.02)	(0.03)
Household survey respondent is female	0.01	0.00	0.01
	(0.02)	(0.02)	(0.02)
Household size	-0.19	-0.17	-0.02
	(0.17)	(0.16)	(0.12)
Number of children in household	-0.16	-0.12	-0.04
	(0.14)	(0.13)	(0.10)
Household receives government transfers other than 4Ps or KASAMA in last 12 months	0.00	-0.00	0.01
	(0.01)	(0.02)	(0.02)
Household reports family firm in last 12 months	0.01	0.02	-0.01
	(0.04)	(0.04)	(0.03)
Family firm generated income in last 12 months (PPP adjusted USD)	526.30	121.82	404.48
	(856.46)	(232.80)	(834.85)
Food expenditure as a share of non-durable expenditure in past 30 days	0.01	-0.01	0.01*
	(0.01)	(0.01)	(0.01)
ln(PPP adjusted USD household total monthly per capita expenditure)	0.01	0.02	-0.00
	(0.04)	(0.04)	(0.03)
Household has savings	-0.00	0.01	-0.01
	(0.03)	(0.04)	(0.03)
Household has loans	0.02	-0.01	0.02
	(0.02)	(0.02)	(0.02)
Household had a shock in last 12 months	0.00	-0.02	0.03
	(0.03)	(0.03)	(0.03)
Household had an illness in past 30 days	0.02	-0.01	0.03
	(0.02)	(0.02)	(0.02)
Household has outmigrants in last 24 months	-0.01	-0.04	0.03
	(0.03)	(0.02)	(0.02)
Barangay population (2010 Census)	292.75	273.44	19.31
	(538.24)	(596.70)	(217.56)
Family Economic Activity Index	0.04	0.02	0.02
	(0.03)	(0.02)	(0.03)
Food Security Index	-0.02	-0.01	-0.01
	(0.03)	(0.03)	(0.02)
Schooling Index	0.04	-0.01	0.05
	(0.05)	(0.05)	(0.04)
Child Well-Being Index	-0.06	-0.01	-0.05
	(0.04)	(0.03)	(0.05)
F-test	0.96	0.84	1.23
P-value	0.528	0.697	0.495

The sample includes all children 10-17 interviewed in the baseline child survey. Columns 1 and 2 report the difference in the variable between treatment and control for the subgroup indicated by the column heading. Column 3 reports the difference in the two differences (Column 1-Column 2). Standard errors are in parentheses. The final two rows of the table report the F-test of the joint significance of all the differences in the column above. The standard deviation of an index created using Anderson (2008)'s approach is not mechanically 1 because of weighting by the inverse of the covariance matrix in index construction. ***p<0.01, **p<0.05, *0<0.10.

Appendix Table 2. Balance by Child Gender Subgroups

Variable	Female (T-C Difference)	Male (T-C Difference)	Difference in Difference (Column 1 - Column 2)
Age of child	0.10	0.03	0.07
	(0.10)	(0.08)	(0.13)
School attendance rate of child over last 7 days	0.04	0.01	0.03
	(0.06)	(0.05)	(0.03)
Child is grade(s) behind	-0.01	0.00	-0.01
	(0.01)	(0.01)	(0.01)
Child is economically active in last 7 days	0.04	0.01	0.03
	(0.03)	(0.02)	(0.03)
Child is in child labor in last 12 months	-0.01	-0.02	0.01
	(0.03)	(0.02)	(0.03)
Child is in hazardous child labor in last 12 months	0.02	-0.04	0.05*
	(0.03)	(0.03)	(0.03)
Child works for pay in last 7 days	-0.01	-0.01	0.01
	(0.02)	(0.02)	(0.02)
Household survey respondent is female	0.01	-0.02	0.02
	(0.02)	(0.02)	(0.03)
Household size	-0.20	-0.11	-0.09
	(0.17)	(0.17)	(0.14)
Number of children in household	-0.14	-0.08	-0.06
	(0.13)	(0.14)	(0.11)
Household receives government transfers other than 4Ps or KASAMA in last 12 months	0.00	0.00	-0.00
	(0.02)	(0.01)	(0.01)
Household reports family firm in last 12 months	0.03	0.01	0.02
	(0.04)	(0.04)	(0.03)
Family firm generated income in last 12 months (PPP adjusted USD)	596.30	10.27	586.03
	(718.95)	(260.06)	(705.02)
Food expenditure as a share of non-durable expenditure in past 30 days	-0.01	0.01	-0.02*
	(0.01)	(0.01)	(0.01)
ln(PPP adjusted USD household total monthly per capita expenditure)	0.02	0.00	0.02
	(0.04)	(0.04)	(0.03)
Household has savings	-0.01	0.01	-0.02
	(0.03)	(0.04)	(0.03)
Household has loans	0.00	0.01	-0.00
	(0.03)	(0.02)	(0.03)
Household had a shock in last 12 months	-0.02	-0.01	-0.01
	(0.03)	(0.03)	(0.03)
Household had an illness in past 30 days	0.00	0.01	-0.00
	(0.02)	(0.02)	(0.02)
Household has outmigrants in last 24 months	-0.00	-0.04	0.04
	(0.03)	(0.02)	(0.02)
Barangay population (2010 Census)	139.73	346.95	-207.21
	(583.54)	(580.55)	(144.71)
Family Economic Activity Index	0.04	0.02	0.02
	(0.03)	(0.02)	(0.02)
Food Security Index	-0.03	0.00	-0.03
	(0.03)	(0.03)	(0.03)
Schooling Index	0.01	0.00	0.01
	(0.05)	(0.04)	(0.04)
Child Well-Being Index	0.01	-0.06	0.07*
	(0.03)	(0.04)	(0.04)
F-test	1.09	0.68	1.19
P-value	0.355	0.867	0.471

The sample includes all children 10-17 interviewed in the baseline child survey. Columns 1 and 2 report the difference in the variable between treatment and control for the subgroup indicated by the column heading. Column 3 reports the difference in the two differences (Column 1-Column 2). Standard errors are in parentheses. The final two rows of the table report the F-test of the joint significance of all the differences in the column above. The standard deviation of an index created using Anderson (2008)'s approach is not mechanically 1 because of weighting by the inverse of the covariance matrix in index construction. ***p<0.01, **p<0.05, *0<0.10.

Appendix Table 3. Balance by Engagement in Child Labor (Last 12 Months)

Variable	In Child Labor (T-C Difference)	Not in Child Labor (T-C Difference)	Difference in Difference (Column 1 - Column 2)
Age of child	0.02	0.16	-0.14
	(0.07)	(0.15)	(0.17)
Child is female	-0.00	-0.02	0.01
	(0.02)	(0.03)	(0.04)
School attendance rate of child over last 7 days	0.02	0.02	-0.00
	(0.05)	(0.06)	(0.05)
Child is grade(s) behind	-0.00	-0.01	0.01
	(0.01)	(0.01)	(0.01)
Child is economically active in last 7 days	0.02*	0.06	-0.05
	(0.01)	(0.05)	(0.05)
Household survey respondent is female	-0.01	0.01	-0.02
	(0.02)	(0.03)	(0.03)
Household size	-0.20	-0.03	-0.16
	(0.16)	(0.21)	(0.20)
Number of children in household	-0.13	-0.04	-0.08
	(0.14)	(0.14)	(0.14)
Household receives government transfers other than 4Ps or KASAMA in last 12 months	-0.01	0.02	-0.03
	(0.01)	(0.02)	(0.02)
Household reports family firm in last 12 months	0.01	0.05	-0.04
	(0.04)	(0.05)	(0.04)
Family firm generated income in last 12 months (PPP adjusted USD)	400.45	-30.95	431.40
	(519.92)	(187.11)	(526.70)
Food expenditure as a share of non-durable expenditure in past 30 days	0.00	-0.01	0.01
	(0.01)	(0.01)	(0.01)
ln(PPP adjusted USD household total monthly per capita expenditure)	0.01	0.01	0.01
	(0.04)	(0.05)	(0.04)
Household has savings	-0.01	0.03	-0.04
	(0.04)	(0.04)	(0.04)
Household has loans	0.01	-0.00	0.01
	(0.02)	(0.03)	(0.03)
Household had a shock in last 12 months	-0.01	-0.04	0.04
	(0.03)	(0.04)	(0.04)
Household had an illness in past 30 days	0.01	-0.01	0.02
	(0.02)	(0.03)	(0.03)
Household has outmigrants in last 24 months	-0.03	-0.00	-0.02
	(0.02)	(0.03)	(0.03)
Barangay population (2010 Census)	438.99	-290.63	729.63
	(540.00)	(795.72)	(518.08)
Family Economic Activity Index	0.02	0.04	-0.02
	(0.02)	(0.03)	(0.03)
Food Security Index	-0.01	-0.03	0.02
	(0.03)	(0.04)	(0.04)
Schooling Index	0.01	0.01	-0.00
	(0.04)	(0.05)	(0.05)
Child Well-Being Index	-0.04	-0.00	-0.04
	(0.03)	(0.05)	(0.05)
F-test	0.91	0.58	1.05
P-value	0.590	0.937	0.545

The sample includes all children 10-17 interviewed in the baseline child survey. Columns 1 and 2 report the difference in the variable between treatment and control for the subgroup indicated by the column heading. Column 3 reports the difference in the two differences (Column 1-Column 2). Standard errors are in parentheses. The final two rows of the table report the F-test of the joint significance of all the differences in the column above. The standard deviation of an index created using Anderson (2008)'s approach is not mechanically 1 because of weighting by the inverse of the covariance matrix in index construction. ***p<0.01, **p<0.05, *0<0.10.

Appendix Table 4. Balance by Engagement in Hazardous Child Labor (Last 12 Months)

Variable	In Hazardous Child Labor (T-C Difference)	Not in Hazardous Child Labor (T-C Difference)	Difference (Column 1 - Column 2)
Age of child	0.04	0.11	-0.07
	(0.09)	(0.10)	(0.14)
Child is female	0.02	-0.03	0.05*
	(0.02)	(0.02)	(0.03)
School attendance rate of child over last 7 days	0.01	0.03	-0.02
	(0.05)	(0.06)	(0.04)
Child is grade(s) behind	0.00	-0.01	0.01
	(0.01)	(0.01)	(0.01)
Child is economically active in last 7 days	0.02*	0.03	-0.01
	(0.01)	(0.03)	(0.03)
Child works for pay in last 7 days	-0.01	0.00	-0.01
	(0.03)	(0.01)	(0.03)
Household survey respondent is female	-0.02	0.00	-0.02
	(0.02)	(0.02)	(0.03)
Household size	-0.24	-0.08	-0.17
	(0.17)	(0.17)	(0.18)
Number of children in household	-0.12	-0.09	-0.03
	(0.16)	(0.13)	(0.13)
Household receives government transfers other than 4Ps or KASAMA in last 12 months	-0.01	0.01	-0.02
	(0.02)	(0.01)	(0.02)
Household reports family firm in last 12 months	0.02	0.02	0.00
	(0.04)	(0.04)	(0.04)
Family firm generated income in last 12 months (PPP adjusted USD)	826.27	-144.27	970.55
	(830.07)	(123.89)	(813.31)
Food expenditure as a share of non-durable expenditure in past 30 days	-0.00	-0.00	-0.00
	(0.01)	(0.01)	(0.01)
ln(PPP adjusted USD household total monthly per capita expenditure)	0.00	0.02	-0.02
	(0.05)	(0.04)	(0.05)
Household has savings	-0.01	0.01	-0.02
	(0.04)	(0.03)	(0.04)
Household has loans	0.01	0.01	-0.00
	(0.03)	(0.03)	(0.03)
Household had a shock in last 12 months	0.00	-0.03	0.03
	(0.03)	(0.03)	(0.04)
Household had an illness in past 30 days (T-C Difference)	0.01	0.00	0.00
	(0.03)	(0.02)	(0.03)
Household has outmigrants in last 24 months	-0.02	-0.02	-0.01
	(0.03)	(0.02)	(0.03)
Barangay population (2010 Census)	452.87	85.50	367.38
	(634.58)	(580.73)	(365.88)
Family Economic Activity Index	0.03	0.03	0.00
	(0.03)	(0.03)	(0.03)
Food Security Index	0.03	-0.05	0.08**
	(0.04)	(0.03)	(0.04)
Schooling Index	-0.00	0.02	-0.02
	(0.05)	(0.05)	(0.05)
Child Well-Being Index	-0.06*	0.00	-0.06
	(0.04)	(0.04)	(0.04)
F-test	1.43	0.84	1.80**
P-value	0.102	0.682	0.014

The sample includes all children 10-17 interviewed in the baseline child survey. Columns 1 and 2 report the difference in the variable between treatment and control for the subgroup indicated by the column heading. Column 3 reports the difference in the two differences (Column 1-Column 2). Standard errors are in parentheses. The final two rows of the table report the F-test of the joint significance of all the differences in the column above. The standard deviation of an index created using Anderson (2008)'s approach is not mechanically 1 because of weighting by the inverse of the covariance matrix in index construction. ***p<0.01, **p<0.05, *0<0.10.

Appendix Table 5. Balance by Urban and Rural Subgroups

Variable	Urban (T-C Difference)	Rural (T-C Difference)	Difference in Difference (Column 1-Column 2)
Age of child	-0.05	0.10	-0.15
	(0.13)	(0.07)	(0.14)
Child is female	-0.04	0.00	-0.04
	(0.03)	(0.02)	(0.03)
School attendance rate of child over last 7 days	0.06	0.01	0.04
	(0.09)	(0.06)	(0.11)
Child is grade(s) behind	-0.01	0.00	-0.01
	(0.02)	(0.01)	(0.03)
Child is economically active in last 7 days	0.04	0.01	0.03
	(0.05)	(0.02)	(0.05)
Child is in child labor in last 12 months	0.05	-0.03	0.08*
	(0.04)	(0.02)	(0.05)
Child is in hazardous child labor in last 12 months	0.04	-0.03	0.07
	(0.05)	(0.03)	(0.06)
Child works for pay in last 7 days	0.02	-0.02	0.04
	(0.03)	(0.02)	(0.03)
Household survey respondent is female	0.02	-0.01	0.03
	(0.03)	(0.02)	(0.04)
Household size	0.05	-0.21	0.26
	(0.27)	(0.18)	(0.32)
Number of children in household	-0.09	-0.11	0.02
	(0.19)	(0.15)	(0.24)
Household receives government transfers other than 4Ps or KASAMA in last 12 months	0.02	-0.00	0.03
	(0.03)	(0.01)	(0.03)
Household reports family firm in last 12 months	0.05	0.00	0.04
	(0.07)	(0.04)	(0.08)
Family firm generated income in last 12 months (PPP adjusted USD)	376.42	263.89	112.53
	(693.29)	(481.35)	(838.10)
Food expenditure as a share of non-durable expenditure in past 30 days	0.01	-0.01	0.01
	(0.02)	(0.01)	(0.02)
ln(PPP adjusted USD household total monthly per capita expenditure)	0.05	0.00	0.05
	(0.08)	(0.04)	(0.09)
Household has savings	0.02	-0.00	0.03
	(0.06)	(0.04)	(0.07)
Household has loans	-0.01	0.01	-0.02
	(0.05)	(0.02)	(0.05)
Household had a shock in last 12 months	-0.03	-0.02	-0.01
	(0.05)	(0.03)	(0.06)
Household had an illness in past 30 days (T-C Difference)	-0.00	0.01	-0.01
	(0.04)	(0.02)	(0.04)
Household has outmigrants in last 24 months	0.03	-0.04	0.06
	(0.05)	(0.02)	(0.05)
Barangay population (2010 Census)	461.46	412.37*	49.09
	(1552.18)	(215.78)	(1551.68)
Family Economic Activity Index	0.04	0.02	0.02
	(0.05)	(0.02)	(0.06)
Food Security Index	0.07	-0.04	0.10*
	(0.05)	(0.03)	(0.06)
Schooling Index	0.00	0.02	-0.01
	(0.09)	(0.04)	(0.10)
Child Well-Being Index	-0.06	-0.02	-0.04
	(0.06)	(0.03)	(0.07)
F-test	0.72	0.93	1.00
P-value	0.812	0.572	0.840

The sample includes all children 10-17 interviewed in the baseline child survey. Columns 1 and 2 report the difference in the variable between treatment and control for the subgroup indicated by the column heading. Column 3 reports the difference in the two differences (Column 1-Column 2). Standard errors are in parentheses. The final two rows of the table report the F-test of the joint significance of all the differences in the column above. The standard deviation of an index created using Anderson (2008)'s approach is not mechanically 1 because of weighting by the inverse of the covariance matrix in index construction. ***p<0.01, **p<0.05, *0<0.10.

Appendix Table 6. Balance by Complete and Incomplete 4Ps Groupings

Variable	Complete 4Ps (T-C Difference)	Incomplete 4Ps (T-C Difference)	Difference
Age of child	-0.03	0.13	-0.16
	(0.10)	(0.08)	(0.13)
Child is female	-0.02	0.00	-0.02
	(0.02)	(0.02)	(0.03)
School attendance rate of child over last 7 days	-0.09	0.09	-0.18*
	(0.08)	(0.07)	(0.10)
Child is grade(s) behind	0.01	-0.01	0.02
	(0.01)	(0.01)	(0.02)
Child is economically active in last 7 days	0.07**	-0.01	0.07*
	(0.03)	(0.03)	(0.04)
Child is in child labor in last 12 months	0.04	-0.04	0.08*
	(0.04)	(0.03)	(0.05)
Child is in hazardous child labor in last 12 months	0.01	-0.02	0.03
	(0.05)	(0.03)	(0.05)
Child works for pay in last 7 days	0.00	-0.02	0.02
	(0.02)	(0.02)	(0.03)
Household survey respondent is female	0.00	-0.01	0.02
	(0.03)	(0.03)	(0.04)
Household size	-0.12	-0.18	0.06
	(0.24)	(0.19)	(0.31)
Number of children in household	-0.13	-0.09	-0.04
	(0.16)	(0.17)	(0.24)
Household receives government transfers other than 4Ps or KASAMA in last 12 months	0.02	-0.01	0.03
	(0.02)	(0.02)	(0.03)
Household reports family firm in last 12 months	0.04	0.00	0.03
	(0.05)	(0.04)	(0.07)
Family firm generated income in last 12 months (PPP adjusted USD)	912.92	-115.32	1028.23
	(942.74)	(227.24)	(965.29)
Food expenditure as a share of non-durable expenditure in past 30 days	0.00	-0.00	0.01
	(0.01)	(0.01)	(0.02)
ln(PPP adjusted USD household total monthly per capita expenditure)	-0.01	0.02	-0.03
	(0.04)	(0.05)	(0.07)
Household has savings	-0.07	0.05	-0.11*
	(0.06)	(0.04)	(0.07)
Household has loans	-0.01	0.01	-0.02
	(0.04)	(0.03)	(0.04)
Household had a shock in last 12 months	-0.02	-0.02	-0.00
	(0.04)	(0.04)	(0.06)
Household had an illness in past 30 days	-0.01	0.01	-0.02
	(0.03)	(0.02)	(0.04)
Household has outmigrants in last 24 months	-0.01	-0.03	0.02
	(0.03)	(0.03)	(0.04)
Barangay population (2010 Census)	-459.49	729.35	-1188.84
	(1118.43)	(589.91)	(1259.27)
Family Economic Activity Index	0.06	0.00	0.05
	(0.04)	(0.03)	(0.05)
Food Security Index	-0.02	-0.00	-0.02
	(0.04)	(0.04)	(0.05)
Schooling Index	-0.04	0.04	-0.08
	(0.06)	(0.05)	(0.08)
Child Well-Being Index	-0.08	0.00	-0.08
	(0.05)	(0.04)	(0.06)
F-test	1.35	1.18	1.44
P-value	0.164	0.278	0.193

The sample includes all children 10-17 interviewed in the baseline child survey. Columns 1 and 2 report the difference in the variable between treatment and control for the subgroup indicated by the column heading. Column 3 reports the difference in the two differences (Column 1-Column 2). Standard errors are in parentheses. The final two rows of the table report the F-test of the joint significance of all the differences in the column above. The standard deviation of an index created using Anderson (2008)'s approach is not mechanically 1 because of weighting by the inverse of the covariance matrix in index construction. ***p<0.01, **p<0.05, *0<0.10.

Appendix Table 7. Minimum Detectable Effects for Key Outcomes by Age Subgroups

	Age 10-12 at Baseline				Age 13-15 at Baseline			
Variable	Baseline Mean	SD	Minimum Detectable Effect	Intracluster Correlation Coefficient	Baseline Mean	SD	Minimum Detectable Effect	Intracluster Correlation Coefficient
Reports Family Firm, Ag or Non-Ag (%)	59.87	49.03	7.53	0.17	62.41	48.45	7.16	0.16
Family-Based Economic Activity Index	0.00	0.48	0.06	0.10	0.01	0.35	0.05	0.09
ln(PPP Adjusted USD Household Monthly Per Capita Expenditure)	4.28	0.59	7.51	0.08	4.31	0.58	8.30	0.14
Food Security Index	0.00	0.46	0.06	0.09	-0.01	0.45	0.06	0.10
Child Schooling Index	0.05	0.48	0.09	0.33	0.06	0.66	0.10	0.16
Child Well-Being Index	-0.06	0.77	0.09	0.04	0.02	0.61	0.07	0.03
Child Economically Active in Past 7 Days (%)	79.91	40.08	4.97	0.07	83.69	36.96	5.15	0.13
Child Works For Pay in Past 7 Days (%)	9.55	29.39	3.55	0.06	15.63	36.32	4.15	0.05
Child is in Child Labor in Past 12 Months (%)	76.49	42.42	5.14	0.06	71.82	45.00	5.26	0.06
Child is in Hazardous Child Labor in Past 12 Months (%)	33.47	47.20	5.74	0.06	46.89	49.92	6.35	0.09

The sample includes all children 10-17 interviewed in the baseline child survey and in the relevant subgroup. Baseline means, standard deviations, and intracluster correlation coefficients for each variable are calculated using baseline survey data. Minimum detectable effects (MDE) indicate the smallest change from baseline detectable at the 5% level of significance. The MDEs for all index variables are in standard deviations, the MDE for ln(PCX) is a percent, and the MDEs for all other other variables are in percentage points. The standard deviation of an index created using Anderson (2008)'s approach is not mechanically 1 because of weighting by the inverse of the covariance matrix in index construction.

Appendix Table 8. Minimum Detectable Effects for Key Outcomes by Gender Subgroups

	Female				Male			
Variable	Baseline Mean	SD	Minimum Detectable Effect	Intracluster Correlation Coefficient	Baseline Mean	SD	Minimum Detectable Effect	Intracluster Correlation Coefficient
Reports Family Firm, Ag or Non-Ag (%)	59.97	49.01	7.37	0.17	63.45	48.17	7.19	0.18
Family-Based Economic Activity Index	0.00	0.48	0.05	0.04	0.02	0.35	0.05	0.14
ln(PPP Adjusted USD Household Monthly Per Capita Expenditure)	4.30	0.56	7.96	0.15	4.29	0.60	7.08	0.08
Food Security Index	0.00	0.45	0.06	0.09	-0.01	0.45	0.06	0.13
Child Schooling Index	0.02	0.57	0.09	0.20	-0.01	0.70	0.08	0.09
Child Well-Being Index	0.06	0.59	0.07	0.05	-0.08	0.73	0.07	0.04
Child Economically Active in Past 7 Days (%)	74.96	43.33	6.14	0.14	89.34	30.87	3.43	0.07
Child Works For Pay in Past 7 Days (%)	9.75	29.66	3.04	0.03	20.36	40.28	4.34	0.06
Child is in Child Labor in Past 12 Months (%)	64.72	47.80	5.87	0.09	80.50	39.63	4.26	0.06
Child is in Hazardous Child Labor in Past 12 Months (%)	34.48	47.54	5.80	0.08	52.99	49.92	5.76	0.08

The sample includes all children 10-17 interviewed in the baseline child survey and in the relevant subgroup. Baseline means, standard deviations, and intracluster correlation coefficients for each variable are calculated using baseline survey data. Minimum detectable effects (MDE) indicate the smallest change from baseline detectable at the 5% level of significance. The MDEs for all index variables are in standard deviations, the MDE for ln(PCX) is a percent, and the MDEs for all other other variables are in percentage points. The standard deviation of an index created using Anderson (2008)'s approach is not mechanically 1 because of weighting by the inverse of the covariance matrix in index construction.

Appendix Table 9. Minimum Detectable Effects for Key Outcomes by Child Labor Subgroups

	Engaged in Child Labor				Not Engaged in Child Labor			
Variable	Baseline Mean	SD	Minimum Detectable Effect	Intracluster Correlation Coefficient	Baseline Mean	SD	Minimum Detectable Effect	Intracluster Correlation Coefficient
Reports Family Firm, Ag or Non-Ag (%)	64.94	47.72	9.54	0.16	53.34	49.91	12.02	0.18
Family-Based Economic Activity Index	0.03	0.43	0.07	0.07	-0.04	0.37	0.08	0.13
ln(PPP Adjusted USD Household Monthly Per Capita Expenditure)	4.27	0.59	10.16	0.11	4.35	0.57	13.59	0.18
Food Security Index	-0.02	0.45	0.08	0.13	0.03	0.44	0.10	0.13
Child Schooling Index	-0.04	0.66	0.11	0.10	0.14	0.55	0.14	0.21
Child Well-Being Index	-0.03	0.69	0.09	0.03	0.03	0.63	0.13	0.07
Child Economically Active in Past 7 Days (%)	95.69	20.32	2.64	0.04	47.15	49.94	12.18	0.19

The sample includes all children 10-17 interviewed in the baseline child survey and in the relevant subgroup. Baseline means, standard deviations, and intracluster correlation coefficients for each variable are calculated using baseline survey data. Minimum detectable effects (MDE) indicate the smallest change from baseline detectable at the 5% level of significance. The MDEs for all index variables are in standard deviations, the MDE for ln(PCX) is a percent, and the MDEs for all other other variables are in percentage points. The standard deviation of an index created using Anderson (2008)'s approach is not mechanically 1 because of weighting by the inverse of the covariance matrix in index construction.

Appendix Table 10. Minimum Detectable Effects for Key Outcomes by Hazardous Child Labor Subgroups

	Engaged in Hazardous Child Labor				Not Engaged in Hazardous Child Labor			
Variable	Baseline Mean	SD	Minimum Detectable Effect	Intracluster Correlation Coefficient	Baseline Mean	SD	Minimum Detectable Effect	Intracluster Correlation Coefficient
Reports Family Firm, Ag or Non-Ag (%)	72.18	44.83	9.76	0.18	53.57	49.88	10.60	0.18
Family-Based Economic Activity Index	0.07	0.47	0.07	0.05	-0.03	0.35	0.07	0.14
ln(PPP Adjusted USD Household Monthly Per Capita Expenditure)	4.30	0.60	11.78	0.13	4.28	0.57	11.13	0.14
Food Security Index	-0.03	0.44	0.10	0.19	0.01	0.45	0.08	0.10
Child Schooling Index	-0.06	0.68	0.12	0.09	0.06	0.60	0.12	0.17
Child Well-Being Index	-0.03	0.67	0.10	0.03	0.00	0.68	0.10	0.04
Child Economically Active in Past 7 Days (%)	96.34	18.78	3.06	0.06	71.74	45.03	8.84	0.14
Child Works For Pay in Past 7 Days (%)	31.73	46.55	7.55	0.06	2.42	15.37	2.49	0.07

The sample includes all children 10-17 interviewed in the baseline child survey and in the relevant subgroup. Baseline means, standard deviations, and intracluster correlation coefficients for each variable are calculated using baseline survey data. Minimum detectable effects (MDE) indicate the smallest change from baseline detectable at the 5% level of significance. The MDEs for all index variables are in standard deviations, the MDE for ln(PCX) is a percent, and the MDEs for all other other variables are in percentage points. The standard deviation of an index created using Anderson (2008)'s approach is not mechanically 1 because of weighting by the inverse of the covariance matrix in index construction.

Appendix Table 11. Minimum Detectable Effects for Key Outcomes by Urban and Rural Subgroups

	Urban				Rural			
Variable	Baseline Mean	SD	Minimum Detectable Effect	Intracluster Correlation Coefficient	Baseline Mean	SD	Minimum Detectable Effect	Intracluster Correlation Coefficient
Reports Family Firm, Ag or Non-Ag (%)	50.58	50.02	13.03	0.13	65.36	47.59	7.60	0.17
Family-Based Economic Activity Index	-0.06	0.32	0.10	0.22	0.04	0.44	0.05	0.05
ln(PPP Adjusted USD Household Monthly Per Capita Expenditure)	4.38	0.56	16.08	0.16	4.26	0.58	7.48	0.10
Food Security Index	0.01	0.47	0.11	0.10	-0.01	0.44	0.06	0.13
Child Schooling Index	0.13	0.71	0.18	0.13	-0.03	0.61	0.08	0.12
Child Well-Being Index	0.01	0.66	0.13	0.06	-0.02	0.68	0.07	0.04
Child Economically Active in Past 7 Days (%)	73.96	43.91	10.14	0.09	85.38	35.33	4.35	0.08
Child Works For Pay in Past 7 Days (%)	15.06	35.79	5.24	0.01	15.56	36.26	3.77	0.05
Child is in Child Labor in Past 12 Months (%)	68.12	46.62	8.80	0.07	74.82	43.41	4.97	0.08
Child is in Hazardous Child Labor in Past 12 Months (%)	40.91	49.19	10.27	0.05	45.53	49.81	5.92	0.07

The sample includes all children 10-17 interviewed in the baseline child survey and in the relevant subgroup. Baseline means, standard deviations, and intracluster correlation coefficients for each variable are calculated using baseline survey data. Minimum detectable effects (MDE) indicate the smallest change from baseline detectable at the 5% level of significance. The MDEs for all index variables are in standard deviations, the MDE for ln(PCX) is a percent, and the MDEs for all other other variables are in percentage points. The standard deviation of an index created using Anderson (2008)'s approach is not mechanically 1 because of weighting by the inverse of the covariance matrix in index construction.

Appendix Table 12. Minimum Detectable Effects for Key Outcomes by Complete and Incomplete 4Ps Subgroups

	Complete 4Ps				Incomplete 4Ps			
Variable	Baseline Mean	SD	Minimum Detectable Effect	Intracluster Correlation Coefficient	Baseline Mean	SD	Minimum Detectable Effect	Intracluster Correlation Coefficient
Reports Family Firm, Ag or Non-Ag (%)	55.62	49.70	10.53	0.15	65.75	47.47	8.64	0.18
Family-Based Economic Activity Index	-0.02	0.50	0.07	0.04	0.03	0.35	0.06	0.14
ln(PPP Adjusted USD Household Monthly Per Capita Expenditure)	4.26	0.57	8.51	0.05	4.31	0.58	10.09	0.16
Food Security Index	0.01	0.46	0.08	0.08	-0.02	0.43	0.07	0.14
Child Schooling Index	-0.02	0.62	0.12	0.12	0.02	0.65	0.11	0.14
Child Well-Being Index	0.01	0.66	0.10	0.06	-0.02	0.68	0.07	0.03
Child Economically Active in Past 7 Days (%)	82.32	38.16	6.49	0.08	82.86	37.69	5.83	0.12
Child Works For Pay in Past 7 Days (%)	14.07	34.78	4.71	0.04	16.31	36.95	4.13	0.04
Child is in Child Labor in Past 12 Months (%)	72.16	44.84	7.37	0.09	73.89	43.93	5.49	0.06
Child is in Hazardous Child Labor in Past 12 Months (%)	40.59	49.12	8.76	0.07	46.84	49.91	6.18	0.06

The sample includes all children 10-17 interviewed in the baseline child survey and in the relevant subgroup. Baseline means, standard deviations, and intracluster correlation coefficients for each variable are calculated using baseline survey data. Minimum detectable effects (MDE) indicate the smallest change from baseline detectable at the 5% level of significance. The MDEs for all index variables are in standard deviations, the MDE for ln(PCX) is a percent, and the MDEs for all other other variables are in percentage points. The standard deviation of an index created using Anderson (2008)'s approach is not mechanically 1 because of weighting by the inverse of the covariance matrix in index construction.

Appendix Table 13. Balance of Baseline Variables for Endline Non-Attriters

Variable	Treatment Mean	Control Mean	Difference
Age of child			
Child is female			
School attendance rate of child over last 7 days			
Child is grade(s) behind			
Child is economically active in last 7 days			
Child is in child labor in last 12 months			
Child is in hazardous child labor in last 12 months			
Child works for pay in last 7 days			
Household survey respondent is female			
Household size			
Number of children in household			
Household receives government transfers other than 4Ps or KASAMA in last 12 months			
Household reports family firm in last 12 months (own-income generating activity including non-farm activities, agriculture and livestock)			
Family firm generated income in last 12 months (PPP adjusted USD)			
Food expenditure as a share of non-durable expenditure in past 30 days			
ln(PPP adjusted USD household total monthly per capita expenditure)			
Household has savings			
Household has loans			
Household had a shock in last 12 months (death, grave illness, loss of employment or business failure, loss due to a disaster, harvest failure, or displacement)			
Household had an illness in past 30 days			
Household has outmigrants in last 24 months			
Barangay population (2010 Census)			
Family Economic Activity Index			
Food Security Index			
Schooling Index			
Child Well-Being Index			
Observations			
F-statistic on test of joint significance			
p-value on test of joint significance			

The sample includes all children interviewed in the child survey at both baseline and endline (panel children). Columns 1 and 2 report the mean of the variable for the treatment and control groups respectively. Column 3 reports the difference (Column 1 - Column 2). Standard errors are in parentheses. The final two rows of the table report the omnibus F-test of the joint significance of all the differences in the column above and the associated p-value. Indices are created following Anderson (2008)'s approach. The standard deviation of an index created is not mechanically 1 because of weighting by the inverse of the covariance matrix in index construction. ***p<0.01, **p<0.05, *p<0.10.