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Final Thesis Draft

"Quantitative Impact Assessment of Mozambique's Cash Transfer Pilot Program"

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Table of contents:

1. Introduction

Mozambique, a southeastern African country, is one of the poorest and most underdeveloped countries in the world. Inefficient government policies, harsh climate conditions, severe droughts and, most recently, the Mozambican civil war that lasted for fifteen years and its ongoing have consequences significantly affected the economic situation of the country. Every year the United Nations Development Program (UNDP) releases the Human Development Report that gives the human poverty index (HPI-1). The index gives a multi-dimensional alternative of well-being that is equivalent to $1.25 a day (PPP US$). It focuses on the proportion of people who are not expected to survive to age 40 as a measure for living a prolonged life, the adult illiteracy rate as a measure of education, and on the proportion of people without access to an improved water source and the number of children under five years old who weigh less than well nourished children of the same age as a measure of a decent standard of living. When taking all these factors into account, Mozambique is ranked 127th among 135 countries for which the index is available. While the index intuitively is a better measure of people's well-being, one should not completely dismiss other growth indicators such as official poverty lines and economic growth rates.

According to UNICEF, despite the fact that Mozambique has experienced remarkable economic growth in the past few years, the country still faces many challenges that prevent it from eradicating poverty. UN Mozambique reports that between 1997 and 2007 Mozambique's annual real GDP growth averaged about 9%, which was greater than the continent's average. During the same period Mozambique also experienced significant reductions in poverty. Despite this fact, however, poverty incidence remains very high: in 2007, 74.7% of Mozambique's population lived below $1.25 a day, the international poverty line set by the World Bank (UNDP).

Even though Mozambique has experienced a significant poverty reduction, it has not affected everyone in the same way. Lower education and income levels and limited access to health facilities, clean water, and sanitation held back economic development in rural areas. According to *Trabalho de Inquérito Agrícola* (TIA) in 2005 approximately seventy percent of Mozambican population was officially rural. Joseph Hanlon (2007) in his study indicates that in 2005 43.1% of the rural population in Mozambique was extremely poor (i.e. receivingincome less than half the official poverty line) while 23.7% were slightly below the poverty line. Therefore, greater reductions in pervasive poverty and a more extensive economic growth could be expected if more benefits were delivered to the most vulnerable group, i.e. people in the rural areas.

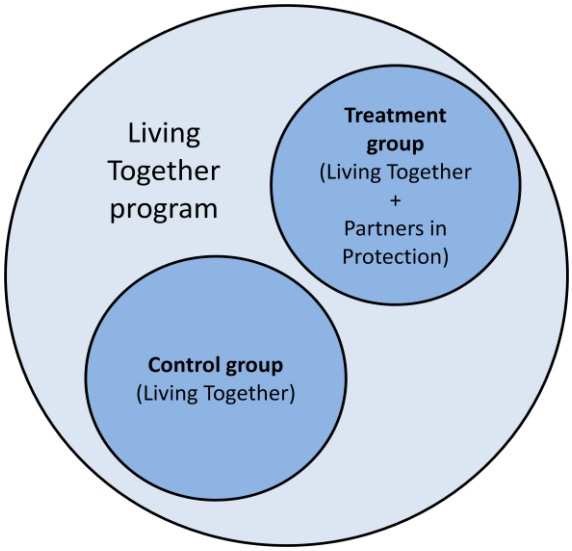
Incapable of alleviating poverty among its residents, Mozambique relies heavily on external economic and humanitarian assistance from other governments and various international organizations. According to UNICEF, foreign aid comprised 55% of the planned state budget in 2009.

In 2002 several communities in the rural area were assigned the Living Together program. Supported by UNICEF, the program provides the "services package"; that is, it "provides assistance with income, land, small loans for agricultural production, access to water and sanitation, and other basic needs" (UNICEF website). The list of benefits goes further and envelops various services in health and nutrition areas, education sector, legal and financial services, and etcetera. Selection of villages to the program was based only on social criteria: the population of villages is comprised of large shares of orphans and elderly people. Besides UNICEF, another organization working in this area is HelpAge International (HAI). It is an international organization "striving for the rights of disadvantaged older people to economic and physical security; healthcare and social services" (HelpAge International). In 2006 the Dutch

government sponsored the organization's efforts to implement a 42 month unconditional cash transfer pilot program in Mozambique. The program is called Partners in Protection. The aim of this program is to improve quality of life and well being of the most vulnerable groups, by increasing the government's capacity to deliver well targeted and cost effective social protection programming.

In 2007 the Partners in Protection program was randomly assigned to a subset of communities that have been participating in the Living Together program. The villages receiving cash transfers form the treatment group. To have a comparable counterfactual, a further randomly selected subset of the "Living Together" communities was assigned as a control group. Figure 1 summarizes the assignment of the villages to the treatment and control groups. Households in the control group that participate in the Living Together program receive only services. Households in the Treatment group participating in both the Living Together and Partners in Protection programs, receive cash on top of the same services. Since everybody gets a services package, the only difference between the two groups – the treatment and the control groups – is the receipt of cash transfers by the treatment group.

Figure 1: Assignment of the villages to the groups



This paper describes various impacts from the first 22 months of a 42-month randomized intervention in Mozambique that provides unconditional cash transfers to several communities in the rural area. For the randomized evaluation strategy I concentrate on such outcomes as child and adult labor, school attendance of children, hunger rate, purchase of non-durable and durable goods. The villages selected for the experiment were first surveyed before the inception of the Partners in Protection program in November 2007; the new program officially started in early 2008. The second wave of the surveys took place in November 2009, almost two years after the initiation of the cash transfers program. Since I have data for two groups for two periods, before and after the introduction of the program, I am able to compare how outcomes changed in the treatment area relative to the control area that did not receive the Partners in Protection program's benefits. The main approach that will be used in the study is difference-in-differences analysis.

Both of these programs – the Living Together and the Partners in Protection – were introduced in the rural areas of the southern part of the country. This area is known for its dry climate; thus, the higher frequency of droughts makes poor households even more vulnerable to climatic and economic shocks. Any minor calamity further weakens the coping mechanisms of households located in rural areas and aggravates vicious cycle of poverty among the rural population. The programs are intended to soften the consequences of severe economic shocks, to ensure more economic stability in rural areas and to protect the poor not only in the short run, but more importantly in the long run.

It is important to discuss differences and relationship between short run and long run economic development. For example, consider two households that are receiving the same amount of money every month; however, one household spends all its money on food and various non-durable goods, and another household spends half of transfers on food and the other

half is invested in cattle or other durable goods. Cash transfers help both households to eliminate everyday hunger – so the utility of both households increases in the short run, although possibly to the greater extent in the first household. However, if any natural disaster or other economic shock occurs, the household that spent all its money on food will have a harder time recovering from a shock and will be more likely to fall back to poverty again. On the other hand, while well-being of the second household will decrease as well, the fact that it has been investing in durable goods increases its chances of overcoming the consequences of a crisis in a shorter period of time without falling back to the initial state of poverty. In this case, cattle serve as a security against random shocks, since when a shock occurs, the animals can be sold to generate extra income.

Besides being a self-insurance against economic shocks, another benefit of saving and investing is an increase in household's income in the future. One of such examples is investment in a child's education. Investment in education raises productivity of a child in the future: an educated child is able to earn more money as an adult than an uneducated child. By investing in education today, a household increases the odds of having higher incomes tomorrow. The main issue, though, is that households considering such an investment face a dilemma: to ensure higher incomes in the future they need to cut current consumption. Rational households would take into account the lifespan benefits and would be investing more in their children's education and other long term benefits. However, in reality poor households tend to underinvest in education and spend more on current consumption (for example, food and non-durable goods). The main reason is that market failures, behavioral economics considerations and difference in interests between parents and children prevent poor households from making optimal choices.

On the other hand, spending the cash on current basic needs may be optimal if taking into account the extreme poverty levels in the rural area in Mozambique. Under this scenario, food and non-durable goods in fact reduce vulnerability of households by covering subsistence needs.

Only after satisfying its basic needs and improving short-term welfare, the poorest households will be able to turn to fulfilling developmental long run goals, such as sending children to school and increasing employment of working age people within the household. In fact, the spending on basic needs, and especially on nutrition, can also be viewed as some sort of long-term investment. For instance, healthy nutrition of infants in their early childhood affects their cognitive abilities and intellectual capacity in the following years and guarantees the long-term development.

The evaluation of the impacts of the cash transfer program will help us understand what the poor of Mozambique think to be their most important needs. Their responses to received unconditional cash transfers will give us a better idea about optimal decision making in poverty conditions: do the households spend cash transfers mostly on short-term poverty mitigation or on long term development? Illustration of the impacts of the social protection program on various important socio-demographic and economic indicators will help us design better social protection policies. If the goal is to achieve outcomes that are different from the choices made by the Mozambicans receiving unconditional cash transfers, the findings of the study will help to develop and organize a better scaled-up program. For example, if the main objective will be to increase school enrollment of children, should the cash transfers become conditional, or should the unconditional cash transfers be bigger to ensure the desired level of investment?

When evaluating the pilot program, I look at the most important short run and long run outcomes. One expects that poor household receiving cash transfers first of all satisfy their basic necessities; namely, they eliminate food shortage and make minor improvement of everyday life, i.e. they might buy more non-durable goods such as clothes, shoes, soap and detergent to wash clothes. Once they have enough money to cover essential needs, they withdraw children from the labor force. Finally, once households become better-off and are able to accumulate some savings,

they turn to accomplishing long-lasting goals, such as sending children to school, reducing the informal and increasing the formal paid employment of adults within the household. Following this logic I look at the marginal effects of cash transfers on hunger incidence, child labor, acquisition of non-durable and durable goods, school enrollment of children and adult labor.

2. Discussion and Literature Review

A substantial amount of research has been done on evaluating anti-poverty programs and discussing short-term and long-term effects of cash transfers and the interrelation between the two effects. This randomized study will complement the existing worldwide literature on the impacts of unconditional cash transfers on various economic indicators and on overall well-being of the poor, and will be especially valuable for experience of the African continent.

2.1. Food security

According to Ahmed et al. (2007) who evaluates various food and cash transfers in Bangladesh, it is essential for people to meet their dietary needs in order to live a healthy life and to perform productive activities. Since a household's access to food depends on food prices, available incomes, and "the asset or resource base" (page 2), a disruption in one of these components can adversely affect the availability of food in a household. The poor are particularly vulnerable to shocks, such as natural calamities or a poor harvest, that produce temporary food insecurity. These shocks unexpectedly raise food prices; since households are unprepared for these changes, they may experience transitory food insecurity that eventually may result in dismal consequences. On the other hand, increased disposable incomes improve access to food in the short term, and may help to secure a household against short-term income shocks. For example, if a household invests in assets that can be sold during hard times or invests in agricultural machinery, tools, or land that can be used for farming, then it secures its access to food even in a case of a shock. Therefore, the link between food and income is the most essential

one when considering survival of the ultra-poor. It goes without saying that since food is an essential element for people's existence, this is the first area of spending of cash transfers by the ultra-poor.

In their study, Ahmed et al. (2007) analyzes the performance of various programs introduced in Bangladesh that aim to help the poor in improving their well-being. Some of the outcomes they look at are per capita food expenditure and individual calorie intake. Participation in all programs discussed in the study leads to statistically significant increases in spending on food. The same conclusion is made about individual calorie intake. Although the authors find that all programs, both distributing cash and food rations, improve the food security of households, they conclude that the greatest improvement occurred in the groups that received in-kind transfers.

Another study performed by Samson and Heinrich (2009) uses the propensity score matching technique to evaluate the effects of the Child Support Grant in South Africa. The study reveals that after adjusting for differences between the treatment and control groups, "the effect of receipt of the CSG on reducing hunger is two to three times larger than the unmatched difference of 0.024" (page 21). They conclude that the CSG has a positive and statistically significant impact on reducing child hunger.

2.2. Non-durable and durable assets

Ahmed at al. (2007) examines the effect of various anti-poverty programs on ownership of productive assets. The authors claim that ownership of assets plays an important role in income generation. For example, a bicycle, a cheap substitute for more expensive means of transportation such as a bus or a car, enables dwellers of remote areas to commute into bigger towns outside a village and seek for jobs there. A bicycle plays an important role in the rural area and is by far the main means of transportation on longer distances. Another example is a plough;

while a household has to cut current consumption levels in order to acquire it, at the end a household finds it easier to perform farming work and to generate its own food. Therefore, ownership of physical assets increases current utility and protects households and individuals from income shocks, because assets can be sold when a household is out of money. While possession of assets improves coping strategies, their absence is both a cause and a consequence of poverty. Thus, cash transfers, by ensuring access to assets by a household, play an important role in securing its long-term well-being.

Ahmed et al. (2007) find significant increases in acquisition of durable goods (such as cooking utensils, furniture, and radio) across various safety net programs in Bangladesh. They find that various programs had 41% to 81% increases in purchases the durables, and all estimates are statistically significant. On the other hand, mixed evidence is found in the case of productive assets (excluding livestock and poultry). While some programs have statistically significant impacts on productive assets, one of them does not show any significant results.

Banerjee and Duflo (2009) present evidence from India where they studied the effects of loans obtained through microcredit. They find that wealthier households with existing businesses at the time of the program invested more in durable goods while the consumption of non-durable goods did not change. On the other hand, households with lower probability to start their own businesses are likely to spend the loan on non-durable goods. In rural villages durable goods are mediums for saving. It is difficult to accumulate savings in a poor rural community: a relative can always knock at the door asking for money, cash can be destroyed by a flood or stolen. Therefore, many poor people with an access to microcredit invest loans in durable goods. The same logic can be applied to cash transfers. When households become wealthier they are more likely to invest in durable goods as a means of savings.

2.3. School attendance

Almost all studies agree that education is a key component of successful development strategies. An enormous number of studies that analyzes the effects of cash transfers look at school enrollment and school attendance of school age children.

The previously mentioned study of Samson and Heinrich (2009) find that a receipt of the Child Support Grant has a statistically significant positive effect on school attendance. Another study done by Coady and Parker (2004) performs a cost-effectiveness analysis of supply-side (expansion of school system) and demand-side (subsidies of investment in education) interventions of PROGRESA program in Mexico. The study indicates that the program had significant effects on enrollment in secondary school for boys and girls with coefficients on the program dummy being similar in the models with and without inclusion of supply-side characteristics. This suggests that improvements in school enrollment come mainly from a demand-side (i.e. from subsidies to the poor) of the program. In general, the total program impact on boys was an increase of 8 percentage points in the fall of 1998 and of 5 percentage points in 1999; for girls, these increases were equal to 11 and 12 percentage points respectively.

Schultz (2001) also examines how the PROGRESA program affects school enrollment in rural Mexico. The author compares poor children from the treatment communities to those children residing in control communities. The study calculates difference-in-differences estimates by grade and sex and finds statistically significant improvements in school enrollment. The effect for girls is always larger than the effect for boys. For example, the study finds that at the secondary school level, "the average enrollment effect of the program across the three post-program rounds in the panel sample is an increase of 9.2 percentage points for girls and 6.2 percentage points for boys, from their initial levels of 67 and 73 percent, respectively" (page 22).

Another piece of evidence from Mexico comes from a study of Behrman, Parker and Todd (2009). The study evaluates medium-term effects of the PROGRESA program package, including nutritional components, on school performance of young children. Besides subsidizing school attendance Oportunidades (formerly PROGRESA) distributed fixed nutritional grants to younger children in the treatment group which was expected to improve intellectual capacity and increase school achievement of school age children. The study exploits the experimental data to compare the effects of 5.5 years versus 4 years of exposure to the program, and uses non-experimental data to compare the effects of 5.5 years of exposure versus no exposure. The authors employ both matching and non-matching estimators and find consistent and important improvement in schooling indicators of children in the treatment areas.

Since PROGRESA/Oportunidades is a conditional cash transfer program, the question is whether improved schooling outcomes can be attributed to increased incomes or to the condition put on individuals. It might be the case that benefits of the program are a result of combining both the income effect associated with the receipt of cash and the "price effect" associated with condition. Baird, McIntosh and Ozler (2009) address this question and present evidence from Malawi that describes the effects from the first year of a two-year program on enrollment and literacy in English of schoolgirls. The study's design applies a random assignment of villages to three groups: control group, a group receiving unconditional cash transfers, and a group receiving conditional cash transfers. The study design makes the study unique since it allows the authors to isolate the impact of conditionality on schooling outcomes (school enrollment and English literacy). The study finds strong average effects of the program on school enrollment, "but only small marginal impacts from increased transfer size or conditionality" (page 5). The main result is that an unconditional $5/month transfer made to a household has a large statistically significant positive effect on school enrollment; however, the authors cannot reject

the hypothesis that "the marginal impact of an increase in the total transfer size [from $5 to $10 to $15, or making it conditional] on school enrollment is zero" (page 22).

Edmonds (2005b) analyzes a household's response to anticipated incomes in the context of South African Old Age Pension receipt. Unconditional cash transfers received by a pensioner are large enough to potentially affect a household's behavior prior to their receipt; since their receipt is really anticipated by household members, they may decide to change their behavior accordingly. The author compares two types of households: those that are eligible for the pension and those that are nearly eligible. While these households are similar in other observable characteristics, the only difference is the timing of income. Given this, the author finds that in rural areas the anticipated large cash transfer to the elderly are associated with significant increases in school attendance and substantial drop in children's working hours. The effect of timing of income for boys appears to be more sensitive than for girls; this makes sense since the boys are the ones who engage in the labor market more actively and who therefore have lower school attendance rates.

Another study that looks at the effect of cash transfers is presented by Ravallion and Wodon (2000). They estimate the effects of targeted enrollment subsidies in rural Bangladesh. A lot of measures including cash transfers were taken to reduce high child labor rates in Bangladesh. Cash transfers were designed with the idea that decreased opportunity costs would cause children to withdraw from the labor market and enroll in schools. As the authors say, "extra current income to poor families from child labor comes at the expense of the children's longer term prospects of escaping poverty through education" (page 173). Therefore, by pulling children out of the labor market and enrolling them in schools, cash transfers were supposed to ensure long-term development and an escape from the poverty trap. The study finds strong positive effects on school attendance. A transfer with a value less than the mean child wage was

sufficient to ensure significant increases in school attendance. Enrollment subsidies also reduced child labor incidence. However, child labor declined by far less than increased schooling. The authors conclude that in reality parents try to assure income gains through access to the program without drastically changing earnings from a child's work.

2.4. Child labor

Although not as publicly condemned in rural Mozambique as in more developed countries, one still expects that most parents try not to send their children to the labor market. Most of the studies exclude farm work or child care from a child labor definition, and look at the children who are most vulnerable to transitioning between school and work, i.e. at those who just completed primary school (around 10 years old).

Since sending children to the labor market is the ultimate measure taken by the poor, it is expected that even the smallest increases in income can reduce child labor. Edmonds and Schady (2008) examine the effects of cash transfers on child labor in Ecuador. Their main hypothesis is that the impact of cash transfers on child labor "should be concentrated among children most vulnerable to transitioning between school and work" (page 2). Specifically, the authors conjecture that for young children for whom opportunity cost of time spent in school is low, cash transfers will have no effect on time allocation. For older children who are already in the labor market, the size of cash transfers might be too small to induce them to re-enter school. However, the greatest effect is expected for children who are still in school but who are facing substantial increases in schooling costs; these are the children who complete primary school and have to make a decision whether to withdraw from school or continue their studies. Keeping this in mind, the study finds that receipt of cash is associated with less work for pay, reduced school drop-outs, "fewer children working without attending school" (page 2), and increased amount of

domestic work for children age 10 and older. As expected, older children and younger children are less likely to be affected by cash transfers receipt.

Another study done by Janvry et al. (2005) investigates whether conditional cash transfers protect children from consequences of shocks on school enrollment and work. The study uses panel data obtained from randomized assignment of communities to Mexico's Progresa program. The researchers predict that during an income shock, conditional cash transfers can have a strong effect on school enrollment even for children who have low utility for schooling but high utility for cash. On the contrary, since the condition applies to schooling and not to work, the authors hypothesize that transfers should not have much effect on preventing parents from sending their children to the labor market as a response to an income shock. Their main finding is that whereas conditional cash transfers protect children from withdrawing from school in response to an income shock, they do not prevent child labor from increasing. Thus, the income effect is not sufficient to affect household's decision about child labor during income shocks.

2.5. Adult labor supply

One of the most controversial questions is how cash transfers affect employment of working-age individuals. On one hand, increased incomes may encourage household members to substitute working hours with leisure, while discouraging them from looking for jobs and entering the labor market. In fact, evidence from South Africa presented by Marianne Bertrand, Douglas Miller and Sendhil Mullainathan (2000) supports this idea. The authors looked at cross-sectional data and investigated the effects of the Old Age Pension receipt by pensioners on the labor force participation of prime-age men living in households with elderly people. Their findings indicate that working age men are considerably less likely to work when they live with a pensioner. However, as Bertrand et al. (2000) suggest, this does not apply to all ages of the

elderly but rather there is a clear labor supply the discontinuity "at the age of 60 for presence of female elders and 65 for presence of male elders in the household" (page 4). In general, they find that looking at discontinuity regression at the age-eligibility threshold an extra rand (South African currency) reduces the likelihood of employment by 0.02 percentage points. These results support the idea that receipt of cash transfers has a negative causal effect on labor force participation of prime-age men within a household.

The authors emphasize that these negative changes in labor supply may occur for two reasons. First of all, increased family incomes produce an income effect: with an increase in disposable income, household members increase their leisure consumption and decrease their labor supply. Moreover, one expects that the elderly are prone to transfer part of their pension to the more needy relatives. The more the needy relatives work, the less money they will receive from pensioners, while the opposite will hold for less hard-working people. This in turn will have the disincentive effect similar to the one produced by other government programs: "the marginal dollar of income is taxed […] by a reduction of transfers from the elderly" (page 3).

On the other hand, increased income may encourage household members to participate in job searching more actively and to increase their labor supply. There exist various implicit and explicit costs associated with participation in the labor market. One of the costs to entering the formal labor market is substitution of farm work by formal employment. The subsistence farming and agriculture are the most common income generating activities in the rural areas; by entering the formal labor market an individual has to forgo subsistence work.

Another constrain that prevents the poor from entering the labor market is a financial constraint. Due to lack of financial resources, a household might find it difficult to send its members to look for jobs. For instance, it is possible that some household members do not actively engage in a job search because they do not have sufficient amount of money to cover

their travel and communication expenses or produce necessary documents. In these instances, increased income may assist family members to overcome financial constraints and may induce working age people to participate more in the labor market.

One piece of evidence supporting this idea comes from South Africa. Cally Ardington, Anne Case and Victoria Hosegood (2007) find positive effects of cash transfers to elderly people on employment of prime-age adults. Using panel data, the authors look at actual and potential labor migrants and discuss constraints that might influence people's decisions to become or to cease being a labor migrant. They argue that with the receipt of pension by the elderly, total household income increases, "which increases the odds that the […] household has funds to support a labor migrant until he or she becomes self-supporting" (page 38). While they also talk about the childcare constraint that limits potential migration, overall, they conclude that pension receipt positively affects labor supply through both of these channels. Ardington et al. suggest that, on average, gaining pension is associated with a 3 percentage point increase in employment status.

A final piece of evidence that suggests negative correlation between labor supply and the pension receipt was given by Dorrit Posel et al. (2005). The authors use cross-sectional data and find no statistically significant negative impact of the pension on incentives of prime-age people to migrate to work or look for work. However, once they disaggregate the analysis by gender, they find positive effects of the pension receipt on labor migration of females. They also suggest that this effect is partially attributable to the fact that presence of the elderly in a household makes it possible for grandmothers to support their grandchildren. This evidence supports the idea that labor supply increased due to eased financial and childcare constraints.

Given these two contradicting ideas it is difficult to predict how labor supply will behave in response to increased household income. One of the main differences is that studies used

different datasets: the study that found positive effects used panel data whereas the rest of the studies used cross-sectional data. Moreover, the study done by Bertrand et al., does not include labor migrants but concentrates only on people within a household. Since it ignores those individuals who benefited from the receipt of the cash transfer and became employed labor migrants, it underestimates the true positive effect of the transfer. This fact gives more credibility to the evidence of the positive labor supply response to the cash transfers since it also accounts for people who actually moved out and went to look for jobs outside their communities. In any case, the effects of cash transfers on adult employment are ambiguous and depend on a dataset and approach. Overall, there is ample evidence that cash transfers have positive effects on a household's development in both the short and long runs.

2.6. Literature review: Summary

To wrap up, existing literature review demonstrates positive effects of cash transfers on different economic indicators. Most of the studies find substantial increases in food consumption and improved diet. There is also a lot of evidence on increased acquisition of non-durable and durable goods. Most of the studies also suggest statistically significant reductions in child labor cause by the receipt of cash transfers. The effects of cash transfers on school enrollment and adult labor are more ambiguous. While most of the studies agree on positive effects of conditional cash transfers on school enrollment, the effect of unconditional cash transfers is less obvious. Finally, the effects of cash transfers on adult labor are sensitive to inclusion of control variables, especially the variable on a migration status. This study adds more evidence on how the unconditional cash transfers get spent by the poor households and how money affects overall well-being of poor households.

3. Description of the programs, communities and villages

3.1. Description of the programs

HelpAge International provides documentation with descriptions of areas from which villages were selected and assigned to the given groups. It has also provided more specific information about the programs; namely, transfer size distributed to the treated households and a package of services assigned to the control, and therefore, to the treatment group.

Recall that the study focuses on two programs introduced in rural Mozambique: Living Together and a pilot phase of Partners in Protection. As previously mentioned, the Partners in Protection program was randomly assigned to a subset of the communities receiving Living Together program's benefits (in the study referred to as the Treatment group) and a further subset of communities was randomly assigned as a control group. Besides receiving cash, households in the Treatment group (participating in the Partners in Protection program) are being delivered the same services as households in the control group (participating in the Living Together program). Since Partners in Protection program is a subset of Living Together program the only difference between the two groups is the receipt of cash transfers, assuming everyone receives Living Together services (Table 1). Villages were assigned randomly assigned to the treatment and control groups from the list of villages participating in the Living Together program. This will be crucial for the further evaluation strategy.

Table 1: Assignment of the groups, programs and benefits

Control group	Treatment group
Living Together	Partners in Protection + Living Together
Services	Services + cash

The present cash value received by households that were assigned to the Partners in Protection is 100MZM for a single person plus 50MZM for each dependant to a maximum of

300MZM. With the current exchange rate of 33MZM/$ on informal market this amounts to at least $3 per household per month, with another $1.5 per each dependent (per capita income in Mozambique is equal to $26.7/month). Assuming that the average number of dependents (children 0-17 years old) is equal to 2.05, the average monthly income gain per household is approximately equal to 202.5MZM, or $6.13 (compare to per capita income of $370 annually, or $30.8 per month).

The Living Together services package received by both treatment and control groups includes access to six basic services: health, nutrition, legal and financial services, education, water and sanitation, protection. According to the HelpAge International, in practical terms this means "access to documents (IDs), latrines and boreholes built in the communities, material support to vulnerable children in schools (uniforms, school books pens etc), psychosocial support and vocational training, civic education on rights and entitlements, HIV/AIDS awareness raising and support to people living with HIV, income generating activities for households unable to benefit from the PSA, community managed social assistance funds and support to household and community agriculture". All the activities are coordinated by an older peoples committee.

3.2. Description of the villages

Briefly, all of the communities are rural and are located in the Tete province in Mozambique, a remote region 1500 km away from Mozambique's capital Maputo. The districts are dry and there exist a lot of socio-economic differences across communities. Families engage extensively in farming which is one of the major means of subsistence: most of the families get their food from their farms and are self-dependent. The more detailed description of the communities is shown in the Appendix (Table A and Table B).

4. Data

4.1. Data collection

The data used in the study was collected by the HelpAge International from seven villages in the treatment and control group. The survey consisted of two waves: the baseline study conducted in November 2007 and the follow-up survey that took place from November 11 to November 28, 2009.

The 2007 baseline survey collected data when the Living Together program was already running but before the Partners in Protection program was implemented. The total number of 211 households including 618 individuals was surveyed. As of November 2007, surveyed households did not know yet that they would start receiving cash transfers in the future. This fact ensures that people did not change their behavior in response to anticipated future cash transfers. The Partners in Protection program started right after the baseline survey, in early 2008. The data was collected again, after the new program was running. This time the total number of 162 households including 481 individuals was surveyed.

In 2007, 315 individuals (117 households) belonged to the treatment group and 303 (94 households) to the control group; in 2009, 214 people (80 households) were surveyed in the treatment group and 267 (82 households) in the control group.

Both waves of the survey consisted of identical questionnaires that inquired about general information on the household, education, health, employment, hunger/nutrition and living conditions of the members of the household.

4.2. Identifying individuals with data in both years

In order to identify individuals who were present in both years of the survey, a panel data had to be created to see who participated in the survey in 2007 and did not participate in 2009. I went through the list of all individuals for whom I had any data, household by household

comparing names of all members of a given household for both years. While perfect matches between the two waves were identified immediately, more work had to be done with the many names that did not match perfectly. Those names that were recorded differently in two periods but which at the same time seemed to identify the same people (looking at both recorded names and some basic individual characteristics), were substituted by their names as they appeared in 2007. Table C in the Appendix presents a couple of examples of the process of identification of individuals. Since in many cases I had to use my own judgment, errors in identifying individuals are unavoidable.

4.3. Attrition

According to design of the study, those villages and households that were surveyed in 2007 should have been re-surveyed in 2009. However, many problems emerged when interviewers came back to the communities. A lot of households have moved out from the areas, many people have died, while new comers occupied abandoned houses or joined already existing households. The main problem of these trends is that a non-random attrition of households and individuals could potentially cause biases in the estimates. Therefore, to minimize the chances of getting biased results, it is important to address a question of attrited households and individuals. Table 2 provides percentages of households and individuals in each group for which data was collected in 2007 and which were not surveyed in the following year and vice versa.

Table 2: Levels of Attrition and New Comers

Group	Attrition level		New Comers level	
	Household	Individuals	Household	Individuals
Treatment	32.4%	49.2%	3.8%	28.3%
Nr. of ind.	38/117	155/315	3/80	63/223
Control	12.8%	44.6%	1.2%	37.3%
Nr. of ind.	12/94	135/303	1/82	100/268

As can be seen from the table, the greatest attrition has occurred in the Treatment group: 32.4% of households and 49.2% of individuals who were surveyed in 2007 were not found in

2009; in the control group these numbers are equal to 12.8% and 44.6%, respectively. While attrition on the household level was determined easily, attrition on the individual level was more troublesome. For example, Table 2 suggests that 28.3% of new individuals and only 3.8% of new households joined villages in the treatment group between 2007 and 2009. One of plausible explanations is that many family members joined already existing households, and only a few new dwellers migrated to the communities and built new houses in the area. Nevertheless, the fact that these numbers may be overall misleading is a more convincing explanation for the high percentages of attrited individuals and newcomers. Because inconsistent names and ages made it hard to identify the same individuals in both years, and I was rather conservative in matching the names, some "attritted" individuals and "newcomers" could in fact be the same people. So, the actual levels of attrition and newcomers will get as high as the numbers in Table 2 but due to the failure to match the same individuals they are likely to be lower.

According to the documentation of HelpAge International, the main reason for that is that a lot of households moved out and many people died that year. Unfortunately, high levels of attrition could aggravate the problem of potential bias. One of the reasons is that the main purpose of the study is to analyze the effects of receiving the cash transfers relative to not receiving the cash transfers. Due to attrition in the groups, it becomes more difficult to get reliable estimates of the effects of cash transfers on various outcomes of interest without having a sufficient number of the treated. If the balanced dataset was constructed with high attrition levels (and high number of new comers), we would exclude many observations from the sample; specifically, we would exclude those individuals that have data for one year but do not have data for the other. The issue is that in this case initially we already had quite a small sample size. If many individuals and households were excluded due to the attrition, the sample would shrink even further, which would threaten reliability of the estimates and maximize the chances of small

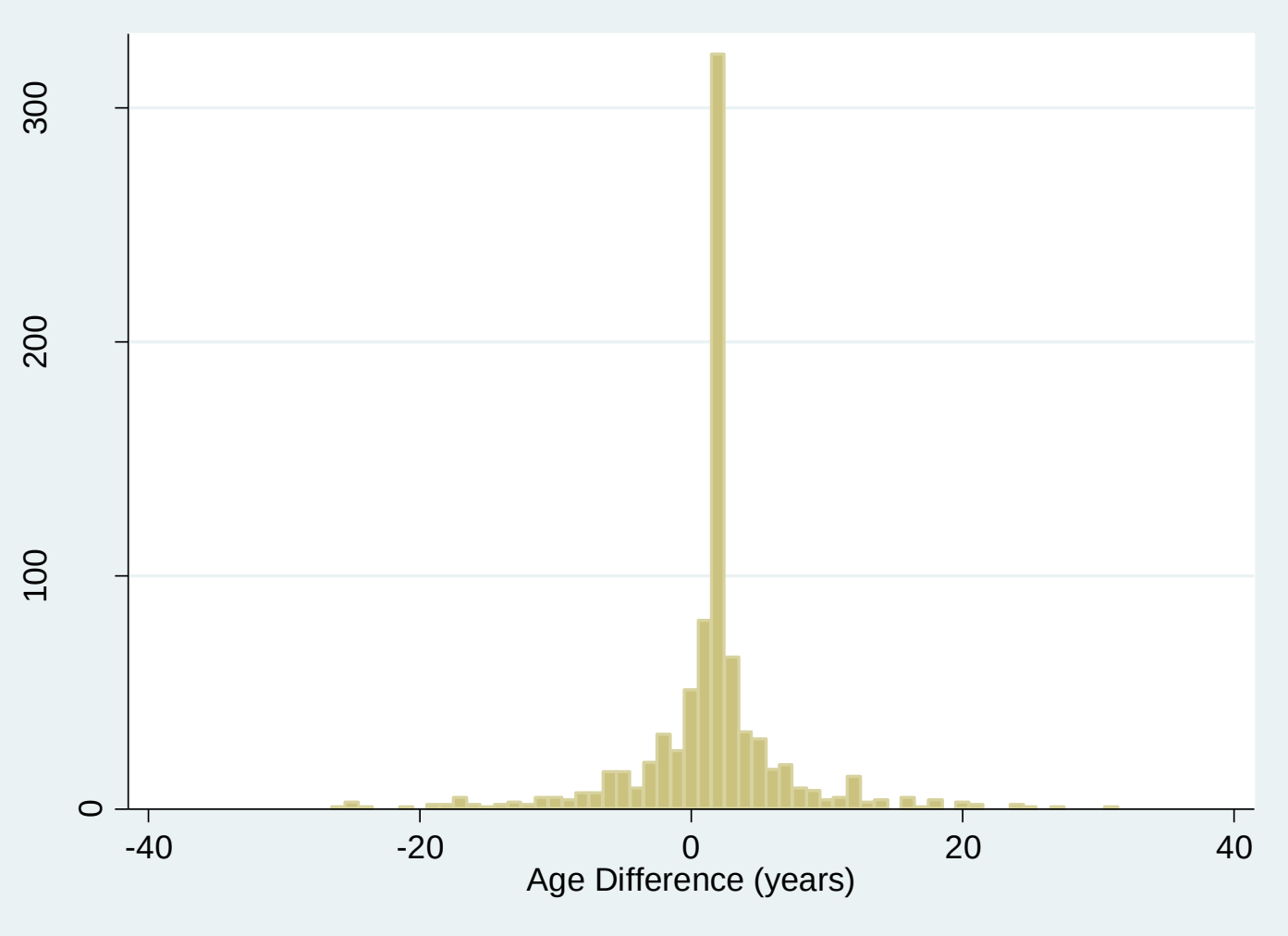
sample bias due to random fluctuations. Moreover, a non-random attrition and error term correlated with attrition could also threaten the estimates.

4.4. Problematic variables

Another problem encountered while cleaning up the data was unreliability of several variables. First of all, after I identified individuals who were in the sample for both years (using all data I have) I was able to look at the changes in ages for each individual over the period of two years. Ideally, one would expect the age of each individual to go up by roughly two years between 2007 and 2009. However, as it can be noticed from Figure 2, the values of changes in individuals' ages vary quite widely with a negative change of age by 26 years being on the lower bound and a positive change of age by 31 years being on the upper bound. This suggests that at least one of the ages reported by individuals in fact is not their true age. While these large numbers could possibly suggest mismatched people, it is quite unlikely, since I was very conservative in identifying the same individuals.

Fluctuating ages reported in surveys is not an unusual phenomenon in developing countries. Many people, especially people coming from rural areas, might not have any birth certificates, and thus might not even know their exact age. Most of the reported age differences are clustered around the interval 0 to 3 (suggesting that most individuals "grew" by 0-3 years between 2007 and 2009 which is roughly the same as one would expect). Numerically, 38.2% (333 out of 872) of individuals reported an increase in their ages by exactly 2 years between 2007 and 2009; an increase between 0 and 3 years was experienced by 60.8% of respondents (530 out of 872). The relatively low age misreporting rate gives more credibility to the estimates.

Figure 2: Distribution of age differences for each individual between 2007 and 2009



A high number of missing values for variables could also produce biased estimates. It is important to discuss the extent of non-response rates in the given dataset. Although the number of missing responses in 2007 dataset varies quite a lot across various groups and variables, for most of the variables percentages do not exceed 7% (Table 3: Non-response rate). The only category that has a much higher percentage of missing answers includes questions that inquire information about economic activity and incomes of households. For example, while 459 (30.5%) out of 1,502 individuals reported that they did not perform any economic activities or receive any financial support and thus did not have any monthly income, the rest 1,042 (69.5%) individuals indicated that they had some monthly income. However, only 434 of those

individuals disclosed their monthly incomes, while the rest 609 individuals preferred to keep it confidential. The mean income of 2007 sample is 289.93MZM which is based on the limited data available for 434 individuals. Reported incomes vary significantly with 5MZM being the minimum reported income and 8960MZM being the maximum. However, since only a relatively small part (434 out of 1,042, or 41.6%) of the total number of individuals with incomes revealed values of their incomes, these numbers cannot be considered reliable estimates. These numbers are similar when looking only at the treatment and control groups.

One of the main reasons for these high non-response rates is that it is difficult to get answers to questions of a type: "on average, how much is received from some sort of economic activity?" or "what is your monthly income?" from individuals who might not even have any disposable income or whose incomes fluctuate irregularly from one month to another without any consistent pattern. Other possible explanations for these systematic non-response rates might be stigma of extremely low income people, an unwillingness to disclose high income or simply an individual's wish to keep financial information confidential. In any case, consistently missing responses on economic activity and income data might incur a problem of potential bias if it were included in the analysis. To avoid this problem I did not include any of the variables asking about income or any other monetary value in the further analysis. Instead, I substituted these variables by other indicators that reflected economic well-being of households and individuals. Namely, to minimize the chances of getting biased estimates, I used such indicators as asset ownership, access to various services and characteristics of a dwelling to describe economic status of a given household. Unlike income variables, these indicators do not have many missing responses to questions.

5. Methodology

In the analysis, to estimate the effect of cash transfers on various outcomes I used several techniques: a simple difference-in-differences method, regression analysis and propensity score re-weighting technique.

5.1. Simple difference-in-differences

First of all, I performed simple difference-in-differences analysis and compared outcome means of participants and non-participants before and after the program. To do so, I compared means of each outcome of interest for each year (2007 and 2009) across two randomly assigned groups (treatment and control). Then I looked at outcome changes between 2007 and 2009 across each group; finally I took a difference of those changes to get an estimate of how an outcome changed over time in the treatment group relative to the control group. Stock and Watson (2007) claim that the main reason why the difference-in-differences estimator has an advantage over the cross-sectional difference estimator is that it eliminates pretreatment differences in the outcome variable. If treatment is correlated with the initial level of the outcome before the intervention, then cross-sectional differences estimator will contain bias but difference-in-differences estimator will not. Moreover, this method controls for the trends that are changing over time in the same way across different groups, i.e. it controls for time series and omitted factors that can create biases in time series and cross-sectional analyses respectively.

The difference-in-differences approach can be illustrated by the following example. Assume that in the year 2007 literacy rate in the control group (services but no cash transfers) was 20%, while in the year 2009 it reached 30%. At the same time assume that literacy rates in the treatment group (services and cash transfers) increased from 40% in 2007 to 80% in 2009. Looking at the mean differences in 2009, one could conclude that cash transfer receipt yielded a 50 percentage points increase in literacy rates; the cash transfer program would seem to be

extremely efficient in increasing literacy rates. However, in reality, there could be various trends other than the receipt of cash transfers occurring in both regions (for example, increasing incomes in communities over time) that could also be attributable to increasing literacy rates. Therefore, to fish out the true impacts of cash transfer program, we want to compare the changes that occurred across both groups between 2007 and 2009. First, consider the changes between 2007 and 2009 in the control group (which did not receive cash transfers): literacy rates increased by 10 percentage points. The "without cash transfer" outcomes tell us how factors other than the receipt of cash transfers improved the impact indicator, i.e. literacy rates in this case. Now, to extract these other impacts from the "with cash transfers" outcomes and measure the true effects of the program, we construct the second difference. Once we take into account a "natural" 10% increase in literacy rates, the "with the project" difference of 40% minus the "without project" difference of 10% yields an impact attributable to cash transfer program equal to 30 percentage points. As can be seen from this example, the conclusions about the true effects of cash transfer programs might be completely different when using various techniques: the former result on the change in literacy rates in the treatment group significantly overestimated positive performance of cash transfers program.

5.2. Regression analysis

The main shortcoming of this method is that while simply looking at the changes in means across two groups we cannot include any explanatory variables. Therefore, one way to improve the existing model and to get more precise results would be to perform the same analysis using a regression model. Identical results can be obtained from a regression analysis on the same outcome variables and three dummy variables. In this model, the dependent variable is the outcome variable, while the array of independent variables include three dummies: *D09*, *T* and *D09*T*. A dummy for year 2009 (*D09*) takes a value of 1 for the data obtained in 2009 and 0

for the data of 2007. It tells us how things were changing over time in both groups. The second dummy, a dummy for treatment (*T*) takes a value of 1 if an individual or a household received treatment and a value of 0 if it did not, i.e. if he/she was in the control group. It controls for group specific time invariant characteristics. Finally, the third dummy variable (*D09*T*) is the interaction term between these two dummies which tells us how the outcome variable for the treatment group changed over time relative to the control group, which is what we were looking at in the simple difference-in-differences analysis. Therefore, the effect of being in the treatment group in year 2009 is captured by the equations of a type:

$$Y_{it} = \beta_0 + \beta_1 D09 + \beta_2 T + \beta_3 D09*T + \epsilon_{it},$$

where Y_{it} is a variable of interest for individual *i* in year *t* and ϵ_{it} is an error term. Standard errors are robust and clustered by villages. Regressions that use heteroskedasticity-robust standard errors account for the fact that standard errors might have variable variance given any value of the explanatory variable. A clustered sample is a cross-sectional data set where each observation belongs to a well-defined cluster; in our case observations are clustered by villages. The "cluster" option accounts for an intraclass correlation and tells us how observations vary within a cluster, while variation of error terms across clusters is assumed to be independent.

To make the model more efficient I extend it by adding more explanatory variables. According to Stock and Watson, the inclusion of additional determinants reduces the variance of the error term and gives more precise estimates. In addition to this, since the sample size is small, controlling for various characteristics helps to minimize this possibility of random differences between the groups. The general form of the augmented regression model takes the form of:

$$Y_{it} = \beta_0 + \beta_1 D09 + \beta_2 T + \beta_3 D09*T + X + \epsilon_{it},$$

where X is an array of control variables. Different control variables are added in the child and adult related outcomes and household level regressions.

All household-level variables included in the regressions (both unweighted, weighted and logit functions) use only preprogram information to avoid controlling for any variables that could have been affected by the program. On the other hand, individual-level explanatory variables use characteristics of the actual year (2007 or 2009) which are unlikely to have been affected by the program (for example, age). The exception is a total number of people living in a household and demographic composition of a household. Even though the variables are household level characteristics, I include them for the actual year. I assume that demographic composition of a household is unlikely to change notably in response to the program's benefits: since villages are remote an inflow of migrants joining households because of received cash is likely to be low.

5.2.1. Regression analysis: child related outcomes

Tables included in the Results section contain coefficients from regression models used in the analysis. Each table contains four columns, each representing a separate regression model. For child related outcomes, Column (1) shows coefficients obtained from the regression model that includes only three dummy variables: ***D09***, ***T*** and ***D09*T***. As expected, the coefficient on the interaction term (*D09*T*) gives precisely the same estimates as the difference-in-differences analysis.

Column (2) contains a slightly extended model; besides the dummy variables, it controls for a child's gender, presence of a living parent and a total household size.

Column (3) uses a full set of explanatory variables. I include the same three dummy variables and then control for a child's gender (*ChildGender*), presence of living parents (*ParentLiving*), ability of a household head to read and write (*HeadRead*), total household size (*HhSize*), household head's age (*HhHeadAge*) and whether it is a female headed household or not (*WomHeadedHh*). In addition to this, I include demographic variables; namely, the number of children of different ages within the household (*HhChild0_7*, *HhChild7_14*, *HhChild14_17*),

the number of working age males (*HhWorkingAgeMale*), and the number of elderly people within the household (*HhElderly*). I also control for 2007 household level characteristics such as whether a household owned a bicycle (*Bike*) and a radio (*Radio*) in 2007 and whether it has purchased some non-durable goods in the past month (*NonDurables*). I include dummies for good walls (*Walls*) and ceiling (*Ceiling*) conditions and control for location variables, such as time needed to get to a transport stop (*DistTransportStop*) and to the nearest primary school (*DistPrimarySchool*). Finally, I include individual age dummies (*AgeDum*). The augmented model looks like:

$$Y_{it} = \beta_0 + \beta_1\, D09 + \beta_2\, T + \beta_3\, D09{*}T + \beta_4\, ChildGender +$$
$$\beta_5\, ParentLiving + \beta_6\, HeadRead + \beta_7\, HhSize + \beta_8\, HhHeadAge + \beta_9\, WomHeadedHh +$$
$$\beta_{10}\, HhChild0\_7 + \beta_{11}\, HhChild7\_14 + \beta_{12}\, HhChild14\_17 + \beta_{13}\, HhWorkingAgeMale$$
$$+ \beta_{14}\, HhElderly + \beta_{15}\, Bike + \beta_{16}\, Radio + \beta_{17}\, NonDurables$$
$$+ \beta_{18}\, Walls + \beta_{19}\, Ceiling + \beta_{10} DistTransportStop +$$
$$+ \beta_{11}\, DistPrimarySchool + \gamma_i + \epsilon_{it},$$

where Y_{it} is an outcome variable, γ_i is an array of age dummies. Recall that all household level characteristics (except for demographic composition of a household) use preprogram data while all individual level variables use information of the actual year. In addition, I add some variables that account for missing values of controls; for example, a variable "missing bike" takes a value of 1 if a value for variable "bike" is missing and 0 if not. Then I recode a variable "bike": it takes a value of 1 if a household owns a bike and a value of 0 if it does not or its value is missing. This technique preserves every piece of information.

Column (4) adds household dummies that control for household specific time invariant characteristics of a household. To control for household fixed effects I restrict the sample to those households that have data for both periods excluding households that contain data only for

one of the years. Since inclusion of household fixed effects controls for any characteristics of households that are constant over time, I exclude all time invariant household level data (*Bike, Radio, NonDurables, Walls, Ceiling, DistTransportStop, DistPrimarySchool*) and a treatment dummy *T*. However, I still control for demographic composition and a total size of a household despite the fact that those are also household level characteristics. The regression that uses household dummies looks like:

$$Y_{it} = \beta_0 + \beta_1 D09 + \beta_2 D09*T + \beta_3 ChildGender +$$
$$\beta_4 ParentLiving + \beta_5 HeadRead + \beta_6 HhSize + \beta_7 HhHeadAge + \beta_8 WomHeadedHh +$$
$$\beta_9 HhChild0\_7 + \beta_{10} HhChild7\_14 + \beta_{11} HhChild14\_17 + \beta_{12} HhWorkingAgeMale$$
$$+ \beta_{13} HhElderly + \gamma_i + \delta_i + \epsilon_{it},$$

where Y_{it} is an outcome variable, γ_i is an array of age dummies, δ_i represents households dummies.

5.2.2. Regression analysis: adult (18 years and over) related outcomes

Analogically, for adult related outcomes, I include four different regression models. Again, Column (1) presents the regression model that includes the three dummies; the coefficient on the interaction dummy is identical to the estimates of the difference-in-differences analysis.

Column (2) besides including these dummies also controls for an individual's gender, total household size and distance to the transport stop.

Regression in Column (3) is similar to the one outlined in the previous section. This time, however, I do not control for a presence of a living parent, distance to the nearest primary school and household head's age. Thus, the regression model takes the form of:

$$Y_{it} = \beta_0 + \beta_1 D09 + \beta_2 T + \beta_3 D09*T + \beta_4 AdultGender +$$

$$+ \beta_5 HeadRead + \beta_6 HhSize + \beta_7 WomHeadedHh + \beta_8 HhChild0\_7 + \beta_9 HhChild7\_14 +$$

$$+ \beta_{10} HhChild14\_17 + \beta_{11} HhWorkingAgeMale + \beta_{12} HhElderly + \beta_{13} Bike + \beta_{14} Radio$$

$$+ \beta_{15} NonDurables + \beta_{16} Walls + \beta_{19} Ceiling + \beta_{17} DistTransportStop + \gamma_i + \epsilon_{it},$$

where Y_{it} is a dependent variable, γ_i is an array of age dummies, and ϵ_{it} is an error term. Standard errors are robust and clustered by villages. Household level characteristics use data of 2007, individual level characteristics use data of the actual year, and I add variables that account for missing values of control variables.

Finally, similarly to the previous model, Column (4) includes household dummies. The regression model includes the same variables except for household level characteristics (*Bike, Radio, NonDurables, Walls, Ceiling, DistTransportStop*) and a treatment dummy *T* for the reasons mentioned in the previous section.

5.2.3. Regression analysis: household level outcomes

Finally, I run some regressions using household-level data. I exclude households that contain data only for one of the years and leave only those households that contain data for both years. For this reason coefficients on the interaction term from the regressions do not coincide with the difference-in-differences estimates. Column (1) includes only three dummy variables and Column (2) represents the augmented regression model that controls for distance to the nearest transport stop, number of working age people in a household and total household size.

Column (3) presents the regression model where independent variables are slightly different from the model that employs individual-level data. Specifically, I control for a number of divisions in a house (*NrDivisionsHouse*), total household size (*HhSize*), whether it is a woman headed household or not (*WomHeadedHh*). Moreover, I included location variables, such as time needed to get to a transport stop (*DistTransportStop*) and to the nearest food store or market

(*DistFoodStore*), and demographic variables; namely, the number of children of different ages within the household (*HhChild0_7*, *HhChild7_14*, *HhChild14_17*), the number of working age males (*HhWorkingAgeMale*), and the number of elderly people within the household (*HhElderly*). Finally, I add dummies for maximum educational attainment within the household and control for household fixed effects. Therefore, the regression model used to estimate impacts of cash transfers on different household-level outcomes looks as follows:

$$Y_{it} = \beta_0 + \beta_1 D09 + \beta_2 T + \beta_3 D09*T + \beta_4 NrDivisionsHouse + \beta_5 HhSize + \beta_6 WomHeadedHh + \beta_7 DistTransportStop + \beta_8 DistFoodStore + \beta_9 HhChild0\_7 + \beta_{10} HhChild7\_14 + \beta_{11} HhChild14\_17 + \beta_{12} HhWorkingAgeMale + \beta_{13} HhElderly + \gamma_1 EducDum1 + \gamma_2 EducDum2 + \dots + \gamma_4 EducDum4 + \epsilon_{it},$$

where Y_{it} is a dependent variable of interest, and ϵ_{it} is an error term. Again, standard errors are robust and clustered by villages. Also, all characteristics use the actual year information, since none of these control variables are likely to be affected by the treatment.

Finally, Column (4) includes household fixed effects. The regression excludes a treatment dummy and other household level data variables (*NrDivisionsHouse, DistTransportStop, DistFoodStore).*

5.3. Propensity score re-weighting analysis

I use the regression model outlined above to look at marginal effects of cash transfers on various outcomes; namely, hunger rate, ownership of durable and non-durables goods, school attendance of children, and various measures of child and adult labor. Since villages in the treatment and in the control group were assigned randomly, this analysis is limited to observations from these two groups. Even though according to the design of the study the assignment of the villages to the groups was random, one might suspect that due to non-random

attrition there might be systematic differences across the groups. Therefore, to compare similar individuals, we might also want to use other techniques.

One of such techniques is a propensity score re-weighting technique. The main goal is to solve a problem of selection bias that might arise due to non-random selection of individuals to different groups. This can be achieved by comparing participants with non-participants who are very similar based on some relevant observable characteristics *X*. By finding comparable individuals based on their observable characteristics, we maximize the chances that these individuals will also be similar in their unobservable characteristics. The analysis constructs weights based on observable characteristics of individuals that put a greater weight on observations from the treatment group from 2007 and from the comparison group in 2007 and 2009 that are similar to observations from the treatment group in 2009.

Weights for observations in each of these categories are created for the treatment group in 2007, for the control group in 2007 and for the control group in 2009. To do so, first, I estimate three logit regressions that include a set of explanatory variables. Notice that the array of observed characteristics used to construct logit function and to predict probabilities of being in the treatment group in 2009 includes both individual and household-level variables. As mentioned before, household-level variables included in the logits use only preprogram information, and individual-level explanatory variables use characteristics of the actual year (2007 or 2009).

Logit regressions include various household-level characteristics (total number of people in a household, number of children 0-7, 7-14 and 14-17 years old, number of working age males, number of elderly, walls and ceiling condition, distance to a transport stop and a primary school, ownership of a bicycle and a radio, acquisition of non-durable goods) and individual-level variables (gender, dummies for age, whether it is a woman headed household or not, a presence

of a living parent, age of a household head and his or her ability to read and write). Complete logit regressions for children and adults used to estimate propensity scores can be found in the Appendix (Table D and Table E).

Based on observable characteristics, each logit function predicts a given observation's probability, λ, to be assigned to the treatment group in 2009. As Caliendo and Kopeignig (2008) say the scores describe probabilities of being in the treatment group in 2009 given observed characteristics X. Therefore, each observation is assigned a value between 0 and 1: the dependent variable is equal to 1 if an observation is in the treatment group in 2009 and 0 otherwise. Thus, the higher the score λ is, the more probable it is that given observed characteristics the observation would be in the treatment group in 2009.

Weights are constructed based on Austin Nichols' paper (2007). According to the researcher, weights should be applied only to the control group "in order to make the mean of each variable in the matrix X (i.e. those variables included in the propensity score model) approximately equal across the treatment and control groups" (page 1). Once means of explanatory variables in the control group are similar to the means of the treatment group, it becomes possible to examine the effect of cash transfers on outcome variables among similar individuals. Each observation in the treatment group in 2009 has a weight of 1; each observation in the treatment group in 2007 and in the control group in 2007 and 2009, has a weight equal to $\omega = \lambda/(1-\lambda)$. Consequently, every single observation in the control group and in the treatment group in 2007 is thus preserved and weighted so that the means of the untreated population as close to the means of the treated population as possible.

A brief example will illustrate why the weight is equal to $\omega = \lambda/(1-\lambda)$. Consider two groups – the treatment and the control group – of equal sample sizes. Let z be a variable for education which takes a value of 1 if a person is educated and a value of 0 if he is not. Assume

that the mean for *z* is 0.4 in the treatment group and 0.6 in the control group. This suggests that people in the control group are more educated than people in the treatment group. It also suggests that an educated person has a probability of 0.4 to be found in the treatment group. Therefore, propensity scores, λ (i.e. probability of being in the treatment group) for the control group are distributed as follows: for an educated person λ=0.4, and for an uneducated person λ=0.6.

Let's take weights as given in Austin Nichols' paper and show that we can equalize the means across the groups by weighting observations in the control group using $\omega = \lambda/(1-\lambda)$. Recall that the mean for *z* is 0.4 in the treatment group and 0.6 in the control group. To make means equal, we should weigh the mean for the untreated group to get $0.4 = 0.6 * \lambda/(1-\lambda)$. The equation will hold if λ=0.4 and this is precisely what we have derived before: λ=0.4 for an educated person. This example confirms that to make means equal we should weigh control means on a weight $\omega = \lambda/(1-\lambda)$.

After running logit functions and obtaining propensity scores, I run regressions identical to the ones outlined above on the same outcome variables; this time, however, I weigh each regression using the constructed weight which is $\omega = \lambda/(1-\lambda)$:

$$\boldsymbol{Y_{it} = \beta_0 + \beta_1 D09 + \beta_2 T + \beta_3 D09*T + X + \epsilon_{it},}$$

where $\boldsymbol{Y_{it}}$ is an variable of interest for individual *i* in year, ***D09*** is a dummy for year 2009, ***T*** is a dummy for treatment, ***D09*T*** is an interaction dummy between D09 and T, ***X*** is a collection of observable characteristics and $\boldsymbol{\epsilon_{it}}$ is an error term. Standard errors are robust and clustered by villages. For each outcome variable, the regressions weighted on propensity scores correspond to their unweighted counterparts and include the same sets of control variables. Columns presenting results for weighted regressions represent regression models, identical to the ones showing results for the unweighted regressions.

6. Summary statistics

To see how different the villages in the groups were prior to the program onset it is worth looking at 2007 summary statistics across the groups. Table 3 provides descriptive statistics for some important variables with reported p-values; a t-test is used to compare the means of a normally distributed variable of two independent groups. The test is used to test the hypothesis whether sample means of two groups are equal. Therefore, Column 4 (Difference (Treatment minus control)) of Table 3 tells us whether the mean for a variable is different for the control group when compared to its mean for the treatment group.

Given that villages were randomly allocated to the treatment and the control groups, we expect summary statistics to be similar across these groups prior to the program start. Columns (2) and (3) of Table 3 show means for several important characteristics of the groups, such as demographic composition, dwelling characteristics, employment rates, asset ownership, and etcetera. Most of them are quite similar, while p-values suggest that differences between means for two groups are not statistically significant most of the time.

The baseline study finds that across the groups the average household size is 3.22 in the control group and 2.69 in the treatment group. A comparison of the gender distribution across the groups shows a close match with slightly more women than men surveyed: 46.7% of the treatment group and 47.1% of the control group was male. The differences in average age are small and statistically insignificant. Each group has a relatively big number of children, a lower share of adults, and a slightly higher number of older people. The treatment group contains the highest percentage of older people (34.5%), while children and adults account for 40.9% and 24.6% respectively. The pattern in the treatment group is similar: 33.9% of people are the elderly, 21.6% are adults and 44.5% are children. Noticeably, the share of adults across the groups is quite similar. This is important, since adults are the ones who engage in income-

generating activities, intra-household decision making, and, most importantly, they receive and manage grant money spending.

However, even when comparing randomly selected treatment and control group some significant differences can be noticed. On average, the treatment group contains fewer households having savings, owning bicycles and radios (8.7% and 7.0% versus 20.7% and 19.6%, respectively), and these differences are statistically significant. Moreover, the percentage of people between 7 and 17 who can read and write is 13.9% lower in the treatment group than in the control group; this difference is also significant. Finally, one of the most striking differences between the groups is ownership of livestock: in 2007, 29.8% more households owned livestock in the control group than in the treatment group, and the difference is statistically significant. This difference is explained in Table B in the Appendix. The table suggests that in 2007 several villages in the control group participated in a goat project. Although no specific information exists about the details of the project, its description implies that the difference in number of goats between the communities can be attributable to the goats program.

Table 3: Characteristics of survey populations and households from the baseline survey (2007)

Group	Treatment	Control	Difference (Treatment minus Control)	Non-response rate
Number of individuals	315	303		
Number of households	117	94		
Number of villages	4	3		
Household size (persons)	2.69	3.22	-0.53* (0.0698)	---
Female-headed household	53.8%	52.1%	1.7% (0.8048)	---
Proportion of males	46.7%	47.1%	-0.4% (0.9210)	0.40%
Average age	38.2	36.5	1.7 (0.4653)	0.73%
Population over 17 able to read and write	16.2%	15.7%	0.5% (0.8879)	0.75%
Population between 7 and 17 able to read	46.5%	60.4%	-13.9%** (0.0486)	0.19%
Savings of money earned previously	2.4%	7.0%	-4.6%*** (0.0095)	5.73%
Demographic composition				
0-6 years	9.3%	11.0%	-1.7% (0.4859)	0.73%
7-14 years	26.5%	26.2%	0.3% (0.9392)	0.73%
15-17 years	5.1%	7.3%	-2.2%(0.2594)	0.73%
18-59 years	24.6%	21.6%	3.0%(0.3780)	0.73%
Over 60 years	34.5%	33.9%	0.6%(0.8721)	0.73%
Incidence of illness of household members				
Any illness or injury in the last four weeks	25.6%	20.6%	5.0%(0.1482)	1.73%
Any illness or injury in the last four weeks	5.5%	4.8%	0.7% (0.6951)	2.89%
Malaria	37.5%	42.1%	-4.6% (0.5899)	3.33%
Flu/fever/lung infection	12.7%	11.9%	0.8% (0.8894)	3.33%
Employment				
Odd jobs	24.0%	20.9%	3.1% (0.3751)	6.13%
Manage a business?	17.5%	12.7%	4.8%* (0.0990)	3.60%
Work for wages/benefits	11.7%	14.8%	-3.1%(0.2649)	3.20%
Work in the family business for no pay	2.6%	5.3%	-2.7%* (0.0864)	2.33%
Work on a family farm	59.3%	57.6%	1.7%(0.6604)	2.20%
Dwelling characteristics				
Number of divisions in the house	1.25	1.26	-0.01 (0.9582)	12.26%
Bore hole or protected well	67.1%	63.5%	3.6% (0.6417)	27.16%
Good condition of walls	31.9%	30.1%	1.8% (0.7882)	0.96%
Good condition of ceiling	21.2%	21.5%	-0.3% (0.9632)	0.96%
Access to land for agricultural purposes	91.2%	94.6%	-3.4% (0.3510)	0.72%
Selected household asset ownership				
Ownership of a bicycle	8.7%	20.7%	-12.0%** (0.0137)	0.96%
Ownership of a radio	7.0%	19.6%	-12.6% ***	0.72%
Ownership of chickens	18.4%	16.5%	1.9% (0.7188)	1.20%
Ownership of livestock (goat, cow, pig)	13.0%	41.9%	-28.9% ***	0.24%

* p-values for the estimated differences in means are in parentheses; *** p<0.01, ** p<0.05, * p<0.1

To conclude, the treatment group and the control groups are roughly comparable in 2007 for most of the important baseline characteristics that matters for the study, suggesting the random assignment of the treatment. Still, some significant differences exist when comparing economic well-being of households between the groups. In general, it looks like communities in the treatment group are poorer than communities in the control group; children are less educated, individuals work similarly outside the household and work more in the family business for no pay.

7. Results

7.1. Child labor

7.1.1. Difference-in-differences estimates

To start with, the first outcome I look at is child labor. I define a labor variable being equal to 1 if an individual performed at least some type of paid work (odd jobs, work for wages/commission/benefits, and domestic employment for pay) and 0 if he or she did not perform any type of paid work. Under this definition of labor, Table 4 shows how percentage of children between 7 and 17 years old engaged in some sort of labor activities changed over time in the treatment group when compared to the control group.

Table 4: Difference-in-differences estimates for child labor (7-17 years old)

	2007	2009	Difference
Treatment	19.51%	3.13%	-16.38%
Control	11.36%	22.22%	10.86%
			(0.465)
Difference	8.15%	-19.09%	-27.24%
Standard error			(0.0723)

We can see that opposite trends were happening in the groups. While, on average, child labor went down in the treatment group (from 19.51% in 2007 to 3.13% in 2009) it went up in the control group (from 11.36% in 2007 to 22.22% in 2009). Therefore, a difference-in-differences estimate suggests that, on average, child labor decreased by 27.24 percentage points

more over time in the treatment area than in the control area. The changes that occurred during this period are statistically significant which grants some credibility to numerical values.

7.1.2. Regression analysis

Table 5 presents regression results on performance of any type of paid work by children. The model implies a strong negative relationship between the treatment effect in year 2009 and child labor supply. As expected, Column (1) provides the same estimates as previously obtained difference-in-differences analysis. Although coefficients vary significantly across models including various variables, all of the coefficients are statistically significant at 1% or 5% significance level. On the whole, results imply that cash transfers had a significant effect on reduction of child labor across treatment villages. When including a full set of control variables, the given regression implies that over time the treatment group experienced a 32.9-percentage point decrease in child labor when compared to the control group.

One would predict that non-orphans have extra supports from their parents and are not that desperate to enter the labor market. This specification (Column 4) shows the opposite tendency: children who have a living parent are more likely to be working which is surprising. In the same model we notice that children tend to work more in the female headed households. At first glance, this result might seem to be surprising; one would expect women to care more about their children, nieces or nephews or grandchildren and by any means would prevent sending kids to the labor market. One of the possible explanations is that female household heads might have harder time finding sufficient financial resources to support other household members. In this case they might be forced to send their children to the labor market instead of school. This coefficient is statistically significant at 1% significance level. The coefficient on household size is negative and statistically significant at 5% significance level. This makes sense, since with an increase in the number of household members, the number of individuals who could potentially

engage in income generating activities increases. Thus, there is less need to send children to the labor market, which coincides with the negative relationship between the household size and an indicator of child labor in this particular model. Children are also more likely to work with a presence of an elderly in a household.

Further, I disaggregate the labor outcome and look separately at some labor indicators. Specifically, I look at children's performance of odd jobs, work for wages/commission/benefits and work on a family farm. While not presented here, complete tables with coefficients can be found in the Appendix (Table F; Table G; Table H). Results suggest a statistically significant decrease in performance of odd jobs and work for wages/commission/benefits by children in the treatment group over time when compared to the control group. Coefficients on performance of odd jobs by children vary from negative 15.7 percentage point to negative 24.0 percentage points, and are statistically significant (Table G). Coefficients on work for wages/commission/benefits by children vary from negative 8.0 percentage points to negative 10.3 percentage points, and are also statistically significant (Table G). Since results suggest a significant decrease in child labor at multiple dimensions, one of the main questions would be: "what do children do after withdrawing from the labor market?" One of the hypotheses would be that they start working more inside the household, helping out their parents on the farm, with a family business or performing other intra-household work. To test this hypothesis I look at children's involvement in the farm work which implies taking care of animals, working on a family farm or land. Coefficients are negative and statistically insignificant (Table H); therefore, no reliable conclusions about farm work performed by children can be drawn from this regression model.

Table 5: Marginal Effects of Cash Transfers on Performance of Any Type of Work for Pay by Children (7-17 years old)

VARIABLES	(1)	(2)	(3)	(4)
Dummy for year 2009	0.109**	0.106*	0.0530	0.191***
	(0.0465)	(0.0539)	(0.0680)	(0.0490)
Interaction between dummy for treatment	-0.272***	-0.279***	-0.200**	-0.329***
and dummy for year 2009	(0.0723)	(0.0788)	(0.0798)	(0.0608)
Gender (male)		-0.0357	-0.0696	0.121
		(0.0670)	(0.0541)	(0.0750)
Living parent		-0.0329	-0.0106	0.456***
		(0.0496)	(0.0507)	(0.103)
Household head reads and writes			-0.0669	0.348
			(0.0715)	(0.211)
Minutes to primary school			0.0120	
			(0.0580)	
Distance to the nearest transport stop			0.0327	
			(0.0552)	
Good condition of ceiling in a house			0.0623	
			(0.0890)	
Good condition of walls in a house			-0.109	
			(0.0872)	
Household own bicycle			-0.0475	
			(0.0734)	
Household owns radio			-0.00693	
			(0.0843)	
Household bought non-durable goods			0.0806	
			(0.0545)	
Number of children (14-17 years) in the household			0.00853	0.0629
			(0.0435)	(0.0859)
Number of children (7-14 years) in the household			0.0617	0.157
			(0.0492)	(0.0957)
Number of children (0-7 years) in the household			0.0425	0.0805
			(0.0568)	(0.100)
Number of working age men in the household			0.105*	0.000134
			(0.0548)	(0.0682)
Number of elderly in the household			-0.0531	0.111*
			(0.0602)	(0.0527)
Total number of people in the household		-0.0111	-0.0575	-0.142**
		(0.00776)	(0.0383)	(0.0609)
Female-headed household			-0.0328	0.640***
			(0.0574)	(0.174)
Age of a household head			0.000224	-0.00207
			(0.00266)	(0.00225)
Age dummies	No	No	Yes	Yes
Household dummies	No	No	No	Yes
Dummy for treatment	Yes	Yes	Yes	No
Constant	0.114***	0.226**	0.257	-0.977***
Observations	306	303	303	181
R-squared	0.041	0.051	0.226	0.603

Robust standard errors in parentheses, clustered by villages, *** p<0.01, ** p<0.05, * p<0.1
Additional variables: missing parent living, missing ownership of a radio and a bike, missing purchase of non-durables goods, missing walls and ceiling condition, missing minutes to primary school and a transport

7.1.3. Weighted difference-in-differences estimates

Coefficients from the propensity score re-weighting analysis suggest even greater reductions in child labor in the treatment area. Table 6 implies that while, on average, percentage of children performing any type of paid activities decreased by 15.83 percentage points in the treatment group it actually rose by 14.48 percentage points in the control group. This suggests that between 2007 and 2009 children in the treatment group worked 30.31 percentage points less than children in the control group. When compared to the unweighted difference-in-differences estimates, this estimate does not differ substantially (Table 4): the unweighted estimate suggests an overtime decrease in child labor by 27.24 percentage points in the treatment group relative to the control group. The weighted difference-in-differences estimates for child labor are statistically significant.

Table 6: Weighted difference-in-differences estimates for child labor (7-17 years old)

	2007	2009	Difference
Treatment	18.95%	3.13%	-15.83%
Control	4.37%	18.85%	14.48%
			(0.0298)
Difference	14.59%	-15.72%	-30.31%
Standard error			(0.0709)

7.1.4. Weighted regression analysis

In fact, coefficients remain more negative in the re-weighted regressions across all sets of control variables in comparison to the same versions of the unweighted regressions. As Table 7 indicates, all coefficients are negative and statistically significant at 1% significance level. Weighted regression analysis indicates that over time percentage of children in the labor market decreased between 26.1 and 37.3 percentage points in the treatment group relative to the control group, depending on the set of control variables. Importantly, Column (3) suggests that boys are more likely to withdraw from the labor market; the coefficient in the third column is statistically significant at 5% significance level.

When disaggregating into components similar trends are observed. Over time children in the treatment group were less likely to perform any odd jobs (Appendix: Table I) coefficients vary between negative 38.1 and negative 34.0 (Column (4) includes dummies for households) suggesting a dramatic decline in performance of odd jobs; importantly, all coefficients are statistically significant at 1% significance level. Results are similar when looking at performance of work for wage/commission/benefits (Appendix: Table J); all of them indicate a decline in child labor and are statistically significant at 1% or 5% significance level. Finally, I look at child work on the family farm: the coefficient in Column (1) suggests a statistically significant increase in farm work (Appendix: Table K). However, coefficients vary widely from negative to positive depending on a specification, and only one of them is statistically significant (no explanatory variables added), one should not put much confidence on these results. Overall, the analysis reinforces previous findings and is consistent with negative coefficients found earlier.

Table 7: Weighted regression: Marginal Effects of Cash Transfers on Performance of Any Type of Work for Pay by Children (7-17 years old)

VARIABLES	(1)	(2)	(3)	(4)
Dummy for year 2009	0.145***	0.0976*	0.181**	0.176***
	(0.0298)	(0.0487)	(0.0748)	(0.0575)
Interaction between dummy for treatment and	-0.303***	-0.261***	-0.334***	-0.373***
dummy for year 2009	(0.0709)	(0.0759)	(0.0766)	(0.0472)
Gender (male)		-0.0744	-0.140**	0.0899
		(0.0453)	(0.0481)	(0.0513)
Living parent		-0.0210	0.0162	0.132
		(0.0765)	(0.115)	(0.103)
Household head reads and writes			-0.0874	0.138
			(0.0843)	(0.449)
Minutes to primary school			0.0512	
			(0.0705)	
Distance to the nearest transport stop			-0.0395	
			(0.0633)	
Good condition of ceiling in a house			0.0956	
			(0.137)	
Good condition of walls in a house			-0.0915	
			(0.131)	
Household own bicycle			0.0527	
			(0.149)	
Household owns radio			-0.167	
			(0.142)	
Household bought non-durable goods			0.0778	
			(0.0902)	
Number of children (14-17 years) in the			0.0383	0.0409
household			(0.110)	(0.0373)
Number of children (7-14 years) in the			0.0629	0.178**
household			(0.0755)	(0.0693)
Number of children (0-7 years) in the			0.0286	0.109
household			(0.0837)	(0.111)
Number of working age men in the household			0.114	0.163
			(0.0841)	(0.175)
Number of elderly in the household			-0.0271	0.559***
			(0.0605)	(0.184)
Total number of people in the household		0.00776	-0.0583	-0.197***
		(0.0185)	(0.0607)	(0.0439)
Female-headed household			-0.0535	0.458
			(0.0697)	(0.412)
Age of a household head			0.000319	-0.0127*
			(0.00439)	(0.00622)
Age dummies	No	No	Yes	Yes
Household dummies	No	No	No	Yes
Dummy for treatment	Yes	Yes	Yes	No
Constant	0.0437	0.0994	0.248	0.325
Observations	300	300	300	181
R-squared	0.058	0.070	0.479	0.873

Robust standard errors in parentheses, clustered by villages, *** p<0.01, ** p<0.05, * p<0.1

Additional variables: missing parent living, missing ownership of a radio and a bike, missing purchase of non-durables goods, missing walls and ceiling condition, missing minutes to primary school and a transport

To conclude, a reduction in child work for pay is consistent and statistically significant across all specifications. In fact, coefficients become more negative in the propensity score re-weighted regression analysis. When disaggregating the outcome, some evidence on reduction in child labor can still be observed.

7.2. School attendance

7.2.1. Difference-in-differences estimates

With the reduction in child labor one expects that children who are out of labor force would enroll in school. To check this hypothesis, I look at school enrollment of children aged 6-17 years old. Difference-in-differences (Table 8) shows how school enrollment among school age children (6-17 years old) changed across the two groups between 2007 and 2009. Although in both areas we see an increase in school attendance, this increase is by 0.69 percentage points greater in the control area than in the treatment area, even though this change is not statistically significant.

Table 8: Difference-in-differences estimates for school attendance among children

	2007	2009	Difference
Treatment	75%	75.71%	0.71%
Control	73.33%	74.73%	1.4%
			(0.0550)
Difference	1.67%	0.98%	-0.69%
Standard error			(0.0887)

7.2.2. Regression analysis

The coefficient on the interaction dummy in the regression model (Table 9) sways from positive to negative, however, none of coefficients are statistically significant at any conventional level. The results are inconclusive and based on this model we cannot say whether cash transfers in the treatment area improve school attendance among children or not. Nevertheless, some individual coefficients appear to be statistically significant. For instance, findings from Column 3 suggest that children living in households with a literate household head are more likely to go to

school. Column (4) indicates that children living in female headed households are less likely to attend school. Children living in a household with older people also are less likely to be enrolled in school. These two findings are consistent with ideas outlined above and positive coefficients on the same variables in the child labor model.

Table 9: Marginal Effects of Cash Transfers on School Attendance (Children 6-17 years old)

VARIABLES	(1)	(2)	(3)	(4)
Dummy for year 2009	0.0139	0.0146	0.0128	-0.0935
	(0.0550)	(0.0598)	(0.0747)	(0.0743)
Interaction between dummy for treatment and	-0.00678	-0.0137	0.0318	0.109
dummy for year 2009	(0.0887)	(0.0835)	(0.103)	(0.0633)
Gender (male)		-0.0365	-0.0244	-0.00253
		(0.0348)	(0.0344)	(0.0628)
Living parent		0.0207	-0.0206	0.190
		(0.0758)	(0.0742)	(0.127)
Household head reads and writes			0.125*	-0.254
			(0.0688)	(0.192)
Minutes to primary school			0.0647	
			(0.0666)	
Distance to the nearest transport stop			0.0749	
			(0.0452)	
Good condition of ceiling in a house			-0.0417	
			(0.0861)	
Good condition of walls in a house			0.0746	
			(0.103)	
Household own bicycle			0.00599	
			(0.0811)	
Household owns radio			0.0714	
			(0.0973)	
Household bought non-durable goods			0.0520	
			(0.0790)	
Number of children (14-17 years) in the			0.0584	-0.115
household			(0.0712)	(0.0841)
Number of children (7-14 years) in the			0.113	-0.118
household			(0.0753)	(0.0959)
Number of children (0-7 years) in the			0.105	-0.0347
household			(0.0696)	(0.0694)
Number of working age men in the household			0.0678	0.0169
			(0.0655)	(0.132)
Number of elderly in the household			-0.0483	-0.206**
			(0.0916)	(0.0939)
Total number of people in the household		0.00847	-0.0870	0.0841
		(0.00846)	(0.0494)	(0.113)
Female-headed household			-0.101	-0.691**
			(0.0583)	(0.263)
Age of a household head			0.00219	0.00758
			(0.00243)	(0.00443)
Age dummies	No	No	Yes	Yes
Household dummies	No	No	No	Yes
Dummy for treatment	Yes	Yes	Yes	No
Constant	0.733***	0.687***	0.533**	-0.565**
	(0.0311)	(0.105)	(0.179)	(0.256)
Observations	370	367	367	261
R-squared	0.000	0.005	0.142	0.426

Robust standard errors in parentheses, clustered by villages, *** p<0.01, ** p<0.05, * p<0.1

Additional variables: missing parent living, missing ownership of a radio and a bike, missing purchase of non-durables goods, missing walls and ceiling condition, missing minutes to primary school and a transport

7.2.3. Weighted difference-in-differences estimates

In contrast to simple difference-in-differences, the weighted difference-in-differences estimates have a positive sign. Over time, on average, school attendance increased by 5.81 percentage points in the treatment group and declined by 10.7 percentage points in the control group with an overall effect being an increase by 16.51 percentage points in the treatment group relative to the control group. However, the test suggests that this difference is not statistically significant.

Table 10: Weighted difference-in-differences estimates for school attendance

	2007	2009	Difference
Treatment	69.91%	75.71%	5.81%
Control	89.27%	78.56%	-10.70%
			(0.0453)
Difference	-19.36%	-2.85%	16.51%
Standard error			(0.106)

7.2.4. Weighted regression analysis

A coefficient in the weighted regression model sways from positive to negative as more variables are added although none of them are statistically significant. As expected, Column (1) of Table 11 gives exactly the same coefficient on the interaction dummy as did the weighted difference-in-differences estimate. Column (1), Column (2) and Column (3) suggest a positive effect of cash transfers on school enrollment over time though the coefficients are not statistically significant. As coefficients vary widely across different specifications and the confidence intervals are wide, we cannot make any specific conclusions from this analysis.

Coefficients on the school attendance outcome vary widely and none of them are statistically significant. The results on the school attendance are inconclusive.

Table 11: Weighted regression: Marginal Effects of Cash Transfers on School Attendance (Children 6-17 years old)

VARIABLES	(1)	(2)	(3)	(4)
Dummy for year 2009	-0.107**	-0.110*	0.0434	0.116
	(0.0453)	(0.0510)	(0.0634)	(0.0998)
Interaction between dummy for treatment and	0.165	0.181	0.0257	-0.124
dummy for year 2009	(0.106)	(0.109)	(0.118)	(0.0859)
Gender (male)		-0.0620	-0.0793	-0.0624
		(0.0352)	(0.0477)	(0.130)
Living parent		0.162	0.0797	-0.0142
		(0.104)	(0.100)	(0.0879)
Household head reads and writes			0.255**	
			(0.114)	
Minutes to primary school			-0.0692	
			(0.0419)	
Distance to the nearest transport stop			0.209***	
			(0.0619)	
Good condition of ceiling in a house			0.0244	
			(0.0487)	
Good condition of walls in a house			0.0818	
			(0.0821)	
Household own bicycle			-0.179	
			(0.135)	
Household owns radio			0.0191	
			(0.175)	
Household bought non-durable goods			-0.00765	
			(0.133)	
Number of children (14-17 years) in the			0.214	0.000828
household			(0.140)	(0.181)
Number of children (7-14 years) in the			0.246*	0.00959
household			(0.120)	(0.119)
Number of children (0-7 years) in the			0.210	0.0703
household			(0.138)	(0.192)
Number of working age men in the household			0.168*	0.131
			(0.0837)	(0.148)
Number of elderly in the household			0.0255	-0.237
			(0.106)	(0.139)
Total number of people in the household		0.000846	-0.186*	0.00353
		(0.0240)	(0.0865)	(0.150)
Female-headed household			-0.0989	-0.766*
			(0.0833)	(0.395)
Age of a household head			-0.000273	0.00778
			(0.00222)	(0.00714)
Age dummies	No	No	Yes	Yes
Household dummies	No	No	No	Yes
Dummy for treatment	Yes	Yes	Yes	No
Constant	0.893***	0.782***	0.737**	0.326
Observations	363	363	363	260
R-squared	0.037	0.063	0.353	0.593

Robust standard errors in parentheses, clustered by villages, *** p<0.01, ** p<0.05, * p<0.1

Additional variables: missing parent living, missing ownership of a radio and a bike, missing purchase of non-durables goods, missing walls and ceiling condition, missing minutes to primary school and a transport

7.3. Adult labor

7.3.1. Difference-in-differences estimates

The labor variable was defined the same way as in the previous model; this time the sample was restricted to adults (age 18 and over). Table 12 shows how percentage of adults engaged in work for pay changed in the treatment group relative to the control group between 2007 and 2009. Although adults worked less in both groups, this decrease in adult labor is more evident in the treatment group. While, on average, percentage of adults working for pay decreased by 20.03 percentage points in the treatment group it declined by 5 percentage points in the control group. This suggests that between 2007 and 2009 adults in the treatment group worked 14.95 percentage points less than adults in the control group although these findings are not statistically significant.

Table 12: Difference-in-differences estimates for adult labor

	2007	2009	Difference
Treatment	39.23%	19.2%	-20.03%
Control	42.86%	37.78%	-5.08%
			(0.135)
Difference	-3.63%	-18.58%	-14.95%
Standard error			(0.158)

7.3.2. Regression analysis

Findings from the regression model (Appendix: Table L) show negative statistically insignificant results that are sensitive to various model specifications. Since none of the coefficients are statistically significant, it is difficult to make any definite conclusions about the impact of treatment on adult labor supply. Similar trends are revealed when disaggregating an impact variable. The analysis suggests slight negative coefficients on performance of odd jobs and work for wage/commission/benefits by working age people; when including household fixed effects, the coefficient on performance of odd jobs is negative and statistically significant (Table M and Table N). When including both age and household dummies the coefficient on work for

wages/commission/benefits changes form negative to positive and becomes statistically significant in Column (4). Finally, I looked at performance of farm work by adults (Table O). None of the coefficients are statistically significant, and most of them are positive. Overall, there is no evidence that after starting receiving cash transfers, percentage of working adults changed in the treatment group when compared to the control group.

7.3.3. Weighted difference-in-differences estimates

Table 13 reports weighted difference-in-differences estimates on the same outcome variable. On average, 35.88% of working age people in the treatment area reported that they did waged activities in 2007, and this number dropped by 16.68 percentage points by 2009. On the contrary, the control area villages, on average, saw a rise in percentage of adults doing any type of work for wages: this number went from 36.47% in 2007 to 40.70% in 2009. Overall, Table 13 indicates that, on average, over time the treatment area experienced a 20.91 percentage point decrease in a percentage of working adults when compared to the control group. As in the previous model, these estimates are not statistically significant.

Table 13: Weighted difference-in-differences estimates for adult labor

	2007	2009	Difference
Treatment	35.88%	19.20%	-16.68%
Control	36.47%	40.70%	4.24%
			(0.111)
Difference	-0.59%	-21.50%	-20.91%
Standard error			0.145

7.3.4. Weighted regression analysis

Across all re-weighted regression models I find negative coefficients, although only one of them is statistically significant at 10% significance level. Column 4 of Table 14 suggests that between 2007 and 2009 percentage of prime age people in the treatment group who did any type of paid activities decreased by 18.6 percentage point relative to the control group. With

increasing number of males within a household, individuals become more likely to enter labor force. This makes sense, as some of those people entering the labor force are men themselves; as a positive coefficient on gender suggests, men are more likely than women to be in the labor market. Although positive, the coefficient on this variable is not statistically significant.

I get consistent results after disaggregating the variable to performance of odd jobs, work for wage/commission/benefits and farm work. The coefficient on the "odd jobs" performance is negative and statistically significant in Column (2) and Column (4) (when household effects dummies are added) (Appendix: Table P). The coefficient on work for wages (Table Q), on the other hand, is positive (apart from Column (4)) and is significant in two of the models; this implies that in the treatment group a percentage of adults working for wages has gone up over time (by 8.75 percentage points) when compared to the control group. The coefficients are statistically significant at 10% significance level. Finally, the analysis finds only one statistically significant coefficient on performance of farm work by adults – an increase of 16.1 percentage points (Table R).

Many coefficients are statistically significant and go the same way in both analyses. The model provides some evidence for the reduction in any type of work for pay by adults and reduction in performance of odd jobs. On the other hand, there is some evidence that adults in the treatment group worked slightly more for wages/commission/benefits, and the weighted regression analysis provides some evidence for increases in performance of farm work by adults.

Table 14: Weighted regression: Marginal Effects of Cash Transfers on Performance of Any Type of Work for Pay by Adults

VARIABLES	(1)	(2)	(3)	(4)
Dummy for year 2009	0.0424	0.0400	-0.0690	-0.0275
	(0.111)	(0.115)	(0.0924)	(0.0720)
Interaction between dummy for treatment and	-0.209	-0.210	-0.129	-0.195*
dummy for year 2009	(0.145)	(0.146)	(0.123)	(0.0911)
Gender (male)		-0.00336	-0.0340	0.170
		(0.0692)	(0.114)	(0.159)
Household head reads and writes			-0.0590	-0.0275
			(0.107)	(0.0720)
Distance to the nearest transport stop		-0.0202	0.0157	
		(0.0782)	(0.0616)	
Good condition of ceiling in a house			-0.172	
			(0.113)	
Good condition of walls in a house			-0.0288	
			(0.0874)	
Household own bicycle			-0.0745	
			(0.143)	
Household owns radio			0.158*	
			(0.0825)	
Household bought non-durable goods			0.0490	
			(0.0475)	
Number of children (14-17 years) in the household			0.00475	-0.0339
			(0.0690)	(0.157)
Number of children (7-14 years) in the household			0.100*	-0.273*
			(0.0474)	(0.145)
Number of children (0-7 years) in the household			0.0197	0.0191
			(0.0721)	(0.129)
Number of working age men in the household			0.0800	-0.133
			(0.0676)	(0.102)
Number of elderly in the household			-0.114	0.156
			(0.0883)	(0.0911)
Total number of people in the household		-0.000547	-0.0684	0.248
		(0.0184)	(0.0418)	(0.162)
Female-headed household			-0.119	-0.0627
			(0.112)	(0.0933)
Age dummies	No	No	Yes	Yes
Household dummies	No	No	No	Yes
Dummy for treatment	Yes	Yes	Yes	No
Constant	0.365***	0.378***	0.373	1.228**
	(0.0542)	(0.0926)	(0.368)	(0.483)
Observations[1]	538	538	538	460
R-squared	0.035	0.039	0.277	0.755

Robust standard errors in parentheses, clustered by villages, *** p<0.01, ** p<0.05, * p<0.1

Additional variables: missing parent living, missing ownership of a radio and a bike, missing purchase of non-durables goods, missing walls and ceiling condition, missing minutes to primary school and a transport

[1] The number of observations in the propensity score re-weighted analysis is different from the unweighted, since some observations got dropped when estimating the logit regression. For example, if there people aged 48 in the control but not in the treatment, then the age dummy perfectly predicts which group the observation is in. All these dummies get dropped and this shrinks the sample size of the weighted regressions.

7.4. Hunger incidence

7.4.1. Difference-in-differences estimates

Table 15 describes changes in hunger rates in the treatment and the control groups prior and after the program introduction. A household level questionnaire contained several questions asking how often in the last 30 days some of household members have been worried about not having enough food, have not eaten preferred food, have decreased number of meals, have gone to bed hungry or had to pass complete day without eating anything due to the lack of food. A household was defined to have a food shortage if an occurrence of at least one of these indicators exceeded three days. According to this definition, on average, hunger incidence in the treatment communities went down from 73.68% to 72.5%, while in the control communities it went up from 70.97% to 81.71%. Overall, the treatment group experienced a decrease in hunger incidence by 11.92 percentage points over time when compared with the control group. However, the test performed to test the hypothesis that overtime changes in the groups were equal reveals that there are no statistically significant differences in these changes.

Table 15: Difference-in-differences estimates for hunger incidence among households[2]

	2007	2009	Difference
Treatment	73.68%	72.50%	-1.18%
Control	70.97%	81.71%	10.74%
			(0.0827)
Difference	2.71%	-9.21%	-11.92%
Standard error			(0.0949)

7.4.2. Regression analysis

While coefficients on hunger prevalence obtained from the regression model (Appendix: Table S) are negative under all specifications, none of them are statistically significant.

[2] Standard errors in regression models do not correspond to standard errors in difference-in-differences tables. The reason is that, as I have mentioned in Methodology, for regression analysis I have excluded households that have data for one year and not for another. The dif-in-dif tables present characteristics using the entire dataset.

Therefore, it was worth disaggregating the outcome and looking at main hunger indicators separately. Nonetheless, even in this case we do not find much evidence supporting hunger rate reduction in the treatment group: even though most of the coefficients go the expected direction and show improvements in the treatment area, only one of them is statistically significant at any conventional level.

For example, households were asked how often they did not eat preferred food. The dependent variable takes a value of 1 if any of household members did not eat preferred food in the last 30 days, and takes a value of 0 if household members ate preferred food. Therefore, negative coefficients actually imply beneficial effects. When no control variables are included, Column (1) and Column (2) of Table 16 show an overtime increase in percentage of treated households that reported eating more preferred food (16.9 percentage points and 19.4 percentage points). Even though we find no effects of reduced hunger rates, there is some evidence that household's diet has improved. Nevertheless, since these estimates are sensitive to different specifications, it is difficult to draw any definite conclusions about improvement in hunger prevalence and other food related outcomes in households in the treatment area.

When looking at the coefficients separately, one can notice that coefficients (Column (3) on the number of children 0-7 and 7-14 years old and on the number of working age men living in a household are positive and statistically significant. One possible explanation for that could be that with an increase in number of dependents in a household who are supported by other household members, the same amount of money spent on food has to be distributed among a larger number of individuals. Thus, since expenditure on food remains the same while the number of dependents increases, less money can be spent on each household member; less preferred, cheaper food will be bought in this case. A consistent positive statistically significant

coefficient on the number of working age males living in a household (Column (2) and Column (3) is less intuitive.

Overall, the coefficients on all hunger indicators go the expected way, although only one is statistically significant. Households in the treatment group seem to have started more preferred food and seem to have improved their diet.

Table 16: Marginal Effects of Cash Transfers on Household's Inability to Eat Preferred Food

VARIABLES	(1)	(2)	(3)	(4)
Dummy for year 2009	0.0247	0.0383	-0.0215	-0.00780
	(-0.0479)	(0.0731)	(-0.0469)	(0.0678)
Interaction between dummy for treatment and dummy for year 2009	-0.169*	-0.194*	-0.11	-0.113
	(-0.0783)	(0.0946)	(-0.101)	(0.0877)
Number of divisions in a house			-0.0656	
			(-0.0437)	
Distance to the food store or market			0.0258	
			(-0.0198)	
Distance to nearest transport stop		0.0268	0.00724	
		(0.0240)	(-0.0186)	
Number of children (14-17 years) in the household			0.0448	-0.172**
			(-0.104)	(0.0603)
Number of children (7-14 years) in the household			0.146*	0.00426
			(-0.0611)	(0.0304)
Number of children (0-7 years) in the household			0.218*	0.195**
			(-0.108)	(0.0766)
Number of working age men in the household		0.0747**	0.202*	0.119
		(0.0266)	(-0.0846)	(0.0700)
Number of elderly in the household			0.0879	-0.0310
			(-0.0779)	(0.0593)
Total number of people in the household		-0.0197	-0.137*	-0.0411
		(0.0127)	(-0.0618)	(0.0287)
Female-headed household			-0.0688	-0.101
			(-0.0536)	(0.224)
Education dummies	No	No	Yes	Yes
Household dummies	No	No	No	Yes
Dummy for treatment	Yes	Yes	Yes	No
Constant	0.556***	0.508**	0.772***	0.744**
	(-0.0403)	(0.142)	(-0.148)	(0.215)
Observations	314	308	269	305
R-squared	0.012	0.031	0.119	0.140

Robust standard errors in parentheses, clustered by villages

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

7.5. Asset acquisition

7.5.1. Difference-in-differences estimates

A variable standing for durable goods is a dummy variable that takes a value of 1 if a household owns or has acquired in the past month at least one of the following assets: a bicycle, a radio, a bed, a clock, livestock, chickens or a piece of furniture, and takes a value of 0 if none of these items were owned or bought. Table 17 shows difference-in-differences estimates suggesting that over time households in the treatment group have acquired more durable goods than households in the control group; the difference-in-differences estimate is statistically significant at 5% significance level.

Table 17: Difference-in-differences estimates for durable goods purchases among households

	2007	2009	Difference
Treatment	32.46%	42.5%	10.04%
Control	57.3%	48.75%	-8.55%
			(0.0311)
Difference	-24.84%	-6.25%	18.59%
Standard error			(0.0579)

A household is said to own a non-durable good if it either uses detergent to wash clothes or has acquired soap, clothes or shoes in the last month. The variable takes a value of 1 if a household reported to have purchased or have used any of these items in the last month and 0 if not. Using this definition, we notice substantial changes across the two groups. After starting receiving cash transfers, households in the treatment group started purchasing more non-durables. On average, 70.73% of households in the treatment area reported having a non-durable asset in 2007, and this number grew by 12.07 percentage points by 2009. On the contrary, the control area villages, on average, saw a decrease in percentage of households acquiring any non-durable items: this number went down from 74.73% in 2007 to 70.73% in 2009. Overall, Table 18 tells us that, on average, over time households in the treatment area experienced a 16.07

percentage point increase in the ownership of non-durable goods when compared to the households in the control group. The standard error implies that these differences across the groups are statistically significant.

Table 18: Difference-in-differences estimates for non-durable goods purchases among households

	2007	2009	Difference
Treatment	70.43%	82.5%	12.07%
Control	74.73%	70.73%	-4%
			(0.122)
Difference	-4.3%	11.77%	16.07%
Standard error			(0.0712)

7.5.2. Regression analysis

When looking at the regression model that includes only households that have data for both years, I find no effect of cash transfers receipt on ownership of durable goods (Appendix: Table T); however, there is some evidence on increased ownership of non-durables. I analyze a change in purchase over time of non-durable goods by households in the treatment group relative to the households in the control group. Table 19 suggests a positive correlation between treatment effect over time and ownership of non-durables items. Yet, only one of the coefficients is statistically significant at 10% significance level; thus, it is inappropriate to draw any certain conclusions from this analysis. When I disaggregate the outcome into its compound parts, there is some evidence on increased acquisition of soap and usage of detergent. Under the same specification presented in Column (2) of Table 19, I find that over time, in comparison with the control group, 21.2 percentage points more households in the treatment group acquired soap (Appendix: Table V) and 36.8 percentage points more households in the treatment group used detergent (Appendix: Table U).

Table 19: Marginal Effects of Cash Transfers on Household's Purchase of Non-Durable Goods

VARIABLES	(1)	(2)	(3)	(4)
Dummy for year 2009	-0.0338	-0.0710	-0.0638	-0.0525
	(0.0659)	(0.0612)	(0.0933)	(0.0723)
Interaction between dummy for treatment and dummy for year 2009	0.139	0.185*	0.168	0.141
	(0.0913)	(0.0857)	(0.130)	(0.0887)
Number of divisions in a house			0.0246	
			(0.0255)	
Distance to the food store or market			0.0152	
			(0.0292)	
Distance to nearest transport stop		-0.0566**	-0.0641***	
		(0.0197)	(0.0167)	
Number of children (14-17 years) in the household			0.0225	0.0558
			(0.0582)	(0.0870)
Number of children (7-14 years) in the household			-0.121**	0.00696
			(0.0387)	(0.0673)
Number of children (0-7 years) in the household			-0.0679	0.0122
			(0.0549)	(0.0880)
Number of working age men in the household		0.0234	-0.0697	0.0608
		(0.0375)	(0.0498)	(0.0627)
Number of elderly in the household			-0.0590	0.0590
			(0.0553)	(0.0839)
Total number of people in the household		0.0178	0.0769**	-0.0605
		(0.0107)	(0.0261)	(0.0500)
Female-headed household			0.125***	-0.0260
			(0.0236)	(0.181)
Education dummies	No	No	Yes	Yes
Household dummies	No	No	No	Yes
Dummy for treatment	Yes	Yes	Yes	No
Constant	0.737***	0.857***	1.141***	0.844***
	(0.132)	(0.120)	(0.137)	(0.157)
Observations[3]	313	307	268	304
R-squared	0.012	0.070	0.133	0.069

Robust standard errors in parentheses, clustered by villages, *** p<0.01, ** p<0.05, * p<0.1

[3] Sample size in Column (4) is smaller than sample size in Column (3) since some household level variables (Distance to the nearest stop, Distance to the nearest food market and Number of divisions in a household) have several missing values for some observations. Therefore, when I include them, the sample size shrinks, and when I include households fixed effects and exclude these variables, the sample size becomes larger again.

The simple difference-in-differences show strong statistically significant coefficients on the purchases of non-durable goods and ownership of durables. However, only some evidence is found on non-durables, acquisition of soap and usage of detergent when including households that have data for both years. One of the possible explanations is that possibly, the households that attrited between 2007 and 2009 were the poorest households in the villages. This is a plausible scenario since attrition level among households was considerable (32.4%) and based on basic summary statistics, on average, households in the treatment group were worse-off than households in the control group. This possibility, however, would need to be checked using weighted regressions.

8. Robustness checks

8.1. Child labor of children 7-12 years old

One might claim that in poor countries it is normal that 17-year-old children are out in the labor force, and there is nothing wrong about it. To address this concern, I restrict my sample to children aged 6-12 years old and run the same regressions on the child labor outcome as in the previous analysis presented in Section 7.1. Tables W and Table X in the Appendix present results of the unweighted and weighted regressions, respectively, on work for pay performed by children 6-12 years old. Table W which shows results for the unweighted regressions, suggests statistically significant reductions in child labor. All coefficients are statistically significant at 1% significance level with magnitudes of coefficients being almost the same as in the previous analysis. As for the weighted regressions (Table X), the results are of smaller magnitudes and of less statistical significance; still there is some evidence for reduction in child labor. Column (1) and Column (2) find smaller and statistically insignificant results, and Column (3) and Column (4) preserve statistical significance (results are statistically significant at 10% significance level),

although magnitudes of coefficients are much smaller. To wrap up, even when looking at younger children I still find evidence for significant reductions in child work for pay.

8.2. Including land ownership as a control variable

Another suggestion is that access to land is one of the most important measures of wealth. Indeed, 91.2% in the treatment group and 94.6% in the control group had access to land in 2007. To check how sensitive the results are to the inclusion of the "land" variable, I include a variable controlling for a size of available land in regression on different outcomes that uses a full set of control variables (and excluding household fixed effects). The estimates are almost identical to the previous estimates, all coefficients remain statistically significant, and the R-squared remains almost the same. This suggests that although land ownership is a major asset in rural Mozambique, it does not significantly skew current results.

8.3. Comparing outcomes for female headed households versus male headed households

Women and men usually spend money differently. Women are prone to care more about kids living in a households and their future: they might be more hesitant to send their children to labor force and are more likely to spend money on their detergent, soap, cloths, shoes, and etcetera. Men on the other hand, spend money differently; for example, they tend to spend more money on alcohol and cigarettes. To check how cash transfers are spent in female headed households versus male headed households, I create an interaction dummy *T*D09*FemaleHeadedHH* along with *T*D09, T*FemaleHeadedHH* and *D09*FemaleHeadedHH* (and include each of the three dummies *T, D09, T*D09* separately) to see if the impact of cash transfers is different for female headed households. To determine whether female headed households spend money differently I look at the triple interaction dummy. Results form the unweighted regression suggest that in fact the coefficient on the triple

interaction dummy becomes positive (although not statistically significant) in some specifications and remains negative and statistically significant when controlling for household fixed effects. Weighted regressions, in turn, preserve negative signs on the interaction coefficient, although again only the last regression that includes household fixed effects shows statistically significant results. The magnitudes of both coefficients are striking; they suggest enormous reductions in child work for pay in female headed households.

8.4. Comparing outcomes for girls versus boys

Finally, I look at differential treatment effects by gender. Besides the three dummy variables, the regression incorporates an interaction dummy *T*D09*Gender* along with *T*D09*, *T*Gender* and *D09*Gender*. I look at the triple interaction dummy to see whether treatment effects on child work for pay are different for boys than for girls. The results are reported in the Appendix. The unweighted regression analysis shows positive coefficients on the triple interaction dummy although none of the coefficients are statistically significant. Interestingly, the coefficient on the interaction term becomes statistically significant in the weighted regression when no additional explanatory variables are added in the model. It provides limited evidence that the treatment effects were different for girls and boys, and in fact there is some evidence that the treatment effect is positive for boys.

To wrap up, even when looking at various specifications and robustness checks, the negative coefficients on the work for pay by children remain statistically significant most of the time.

9. Discussion of some other possible biases

While the findings suggest that the cash transfer program had a limited impact, it can be the case that factors other than the receipt of cash transfers were affecting individuals' behavior. For instance, one of the possible explanations is that households in the treatment group had

limited knowledge about the duration of the program. If they expected that the program would stop after the two-year period, they might have been more conservative about their expenditures decisions. Under this scenario, the households would be less likely to spend on children's schooling as this requires immediate costs and returns benefits only in the distant future. Another bias would emerge if individuals believed that their benefits are proportionate to their behavior and spending. If people in the treatment group believe that by spending more they will lose current benefits, their expenditures will be lower which will underestimate the effect of cash transfers. On the other hand, households in the control group might have been also affected by the presence of cash transfers in the treatment group. For instance, people in the control group knowing about cash transfers in other communities might be also expecting to receive benefits in the near future. In this case, the anticipation of rising incomes might induce households to increase their spending; again, this would undermine the true effect of cash transfers.

While these scenarios are possible, they are quite unlikely. The HelpAge International did not provide households with any information on the duration of the program and never informed households in the control group about possible benefits. So both the treated and the control communities had no reason to assume any changes in their current benefits. Furthermore, since the control villages are remote, it is highly unlikely any information about benefits disseminates in other communities. Unless HelpAge International directly informed untreated households, the villages were not likely to find out about the cash transfer problem. This eliminates the concern that outcomes of interest were affected by household decisions based on expected changes in current or future benefits.

10. Conclusions

The analysis estimates the marginal effects of cash transfers on general well-being of households receiving cash transfers and on their prospects for the future. It evaluates whether extra income to poor families gives them a chance to escape poverty. As mentioned in the introduction, in the long run this can happen if families who are caught in poverty trap focus on achieving longer term goals, such as investment in durable goods, education and employment.

The analysis seems to indicate that over the two year period well-being of individuals and households has improved by more in the treatment group than in the control group. The main result that is statistically significant across all main models and insensitive to several robustness checks is reduction in work for pay by children. Both the unweighted and the weighted analyses also demonstrate reductions in work for wages/commission/benefits and performance of odd jobs.

As for adult labor, the propensity score re-weighted regression presents some evidence on reduction in overall adult work for pay. In particular, there is some evidence that amount of odd jobs performed by adults has decreased, while amount of work for wage/commission/benefits went up (in both unweighted and weighted regressions). Even though the results are very sensitive to specifications, the coefficients imply that prime age people in the treatment group now substitute work at the informal market with work in the formal market, with an overall effect of any type of work for pay being negative.

Child labor has decreased to the greater extent than adult labor with the effect for children being both statistically significant and almost twice as big as the effect for adults. Nonetheless, it is quite surprising that in the baseline year only less than half of working age adults in selected communities performed any waged activity (Table 12); with this in mind, the

percentage of children in the labor market in the baseline year, despite the fact that is smaller in absolute terms, is quite large in relative terms.

The findings also show improvements in diet and increases in purchase of non-durable goods (especially detergent and soap). We also see some positive changes in school enrollment among school age children, although this estimate as well as an increase in ownership of durable goods (except for the difference-in-differences approach) is not statistically significant.

It seems that cash the transfer program has improved life in the treatment group but confidence intervals are too wide to detect economically important effects. Most of outcome variables, with exception of child labor variable, are sensitive to various specifications and propensity score re-weighting technique. We would need a better data and a bigger sample to obtain more definite estimates about the impact of the program. The problem with this analysis is that the dataset is so small and standard errors and thus confidence intervals are so large that it would be possible to detect some statistically significant effects only if the program had really big economic effects on the outcomes.

In any case, we should not expect enormous impacts since the size of cash transfers is too small to have a significant impact on long-term development. With current exchange rates, the program distributes $3 per month per household with another $1.5 per each dependent. Taking into account the fact that on average there are 2 children living in a treated household, a monthly income gain by a household is approximately equal to $6 which is around ¼ of the average monthly income in Mozambique. Given this small amount of money, it gets spent on things that, according to poor households, are the most beneficial for them. Following the rational consumer theory and the fact that households and individuals make optimal choices, the conclusion is that given cash transfers allocated in the described ways maximize utility and bring substantial benefits to households. It is possible that household members become better-off when they

reduce working hours. It is also possible that non-durable goods are exactly what they currently need: maybe by being able to buy soap and detergent households increase their utility levels and make their lives better.

Moreover, cash transfers in fact are not expected to have much effect on hunger rates and purchases of food. Keeping in mind that the majority of households engage in farming activities and gets their food supplies from growing vegetables and breeding birds and cattle, this makes sense. The amount of farming activities might be less reliant on disposable incomes but more dependent on other factors such as droughts or crop failure. Under this scenario, only in the latter case would cash transfers be used to buy food and satisfy hunger during the crisis period.

As a consequence, if the goal of the program is to make the poor better off and maximize their utility, assuming that people make rational decisions, the program must have been successful: the poor, who by assumption are rational consumers, spent the money on what they valued the most. However, if the goal set by policy makers differs from just allowing people make their own decisions, there will be several different implications for the optimal design of the policy.

The vast literature (Mexico's Progresa, Brazil's Bolsa Familia) argues in favor of conditional cash transfers pointing out strong positive effects of the programs on schooling outcomes. Intuitively, unconditional cash transfers are predicted to have smaller effects on schooling outcomes when compared to the conditional cash transfers where school attendance is an obligatory condition attached to the receipt of the grant. Taking this into account, it might be worth giving a try to introduction of cash transfers conditional on attendance to school. For example, if a mandatory school attendance was attached to the grant, children who have decreased their amount of work as a result of cash receipt would find a good use for their free time and would start attending school. As a result, well designed conditional transfers could

considerably influence behavior of individuals and determine substitution of child labor for education. In a perfect world this substitution would grant children long term prospects of escaping poverty through education.

At the first sight, successful experience of Latin American countries might seem to be a good example to follow. However, Schubert and Slater (2006) argue that it would be extremely challenging if not impossible to apply Latin American experience to low income African countries. First of all, they conclude that African governments are incapable of adequately delivering services. High absenteeism in schools and clinics, poor transport infrastructure and remoteness of villages limit the access of the poor to basic services. They conclude it is not the unwillingness of the teachers and children to invest in education "but the quantitative and qualitative constraints of the education system" (page 4). Another important reason is that administering conditionality and scaling up any program requires additional costs – conditional cash transfers have around 20% higher administrative costs than unconditional transfers. Therefore, if considered the question of conditionality needs more thorough evaluation of costs and benefits.

On the other hand, if kept unconditional, to foster more investment and promote long term benefits, policy makers might want to consider increasing the benefits in the future. However, this conclusion is too early to be made since households have been receiving cash transfers for only two years. This period might be too short to have significant impact on households' well-being. Maybe we need to wait for other twenty months to actually see significant economic results and then consider reorganizing the program. Nonetheless, given data limitations, the result on a reduction on child labor is consistent and statistically significant; and this is a very important result itself.

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Appendix

Table A: Baseline differences between the communities

Communities	Physical factors			Historic factors		Nearness to economic activity sites
	Dry southern part	Zambezi Valley	Productive northern part	Moved to protected villages	Part of moved to protected villages	
Treatment						
Cabvulancie	X				Some moved to Chitima	10 km from Chitima along the major high way to the town of Songo
Canguerewere		X		Moved to Nhacapiriri		10-15 km from the fishing village of Imboque
Chinoco		X		Moved to Nhacapiriri		10-15 km from the fishing village of Imboque
Nhacapiriri	x			Was a centre of concentration		
Control						
Wiriamo	X			Moved to Messawa		8-10km to Tete
Nhabvigogodzo and Cangudze	Is in a valley on the leeward side of the mountains which separate Zimbabwe and Mozambique. Slightly more rain. More productive					Remote

Table B: Baseline differences between the communities

Variables	Treatment	Control
Average number of people per household	Most older people who stay in Cabvulancie and Nhacapiriri did not return to their villages with the rest of their families. Hence less dependents	Nhabvigogodzo reason for the higher average due to its productivity. Population increasing. Wiriamo has lower average. Dry and rocky. Never recovered fully after the massacre during the war. Others working in Tete.
Average age	Household headed by older people do not have very young dependants. Older people remained after the war. Few close families nearby. Average high.	Wiriamo generally an ageing community. Factors mentioned above. High average in Nhabvigogodzo needs further investigations.
Literacy rate	These communities greatly affected by war. Schools built only after the war. Not dependants of school going age. Rate is low.	Low rate in Wiriamo justifiable. One section of the community only had a school 3 years ago. The same in Nhabvigogodzo
Percentage of people who have worked for money within the	Most older people have no families nearby to support them due to the	The low percentage in Wiriamo is due to lack of work as the community is dry and

last 7 days	movement after the war hence expected to work. Cabvulancie and Nhacapiriri are drier. Highest percentage	lot of opportunities for petty business as the community is very close to Tete.
Do you manage a business to generate income	The low percentage in Chinoco needs further explanations.	The difference between these is understandable. Wiriamo has a higher percentage than the others as it is now more of a trading community than an agricultural one. They thrive on selling charcoal, firewood, wild fruits and granite to name a few.
Have you sold vegetable to generate income	Little horticultural projects in these communities.	There are horticultural projects under HAI's program for older headed households in Nhabvigogodzo and Wiriamo.
Have you sold fish to generate income	Its under stable that Cangurewere fish but it's surprising that Chinoco which is even closer to the dam has 0%. More answers needed.	
Have you sold goats to generate income	Poor household headed by older people do not have a lot of property which include goats. This variable is fairly the same for most groups.	Besides being a trading community there is also a goat projects run by the SaG and LT3 programs
Have you sold corn to generate income	Lowest percentage. Nothing much expected from a dry land. However questions still need to be asked for Chinoco which is on the edge of the Cahora Bassa	Highest average. The explanation is the same as with the control communities. 0% in Wiriamo underlines the conditions which have already been explained.
Percentage of households that have access to agriculturally suitable land	Land easily available. All depends on the equipment available to a household.	A lot of land in the communities. Not very productive in Wiriamo.
Percentage of households with an agricultural surplus	Dry areas. Chinoco and Canguerewere have potential if they could utilise the water from the Cahora Bassa dam. Lowest percentage.	Cangunze and Nhabvogogodzo have a higher percentage than W iriamo. The two are in the same belt with the control communities.
Does the household own cattle	Carefully selected poor households with less income.	Half the households have cattle.
Does the household own chickens	Some groups and communities have fewer households because of the diseases. These affected communities are on the central part. Communities on the margins (remote) like Chinoco, Cangwerewere, Catua, Nhacumba and Nhaulili are not greatly affected.	
Does the household use detergent	Low percentages in Chinoco and Nhacapiriri need further investigations. It's too different from the rest of the communities	

How did you obtain your house	Though *self construction* has a lot of responses there are interesting differences on *bought from others* and *inheritance* which need further investigations. Answers may have implications on land tenure and traditional issues.
Have you ever eaten the following foods during the previous day	No major differences. Comparable
How much does the household spend for each of the following?	The highest expenditures in all communities are investments, house, clothes, transport and basic food in their order. Food did not have the highest expenditure as it was a good year and people had harvested well. However more questions can be asked per each of the communities.

Table C: Identifying the same individuals across the two waves

Original names as they appeared in the questionnaire			Matched names	Status
TCAN121P	2007	CELESTE KHINGUI	CELESTE KHINGUI	Both years
TCAN121P	2007	DUCA PORTASIO	DUCA PORTASIO	Both years
TCAN121P	2007	MANUCHA PORTA	MANUCHA PORTA	Both years
TCAN121P	2009	CELESTE KHINGI	*CELESTE KHINGUI*	Both years
TCAN121P	2009	DUNCA PORTASIO	*DUCA PORTASIO*	Both years
TCAN121P	2009	MANUCHA PORTASIO	*MANUCHA PORTA*	Both years
ICAN193G	2007	ALIGINAR MAXIMO	ALIGINAR MAXIMO	Attrited
ICAN193G	2007	AFONSO ALIGINAR	AFONSO ALIGINAR	Both years
ICAN193G	2007	EUGENIO ALIGINAR	EUGENIO ALIGINAR	Attrited
ICAN193G	2007	REGINA ALIGINAR	REGINA ALIGINAR	Both years
ICAN193G	2007	ARGENTINO ALIGINAR	ARGENTINO ALIGINAR	Both years
ICAN193G	2007	GENITA ALIGINAR	GENITA ALIGINAR	Attrited
ICAN193G	2009	REGINA ARGINALI	*REGINA ALIGINAR*	Both years
ICAN193G	2009	AFONSO ARGINALI	*AFONSO ALIGINAR*	Both years
ICAN193G	2009	TINO ARGINALI	*ARGENTINO ALIGINAR*	Both years
ICAN193G	2009	MANINHA ARGINALI	*MANINHA ARGINALI*	New comer
ICAN193G	2009	NELSON ARGINALI	*NELSON ARGINALI*	New comer

Table D: Logit function for children (probability to be in a treatment group in 2009)

D09	Coefficient	Standard Error	95% Confidence interval	
Gender (male)	-0.113	0.411	-0.918	0.692
Parent living	-0.137	0.606	-1.326	1.051
Good ceiling condition	0.111	0.716	-1.293	1.514
Good walls condition	0.171	0.723	-1.245	1.588
Household head reads and writes	-0.796	1.044	-2.842	1.250
Time to primary school	-0.562	0.586	-1.709	0.586
Time to transport stop	1.150	0.674	-0.171	2.471
Household owns a radio	0.234	1.376	-2.464	2.931
Household own a bike	1.941	1.417	-0.835	4.717
Household acquired a non-durable item	-0.209	0.679	-1.539	1.122
Nr. of children (14-17) in a household	-0.009	0.720	-1.421	1.402
Nr. of children (7-14) in a household	-1.130	0.548	-2.204	-0.055
Nr. of children (0-7) in a household	-0.243	0.678	-1.572	1.087
Nr. of working age males in a household	-1.274	0.664	-2.577	0.028
Nr. of elderly in a household	1.126	0.692	-0.231	2.483
Age of a household head	-0.030	0.024	-0.077	0.017
Total number of people in a household	0.618	0.479	-0.322	1.557
Female headed household	0.751	0.607	-0.440	1.941
Age Dummy 1	1.996	1.289	-0.531	4.523
Age Dummy 2	2.390	1.397	-0.349	5.128
Age Dummy 3	1.465	1.225	-0.937	3.867
Age Dummy 4	2.673	1.333	0.060	5.286
Age Dummy 5	1.177	1.397	-1.561	3.914
Age Dummy 6	2.284	1.238	-0.143	4.711
Age Dummy 7	0.619	1.214	-1.761	2.999
Age Dummy 8	1.682	1.344	-0.952	4.316
Age Dummy 9	1.754	1.195	-0.587	4.096
Age Dummy 10	0.234	1.374	-2.459	2.927
Good ceiling condition (missing)	-18.440	2.349	-23.044	-13.836
Time to primary school (missing)	0.721	1.717	-2.645	4.086
Ownership of a bike (missing)	18.788	.	.	.
Constant	-1.875	2.294	-6.372	2.622

Table E: Logit function for adults (probability to be in a treatment group in 2009)

D09	Coefficient	Standard Error	95% Confidence interval	
Gender (male)	-0.436	0.417	-1.253	0.381
Good ceiling condition	0.183	0.597	-0.987	1.353
Good walls condition	0.200	0.586	-0.948	1.348
Household head reads and writes	-0.045	0.626	-1.272	1.182
Time to transport stop	0.031	0.370	-0.694	0.756
Household owns a radio	-0.248	0.629	-1.481	0.986
Household own a bike	-0.580	0.669	-1.891	0.731
Household acquired a non-durable item	0.246	0.373	-0.485	0.977
Nr. of children (14-17) in a household	-0.904	0.528	-1.940	0.132
Nr. of children (7-14) in a household	-0.671	0.379	-1.414	0.073
Nr. of children (0-7) in a household	-0.750	0.500	-1.731	0.231
Nr. of working age males in a household	-0.672	0.437	-1.528	0.185
Nr. of elderly in a household	-0.145	0.464	-1.054	0.764
Total number of people in a household	0.678	0.331	0.029	1.327
Female headed household	0.172	0.488	-0.784	1.128
Age Dummy 18	-0.269	1.644	-3.490	2.953
Age Dummy 19	0.168	1.725	-3.212	3.549
Age Dummy 20	-1.326	1.877	-5.004	2.352
Age Dummy 21	0.447	2.253	-3.970	4.864
Age Dummy 23	-0.624	2.003	-4.550	3.302
Age Dummy 24	-0.095	1.727	-3.479	3.289
Age Dummy 25 - Age Dummy 85				
Age Dummy 86	-0.353	1.714	-3.712	3.006
Age Dummy 87	-0.109	1.765	-3.568	3.351
Good ceiling condition (missing)	0.578	1.380	-2.128	3.283
Time to transport stop (missing)	1.285	1.701	-2.049	4.619
Constant	-0.989	1.725	-4.371	2.392

Table F: Marginal Effects of Cash Transfers on Performance of Odd Jobs by Children

VARIABLES	(1)	(2)	(3)	(4)
Dummy for year 2009	0.0718*	0.0683*	0.0598	0.191***
	(0.0369)	(0.0375)	(0.0549)	(0.0498)
Interaction between dummy for treatment and dummy for year 2009	-0.193***	-0.198***	-0.157**	-0.240***
	(0.0554)	(0.0567)	(0.0621)	(0.0522)
Gender (male)		-0.0718	-0.103**	0.00975
		(0.0523)	(0.0440)	(0.0554)
Parent living		-0.0407	-0.0235	0.0861
		(0.0686)	(0.0638)	(0.161)
Household head reads and writes			-0.0138	0.280
			(0.0637)	(0.193)
Distance to primary school			0.00905	
			(0.0472)	
Distance to the nearest transport stop			0.00843	
			(0.0426)	
Good condition of ceiling in a house			0.0574	
			(0.0556)	
Good condition of walls in a house			-0.0729	
			(0.0566)	
Household own bicycle			-0.00628	
			(0.0916)	
Household owns radio			-0.0569	
			(0.0604)	
Household bought non-durable goods			0.0605	
			(0.0587)	
Number of children (14-17 years) in the household			-0.0200	0.0564
			(0.0366)	(0.0752)
Number of children (7-14 years) in the household			0.0484	0.168**
			(0.0418)	(0.0602)
Number of children (0-7 years) in the household			0.0357	0.114
			(0.0491)	(0.114)
Number of working age men in the household			0.0415	0.0437
			(0.0474)	(0.0594)
Number of elderly in the household			-0.0192	0.0570
			(0.0484)	(0.0563)
Total number of people in the household		-0.00433	-0.0273	-0.0897**
		(0.00722)	(0.0312)	(0.0401)
Female-headed household			0.0390	0.578***
			(0.0580)	(0.0982)
Age of a household head			-0.00102	-0.000949
			(0.00254)	(0.00208)
Age dummies	No	No	Yes	Yes
Household dummies	No	No	No	Yes
Dummy for treatment	Yes	Yes	Yes	No
Constant	0.0652**	0.167*	0.408	-0.609
	(0.0254)	(0.0837)	(0.273)	(0.354)
Observations	321	318	318	203
R-squared	0.027	0.045	0.169	0.456

Robust standard errors in parentheses, clustered by villages, *** p<0.01, ** p<0.05, * p<0.1

Additional variables: missing parent living, missing ownership of a radio and a bike, missing purchase of non-durables goods, missing walls and ceiling condition, missing minutes to primary school and a transport stop

Table G: Marginal Effects of Cash Transfers on Performance of Work for Wage/Commission/Benefits by Children

VARIABLES	(1)	(2)	(3)	(4)
Dummy for year 2009	0.0363	0.0327	-0.00170	0.00410
	(0.0310)	(0.0383)	(0.0339)	(0.0151)
Interaction between dummy for treatment and	-0.100**	-0.103**	-0.0804*	-0.0980**
dummy for year 2009	(0.0360)	(0.0427)	(0.0415)	(0.0389)
Gender (male)		0.000916	-0.00251	0.0170
		(0.0198)	(0.0192)	(0.0289)
Parent living		-0.0306	-0.00968	0.130*
		(0.0325)	(0.0331)	(0.0675)
Household head reads and writes			-0.0732**	0.0217
			(0.0272)	(0.0441)
Distance to primary school			-0.0303	
			(0.0376)	
Distance to the nearest transport stop			0.00327	
			(0.0411)	
Good condition of ceiling in a house			0.0161	
			(0.0373)	
Good condition of walls in a house			-0.0516	
			(0.0315)	
Household own bicycle			-0.0336	
			(0.0581)	
Household owns radio			0.0484	
			(0.0767)	
Household bought non-durable goods			0.0387	
			(0.0323)	
Number of children (14-17 years) in the household			-0.0291	0.0341
			(0.0344)	(0.0710)
Number of children (7-14 years) in the household			-0.0373	0.00588
			(0.0236)	(0.0510)
Number of children (0-7 years) in the household			-0.0234	0.0509
			(0.0207)	(0.0491)
Number of working age men in the household			0.0156	-0.0248
			(0.0432)	(0.0615)
Number of elderly in the household			-0.0262	0.106**
			(0.0168)	(0.0384)
Total number of people in the household		-0.00692	0.00405	-0.0367
		(0.00518)	(0.0185)	(0.0531)
Female-headed household			-	0.102
			(0.0216)	(0.116)
Age of a household head			0.000104	-0.00301***
			(0.000956	(0.000900)
Age dummies	No	No	Yes	Yes
Household dummies	No	No	No	Yes
Dummy for treatment	Yes	Yes	Yes	No
Constant	0.0417**	0.109	0.252*	0.0407
	(0.0186)	(0.0618)	(0.137)	(0.144)
Observations	333	330	330	226
R-squared	0.016	0.024	0.194	0.428

Table H: Marginal Effects of Cash Transfers on Farm Work by Children

VARIABLES	(1)	(2)	(3)	(4)
Dummy for year 2009	0.187	0.184	0.252**	0.270**
	(0.132)	(0.123)	(0.109)	(0.109)
Interaction between dummy for treatment and	-0.148	-0.157	-0.223	-0.269
dummy for year 2009	(0.170)	(0.173)	(0.144)	(0.156)
Gender (male)		0.0303	-0.00762	0.113*
		(0.0431)	(0.0421)	(0.0534)
Parent living		0.0555	0.108	0.176*
		(0.0835)	(0.117)	(0.0909)
Household head reads and writes			0.0585	0.187
			(0.0987)	(0.242)
Distance to primary school			-0.0524	
			(0.0482)	
Distance to the nearest transport stop			0.0426	
			(0.0633)	
Good condition of ceiling in a house			-0.0885	
			(0.126)	
Good condition of walls in a house			-0.109	
			(0.132)	
Household own bicycle			0.124***	
			(0.0410)	
Household owns radio			-0.0326	
			(0.109)	
Household bought non-durable goods			0.101	
			(0.0837)	
Number of children (14-17 years) in the household			0.130	0.186
			(0.0882)	(0.107)
Number of children (7-14 years) in the household			0.00854	0.183*
			(0.0676)	(0.0924)
Number of children (0-7 years) in the household			0.0574	0.313**
			(0.0744)	(0.137)
Number of working age men in the household			-0.0397	0.0450
			(0.0691)	(0.0977)
Number of elderly in the household			0.0538	0.524***
			(0.0696)	(0.0589)
Total number of people in the household		-0.0236	-0.0443	-0.200**
		(0.0150)	(0.0406)	(0.0679)
Female-headed household			0.101	0.0714
			(0.0736)	(0.388)
Age of a household head			-0.00241	0.00212
			(0.00192)	(0.00529)
Age dummies	No	No	Yes	Yes
Household dummies	No	No	No	Yes
Dummy for treatment	Yes	Yes	Yes	No
Constant	0.408***	0.482***	0.569*	0.609
	(0.0544)	(0.155)	(0.304)	(0.399)
Observations	339	336	336	234
R-squared	0.027	0.044	0.257	0.603

Robust standard errors in parentheses, clustered by villages, *** p<0.01, ** p<0.05, * p<0.1

Additional variables: missing parent living, missing ownership of a radio and a bike, missing purchase of non-durables goods, missing walls and ceiling condition, missing minutes to primary school and a transport stop

Table I: Weighted regression: Marginal Effects of Cash Transfers on Performance of Odd Jobs by Children

VARIABLES	(1)	(2)	(3)	(4)
Dummy for year 2009	0.349***	0.300***	0.277***	0.214***
	(0.0362)	(0.0272)	(0.0538)	(0.0679)
Interaction between dummy for treatment and	-0.455***	-0.405***	-0.381***	-0.331***
dummy for year 2009	(0.0538)	(0.0521)	(0.0664)	(0.0580)
Gender (male)		-0.139	-0.146***	-0.00754
		(0.0827)	(0.0381)	(0.0378)
Parent living		-0.0618	-0.0587	0.105
		(0.0733)	(0.112)	(0.104)
Household head reads and writes			0.0371	0.214***
			(0.0582)	(0.0679)
Distance to primary school			0.0134	
			(0.0686)	
Distance to the nearest transport stop			0.0466	
			(0.0570)	
Good condition of ceiling in a house			0.104	
			(0.101)	
Good condition of walls in a house			-0.114	
			(0.109)	
Household own bicycle			-0.00780	
			(0.0864)	
Household owns radio			-0.108	
			(0.0956)	
Household bought non-durable goods			0.0644	
			(0.0725)	
Number of children (14-17 years) in the household			-0.00797	0.0348
			(0.0914)	(0.437)
Number of children (7-14 years) in the household			-0.00182	0.0573
			(0.0674)	(0.0354)
Number of children (0-7 years) in the household			0.00409	0.123***
			(0.0787)	(0.0159)
Number of working age men in the household			0.0705	0.0940
			(0.0638)	(0.0805)
Number of elderly in the household			0.0652	0.115
			(0.0577)	(0.146)
Total number of people in the household		-0.0149	-0.0211	0.439***
		(0.00951)	(0.0565)	(0.141)
Female-headed household			0.0602	-0.116***
			(0.0831)	(0.0227)
Age of a household head			-0.00139	0.473
			(0.00373)	(0.365)
Age dummies	No	No	Yes	Yes
Household dummies	No	No	No	Yes
Dummy for treatment	Yes	Yes	Yes	No
Constant	0.0144**	0.217*	0.255	0.742*
	(0.00556)	(0.105)	(0.387)	(0.389)
Observations	317	317	317	202
R-squared	0.184	0.232	0.559	0.864

Table J: Weighted regression: Marginal Effects of Cash Transfers on Performance of Work for Wage/Commission/Benefits by Children

VARIABLES	(1)	(2)	(3)	(4)
Dummy for year 2009	0.133**	0.117**	0.0940*	0.131*
	(0.0549)	(0.0510)	(0.0471)	(0.0735)
Interaction between dummy for treatment and dummy for year 2009	-0.220***	-0.202***	-0.189***	-0.219**
	(0.0595)	(0.0579)	(0.0553)	(0.0890)
Gender (male)		-0.0492*	-0.0624**	-0.0212
		(0.0266)	(0.0246)	(0.0225)
Parent living		-0.0265	-0.0314	0.0892*
		(0.0497)	(0.0966)	(0.0475)
Household head reads and writes			-0.0679	0.131*
			(0.0831)	(0.0735)
Distance to primary school			-0.0337	
			(0.0356)	
Distance to the nearest transport stop			-0.0447	
			(0.0428)	
Good condition of ceiling in a house			-0.00126	
			(0.0865)	
Good condition of walls in a house			-0.0259	
			(0.0844)	
Household own bicycle			-0.0440	
			(0.0599)	
Household owns radio			0.0392	
			(0.101)	
Household bought non-durable goods			0.0966*	
			(0.0460)	
Number of children (14-17 years) in the household			-0.0169	0.244*
			(0.0870)	(0.113)
Number of children (7-14 years) in the household			-0.0585	0.00539
			(0.0647)	(0.0410)
Number of children (0-7 years) in the household			-0.0377	-0.00452
			(0.0476)	(0.0574)
Number of working age men in the household			0.00310	0.0531
			(0.0676)	(0.0465)
Number of elderly in the household			-0.0323	-0.0680
			(0.0368)	(0.0459)
Total number of people in the household		-0.00799	0.00763	0.225**
		(0.00655)	(0.0388)	(0.0779)
Female-headed household			-0.114	-0.0576
			(0.0668)	(0.0432)
Age of a household head			0.000688	0.479
			(0.00172)	(0.286)
Age dummies	No	No	Yes	Yes
Household dummies	No	No	No	Yes
Dummy for treatment	Yes	Yes	Yes	No
Constant	0.0150	0.0982	0.125	0.238
	(0.0200)	(0.0710)	(0.150)	(0.151)
Observations	327	327	327	226
R-squared	0.064	0.078	0.429	0.855

Table K: Weighted regression: Marginal Effects of Cash Transfers on Farm Work by Children

VARIABLES	(1)	(2)	(3)	(4)
Dummy for year 2009	-0.236**	-0.0869	0.106	0.0155
	(0.0851)	(0.102)	(0.0932)	(0.127)
Interaction between dummy for treatment and	0.261*	0.140	-0.0545	-0.0956
dummy for year 2009	(0.140)	(0.172)	(0.124)	(0.147)
Gender (male)		0.155**	0.0356	0.160*
		(0.0591)	(0.0520)	(0.0873)
Parent living		0.160	0.243	0.304**
		(0.154)	(0.166)	(0.131)
Household head reads and writes			-0.109	-0.309
			(0.149)	(0.218)
Distance to primary school			-0.111	
			(0.0812)	
Distance to the nearest transport stop			0.0909	
			(0.0699)	
Good condition of ceiling in a house			-0.133	
			(0.147)	
Good condition of walls in a house			-0.116	
			(0.139)	
Household own bicycle			0.480***	
			(0.0839)	
Household owns radio			-0.164	
			(0.0932)	
Household bought non-durable goods			0.0838	
			(0.119)	
Number of children (14-17 years) in the household			0.250	0.293
			(0.171)	(0.209)
Number of children (7-14 years) in the household			0.0158	0.220
			(0.124)	(0.157)
Number of children (0-7 years) in the household			0.0400	0.405*
			(0.112)	(0.219)
Number of working age men in the household			-0.0560	0.154
			(0.118)	(0.158)
Number of elderly in the household			0.0739	0.567**
			(0.0713)	(0.212)
Total number of people in the household		-0.0349	-0.0543	-0.271*
		(0.0290)	(0.0825)	(0.143)
Female-headed household			0.123**	-1.308***
			(0.0569)	(0.265)
Age of a household head			-0.000329	0.0167**
			(0.00241)	(0.00641)
Age dummies	No	No	Yes	Yes
Household dummies	No	No	No	Yes
Dummy for treatment	Yes	Yes	Yes	No
Constant	0.946***	0.722***	0.420	1.657***
	(0.0368)	(0.214)	(0.535)	(0.233)
Observations	333	333	333	233
R-squared	0.308	0.358	0.609	0.750

Table L: Marginal Effects of Cash Transfers on Performance of Any Type of Work for Pay by Adults

VARIABLES	(1)	(2)	(3)	(4)
Dummy for year 2009	-0.0508	-0.0516	-0.0652	-0.0908*
	(0.135)	(0.134)	(0.0867)	(0.0424)
Interaction between dummy for treatment and	-0.149	-0.151	-0.110	-0.106
dummy for year 2009	(0.158)	(0.156)	(0.124)	(0.0630)
Gender (male)		-0.0291	0.0207	0.122
		(0.0332)	(0.0480)	(0.110)
Household head reads and writes			-0.0838	-0.0859
			(0.0886)	(0.195)
Good condition of ceiling in a house			-0.128*	
			(0.0716)	
Good condition of walls in a house			-0.0284	
			(0.0555)	
Distance to the nearest transport stop		-0.00626	0.0160	
		(0.0633)	(0.0365)	
Household own bicycle			-0.0670	
			(0.0612)	
Household owns radio			0.0437	
			(0.0401)	
Household bought non-durable goods			0.120**	
			(0.0457)	
Number of children (14-17 years) in the household			0.0254	0.0495
			(0.0379)	(0.104)
Number of children (7-14 years) in the household			0.0789**	0.186*
			(0.0305)	(0.0957)
Number of children (0-7 years) in the household			-0.00531	0.0835
			(0.0467)	(0.0502)
Number of working age men in the household			0.0301	0.190*
			(0.0460)	(0.0962)
Number of elderly in the household			-0.0884	0.0431
			(0.0564)	(0.0910)
Total number of people in the household		0.00203	-0.0526*	-0.154**
		(0.0105)	(0.0288)	(0.0559)
Female-headed household			-0.0638	-0.258*
			(0.0659)	(0.121)
Age dummies	No	No	Yes	Yes
Household dummies	No	No	No	Yes
Dummy for treatment	Yes	Yes	Yes	No
Constant	0.429***	0.432***	0.389**	0.761**
	(0.0800)	(0.103)	(0.147)	(0.324)
Observations	602	602	602	512
R-squared	0.033	0.036	0.263	0.626

Robust standard errors in parentheses, clustered by villages, *** p<0.01, ** p<0.05, * p<0.1

Additional variables: missing parent living, missing ownership of a radio and a bike, missing purchase of non-durables goods, missing walls and ceiling condition, missing minutes to primary school and a transport stop

Table M: Marginal Effects of Cash Transfers on Performance of Odd Jobs by Adults

VARIABLES	(1)	(2)	(3)	(4)
Dummy for year 2009	-0.0195	-0.0210	-0.0167	-0.0481*
	(0.111)	(0.115)	(0.0849)	(0.0236)
Interaction between dummy for treatment and	-0.102	-0.103	-0.0998	-0.0746**
dummy for year 2009	(0.136)	(0.137)	(0.114)	(0.0312)
Gender (male)		-0.0298	0.0217	0.0726
		(0.0327)	(0.0448)	(0.102)
Household head reads and writes			-0.0221	-0.120
			(0.0750)	(0.0991)
Good condition of ceiling in a house			-0.0881	
			(0.0770)	
Good condition of walls in a house			-0.0439	
			(0.0643)	
Distance to the nearest transport stop		-0.0289	-0.000381	
		(0.0615)	(0.0446)	
Household own bicycle			-0.0531	
			(0.0607)	
Household owns radio			-0.0172	
			(0.0623)	
Household bought non-durable goods			0.118**	
			(0.0500)	
Number of children (14-17 years) in the household			-0.00525	-0.0569
			(0.0444)	(0.108)
Number of children (7-14 years) in the household			0.0900*	0.0670
			(0.0462)	(0.116)
Number of children (0-7 years) in the household			0.0338	0.0182
			(0.0509)	(0.0713)
Number of working age men in the household			0.0300	0.1000
			(0.0478)	(0.102)
Number of elderly in the household			-0.0613	-0.0116
			(0.0692)	(0.111)
Total number of people in the household		0.00251	-0.0592	-0.0615
		(0.0101)	(0.0376)	(0.0790)
Female-headed household			-0.0258	-0.288
			(0.0594)	(0.166)
Age dummies	No	No	Yes	Yes
Household dummies	No	No	No	Yes
Dummy for treatment	Yes	Yes	Yes	No
Constant	0.323***	0.332***	0.269	0.714**
	(0.0710)	(0.104)	(0.249)	(0.260)
Observations	609	609	609	520
R-squared	0.012	0.017	0.214	0.609

Robust standard errors in parentheses, clustered by villages, *** p<0.01, ** p<0.05, * p<0.1
Additional variables: missing parent living, missing ownership of a radio and a bike, missing purchase of non-durables goods, missing walls and ceiling condition, missing minutes to primary school and a transport stop

Table N: Marginal Effects of Cash Transfers on Performance of Work for Wage/Commission/Benefits by Adults

VARIABLES	(1)	(2)	(3)	(4)
Dummy for year 2009	-0.0699	-0.0739	-0.0729	-0.111**
	(0.0514)	(0.0605)	(0.0451)	(0.0399)
Interaction between dummy for treatment and	-0.0325	-0.0289	-0.00873	0.0906*
dummy for year 2009	(0.0550)	(0.0647)	(0.0502)	(0.0492)
Gender (male)		0.00748	0.0582	0.129**
		(0.0366)	(0.0373)	(0.0516)
Household head reads and writes			-0.0971	0.0640
			(0.0714)	(0.135)
Good condition of ceiling in a house			-0.0304	
			(0.0338)	
Good condition of walls in a house			-0.0375	
			(0.0463)	
Distance to the nearest transport stop		-0.0712	-0.0549	
		(0.0438)	(0.0412)	
Household own bicycle			-0.0327	
			(0.0504)	
Household owns radio			0.0151	
			(0.0489)	
Household bought non-durable goods			0.00222	
			(0.0379)	
Number of children (14-17 years) in the household			-0.0444	0.0972
			(0.0291)	(0.0921)
Number of children (7-14 years) in the household			-0.0232	0.128
			(0.0317)	(0.0877)
Number of children (0-7 years) in the household			0.00127	0.0601
			(0.0416)	(0.0677)
Number of working age men in the household			-0.0178	0.187**
			(0.0386)	(0.0852)
Number of elderly in the household			-0.0347	0.0134
			(0.0374)	(0.0536)
Total number of people in the household		0.00323	0.0149	-0.0867
		(0.00799)	(0.0247)	(0.0680)
Female-headed household			0.00175	-0.131
			(0.0488)	(0.106)
Age dummies	No	No	Yes	Yes
Household dummies	No	No	No	Yes
Dummy for treatment	Yes	Yes	Yes	No
Constant	0.238***	0.245***	0.175	1.151***
	(0.0280)	(0.0603)	(0.159)	(0.220)
Observations	609	609	609	520
R-squared	0.029	0.037	0.213	0.564

Robust standard errors in parentheses, clustered by villages, *** p<0.01, ** p<0.05, * p<0.1
Additional variables: missing parent living, missing ownership of a radio and a bike, missing purchase of non-durables goods, missing walls and ceiling condition, missing minutes to primary school and a transport stop

Table O: Marginal Effects of Cash Transfers on Adult Work on Family Farm or Land

VARIABLES	(1)	(2)	(3)	(4)
Dummy for year 2009	-0.0714	-0.00442	-0.0325	-0.0112
	(0.0518)	(0.0665)	(0.0647)	(0.0393)
Interaction between dummy for treatment and	-0.0311	-0.000556	0.0644	0.0724
dummy for year 2009	(0.0554)	(0.0742)	(0.0845)	(0.0550)
Gender (male)		-0.157***	-0.104*	-0.0635
		(0.0329)	(0.0504)	(0.0632)
Household head reads and writes			-0.00642	-0.0603
			(0.0609)	(0.0908)
Good condition of ceiling in a house			0.0212	
			(0.0705)	
Good condition of walls in a house			0.0240	
			(0.0607)	
Distance to the nearest transport stop		0.00569	0.0141	
		(0.0450)	(0.0582)	
Household own bicycle			0.0333	
			(0.0362)	
Household owns radio			-0.0258	
			(0.0873)	
Household bought non-durable goods			0.157***	
			(0.0435)	
Number of children (14-17 years) in the household			0.0417	0.0678
			(0.0728)	(0.0723)
Number of children (7-14 years) in the household			0.0236	0.0346
			(0.0409)	(0.0865)
Number of children (0-7 years) in the household			0.0302	-0.0394
			(0.0728)	(0.0598)
Number of working age men in the household			0.0354	0.108
			(0.0387)	(0.0829)
Number of elderly in the household			0.148***	0.236***
			(0.0434)	(0.0751)
Total number of people in the household		-0.000683	-0.0410	-0.0666
		(0.00983)	(0.0440)	(0.0594)
Female-headed household			0.0396	0.0907
			(0.0679)	(0.107)
Age dummies	No	No	Yes	Yes
Household dummies	No	No	No	Yes
Dummy for treatment	Yes	Yes	Yes	No
Constant	0.239***	0.831***	0.901***	1.090**
	(0.0288)	(0.0469)	(0.164)	(0.421)
Observations	608	613	613	524
R-squared	0.029	0.035	0.236	0.623

Robust standard errors in parentheses, clustered by villages, *** p<0.01, ** p<0.05, * p<0.1
Additional variables: missing parent living, missing ownership of a radio and a bike, missing purchase of non-durables goods, missing walls and ceiling condition, missing minutes to primary school and a transport stop

Table P: Weighted regression: Marginal Effects of Cash Transfers on Performance of Odd Jobs by Adults

VARIABLES	(1)	(2)	(3)	(4)
Dummy for year 2009	0.125	0.124	0.0493	0.0300
	(0.104)	(0.101)	(0.0890)	(0.0638)
Interaction between dummy for treatment and	-0.231	-0.234*	-0.173	-0.155*
dummy for year 2009	(0.132)	(0.128)	(0.116)	(0.0756)
Gender (male)		-0.0238	-0.0510	0.124
		(0.0603)	(0.112)	(0.152)
Household head reads and writes			-0.0310	-0.0322
			(0.0828)	(0.111)
Good condition of ceiling in a house			-0.133	
			(0.117)	
Good condition of walls in a house			-0.0617	
			(0.0866)	
Distance to the nearest transport stop		0.00893	0.0419	
		(0.0739)	(0.0577)	
Household own bicycle			-0.134	
			(0.134)	
Household owns radio			0.0994	
			(0.0734)	
Household bought non-durable goods			0.0579	
			(0.0506)	
Number of children (14-17 years) in the household			-0.0713	-0.394***
			(0.0659)	(0.102)
Number of children (7-14 years) in the household			0.0767	-0.121
			(0.0562)	(0.127)
Number of children (0-7 years) in the household			-0.0180	-0.0930
			(0.0734)	(0.0975)
Number of working age men in the household			0.0468	0.0352
			(0.0660)	(0.109)
Number of elderly in the household			-0.110	0.130
			(0.0881)	(0.128)
Total number of people in the household		0.00309	-0.0385	0.0258
		(0.0174)	(0.0478)	(0.0795)
Female-headed household			-0.0882	-0.0410
			(0.103)	(0.116)
Age dummies	No	No	Yes	Yes
Household dummies	No	No	No	Yes
Dummy for treatment	Yes	Yes	Yes	No
Constant	0.279***	0.267***	0.660	1.165**
	(0.0413)	(0.0729)	(0.506)	(0.424)
Observations	544	544	544	467
R-squared	0.027	0.033	0.283	0.766

Robust standard errors in parentheses, clustered by villages, *** p<0.01, ** p<0.05, * p<0.1
Additional variables: missing parent living, missing ownership of a radio and a bike, missing purchase of non-durables goods, missing walls and ceiling condition, missing minutes to primary school and a transport stop

Table Q: Weighted regression: Marginal Effects of Cash Transfers on Performance of Work for Wage/Commission/Benefits by Adults

VARIABLES	(1)	(2)	(3)	(4)
Dummy for year 2009	-0.129***	-0.132***	-0.163***	-0.0340
	(0.0161)	(0.0341)	(0.0457)	(0.0570)
Interaction between dummy for treatment and dummy for year 2009	0.0601*	0.0630	0.0875*	-0.0228
	(0.0319)	(0.0407)	(0.0475)	(0.0653)
Gender (male)		0.0426	0.0846*	0.0807**
		(0.0423)	(0.0439)	(0.0373)
Household head reads and writes			-6.84e-05	0.159
			(0.0704)	(0.105)
Good condition of ceiling in a house			-0.0365	
			(0.0362)	
Good condition of walls in a house			-0.0667	
			(0.0579)	
Distance to the nearest transport stop		-0.0834	-0.0514	
		(0.0505)	(0.0339)	
Household own bicycle			-0.0496	
			(0.0614)	
Household owns radio			0.0264	
			(0.0526)	
Household bought non-durable goods			-0.0214	
			(0.0358)	
Number of children (14-17 years) in the household			-0.0161	-0.0226
			(0.0435)	(0.159)
Number of children (7-14 years) in the household			0.0127	0.0467
			(0.0253)	(0.115)
Number of children (0-7 years) in the household			-0.00427	-0.0527
			(0.0393)	(0.0675)
Number of working age men in the household			0.0310	0.0555
			(0.0466)	(0.0793)
Number of elderly in the household			0.00587	0.194**
			(0.0607)	(0.0670)
Total number of people in the household		-0.00368	-0.0209	-0.0477
		(0.00413)	(0.0226)	(0.0899)
Female-headed household			-0.0282	0.113
			(0.0444)	(0.0824)
Age dummies	No	No	Yes	Yes
Household dummies	No	No	No	Yes
Dummy for treatment	Yes	Yes	Yes	No
Constant	0.152***	0.204***	0.108	0.0545
	(0.0154)	(0.0523)	(0.160)	
Observations	545	545	545	468
R-squared	0.029	0.053	0.218	0.679

Robust standard errors in parentheses, clustered by villages, *** p<0.01, ** p<0.05, * p<0.1
Additional variables: missing parent living, missing ownership of a radio and a bike, missing purchase of non-durables goods, missing walls and ceiling condition, missing minutes to primary school and a transport stop

Table R: Weighted regression: Marginal Effects of Cash Transfers on Adult Work on Family Farm or Land

VARIABLES	(1)	(2)	(3)	(4)
Dummy for year 2009	0.0234	0.0287	-0.0532	-0.0759
	(0.0687)	(0.0562)	(0.0612)	(0.0657)
Interaction between dummy for treatment and	-0.0452	-0.0516	0.0603	0.161**
dummy for year 2009	(0.0863)	(0.0766)	(0.0755)	(0.0734)
Gender (male)		-0.108**	-0.116	-0.00648
		(0.0496)	(0.0782)	(0.0561)
Household head reads and writes			-0.0422	-0.0734
			(0.106)	(0.207)
Good condition of ceiling in a house			0.0556	
			(0.0736)	
Good condition of walls in a house			0.00976	
			(0.0848)	
Distance to the nearest transport stop		0.0673	0.0303	
		(0.0569)	(0.0596)	
Household own bicycle			0.0246	
			(0.0462)	
Household owns radio			-0.0913	
			(0.0837)	
Household bought non-durable goods			0.0985**	
			(0.0439)	
Number of children (14-17 years) in the household			-0.0135	0.0997
			(0.0951)	(0.133)
Number of children (7-14 years) in the household			0.0360	-0.0427
			(0.0579)	(0.154)
Number of children (0-7 years) in the household			0.0101	-0.0332
			(0.0770)	(0.162)
Number of working age men in the household			0.0741	0.0368
			(0.0607)	(0.132)
Number of elderly in the household			0.121*	0.237
			(0.0643)	(0.152)
Total number of people in the household		0.00320	-0.0436	-0.0426
		(0.0112)	(0.0537)	(0.105)
Female-headed household			-0.0556	-0.245*
			(0.101)	(0.124)
Age dummies	No	No	Yes	Yes
Household dummies	No	No	No	Yes
Dummy for treatment	Yes	Yes	Yes	No
Constant	0.812***	0.786***	0.451*	0.0235
	(0.0683)	(0.0725)	(0.220)	
Observations	547	547	547	470
R-squared	0.003	0.025	0.325	0.766

Robust standard errors in parentheses, clustered by villages, *** p<0.01, ** p<0.05, * p<0.1
Additional variables: missing parent living, missing ownership of a radio and a bike, missing purchase of non-durables goods, missing walls and ceiling condition, missing minutes to primary school and a transport stop

Table S: Marginal Effects of Cash Transfers on Household's Hunger Rate

VARIABLES	(1)	(2)	(3)	(4)
Dummy for year 2009	0.0988	0.101	0.0586	0.104
	(0.0658)	(0.0788)	(0.0690)	(0.0934)
Interaction between dummy for treatment and dummy for year 2009	-0.135	-0.147	-0.170	-0.109
	(0.0892)	(0.0952)	(0.120)	(0.109)
Number of divisions in a house			0.0380	
			(0.0316)	
Distance to the food store or market			0.00784	
			(0.0142)	
Distance to nearest transport stop		0.00279	0.00412	
		(0.0168)	(0.0180)	
Number of children (14-17 years) in the household			0.0881	-0.00492
			(0.0908)	(0.0570)
Number of children (7-14 years) in the household			0.143*	0.0992**
			(0.0719)	(0.0363)
Number of children (0-7 years) in the household			0.227**	0.166***
			(0.0784)	(0.0237)
Number of working age men in the household		0.0284	0.133	0.194*
		(0.0498)	(0.117)	(0.0901)
Number of elderly in the household			0.0241	0.0118
			(0.0436)	(0.0606)
Total number of people in the household		-0.0136	-0.142	-0.111**
		(0.0149)	(0.0760)	(0.0340)
Female-headed household			-0.0826	-0.0287
			(0.0498)	(0.0903)
Education dummies	No	No	Yes	Yes
Household dummies	No	No	No	Yes
Dummy for treatment	Yes	Yes	Yes	No
Constant	0.716***	0.734***	0.776**	1.454***
	(0.0174)	(0.0721)	(0.218)	(0.104)
Observations	313	307	269	304
R-squared	0.008	0.013	0.068	0.100

Robust standard errors in parentheses, clustered by villages

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

Table T: Marginal Effects of Cash Transfers on Household's Ownership of Durable Goods

VARIABLES	(1)	(2)	(3)	(4)
Dummy for year 2009	-0.0778	-0.0991*	-0.181**	-0.119*
	(0.0428)	(0.0443)	(0.0733)	(0.0568)
Interaction between dummy for treatment and dummy for year 2009	0.0725	0.0887	0.171	0.124
	(0.0648)	(0.0554)	(0.107)	(0.0736)
Number of divisions in a house			0.0475	
			(0.0338)	
Distance to the food store or market			0.000149	
			(0.0327)	
Distance to nearest transport stop		0.00504	-0.00197	
		(0.0102)	(0.0131)	
Number of children (14-17 years) in the household			0.0810	0.0957
			(0.0543)	(0.150)
Number of children (7-14 years) in the household			0.0789	0.0946
			(0.0839)	(0.1000)
Number of children (0-7 years) in the household			-0.0224	0.0208
			(0.0858)	(0.117)
Number of working age men in the household		0.0256	0.0990	0.0651
		(0.0506)	(0.0585)	(0.0942)
Number of elderly in the household			0.0930*	0.0623
			(0.0452)	(0.0477)
Total number of people in the household		0.0432**	-0.0414	-0.0831
		(0.0152)	(0.0560)	(0.0682)
Female-headed household			-0.184**	-0.481*
			(0.0728)	(0.219)
Education dummies	No	No	Yes	Yes
Household dummies	No	No	No	Yes
Dummy for treatment	Yes	Yes	Yes	No
Constant	0.571***	0.431**	0.967***	0.776***
	(0.102)	(0.138)	(0.187)	(0.174)
Observations	307	301	266	298
R-squared	0.021	0.062	0.174	0.105

Robust standard errors in parentheses, clustered by villages

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

Table U: Marginal Effects of Cash Transfers on Household's Usage of Detergent

VARIABLES	(1)	(2)	(3)	(4)
Dummy for year 2009	-0.180***	-0.224**	-0.215**	-0.182***
	(0.0343)	(0.0657)	(0.0816)	(0.0373)
Interaction between dummy for treatment and dummy for year 2009	0.311	0.368*	0.372	0.307
	(0.175)	(0.175)	(0.205)	(0.183)
Number of divisions in a house			0.0326	
			(0.0291)	
Distance to the food store or market			0.0533	
			(0.0303)	
Distance to nearest transport stop		-0.0225	-0.0468	
		(0.0299)	(0.0344)	
Number of children (14-17 years) in the household			-0.233**	-0.151
			(0.0632)	(0.136)
Number of children (7-14 years) in the household			-0.168**	-0.0546
			(0.0625)	(0.0844)
Number of children (0-7 years) in the household			-0.187**	-0.207**
			(0.0692)	(0.0838)
Number of working age men in the household		0.0366	-0.133*	-0.244*
		(0.0215)	(0.0625)	(0.115)
Number of elderly in the household			-0.0873	-0.0428
			(0.0533)	(0.0550)
Total number of people in the household		0.0344**	0.159**	0.112
		(0.0140)	(0.0433)	(0.0757)
Female-headed household			0.157**	0.000482
			(0.0549)	(0.232)
Education dummies	No	No	Yes	Yes
Household dummies	No	No	No	Yes
Dummy for treatment	Yes	Yes	Yes	No
Constant	0.550***	0.522***	0.738***	0.941***
	(0.0807)	(0.0965)	(0.174)	(0.192)
Observations	313	307	268	304
R-squared	0.026	0.067	0.160	0.128

Robust standard errors in parentheses, clustered by villages

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

Table V: Marginal Effects of Cash Transfers on Household's Acquisition of Soap

VARIABLES	(1)	(2)	(3)	(4)
Dummy for year 2009	-0.0370	-0.0839	-0.0714	-0.0453
	(0.0825)	(0.0920)	(0.131)	(0.0880)
Interaction between dummy for treatment and dummy for year 2009	0.155	0.212*	0.230	0.152
	(0.0877)	(0.100)	(0.163)	(0.0956)
Number of divisions in a house			-0.00125	
			(0.0374)	
Distance to the food store or market			0.0297	
			(0.0336)	
Distance to nearest transport stop		-0.0557**	-0.0740**	
		(0.0196)	(0.0253)	
Number of children (14-17 years) in the household			-0.00381	-0.0444
			(0.0755)	(0.105)
Number of children (7-14 years) in the household			-0.134**	-0.0490
			(0.0524)	(0.0739)
Number of children (0-7 years) in the household			-0.123	-0.156*
			(0.0752)	(0.0729)
Number of working age men in the household		0.00258	-0.121*	0.0196
		(0.0428)	(0.0572)	(0.0866)
Number of elderly in the household			-0.0343	0.0776
			(0.0678)	(0.0720)
Total number of people in the household		0.0107	0.0958**	0.00636
		(0.00888)	(0.0383)	(0.0461)
Female-headed household			0.0641*	-0.0599
			(0.0319)	(0.248)
Education dummies	No	No	Yes	Yes
Household dummies	No	No	No	Yes
Dummy for treatment	Yes	Yes	Yes	No
Constant	0.605***	0.760***	1.001**	0.653**
	(0.0878)	(0.133)	(0.346)	(0.187)
Observations	314	308	269	305
R-squared	0.027	0.065	0.106	0.081

Robust standard errors in parentheses, clustered by villages

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

Table W: Marginal Effects of Cash Transfers on Performance of Any Type of Work for Pay by Children (6-12 years old)

VARIABLES	(1)	(2)	(3)	(4)
Dummy for year 2009	0.168***	0.165***	0.149**	0.216***
	(0.0362)	(0.0387)	(0.0522)	(0.0342)
Interaction between dummy for treatment	-0.290***	-0.292***	-0.262***	-0.346***
and dummy for year 2009	(0.0759)	(0.0744)	(0.0737)	(0.0993)
Gender (male)		0.0257	0.0128	0.0264
		(0.0379)	(0.0406)	(0.0910)
Living parent		-0.0823*	-0.0613	0.271
		(0.0410)	(0.0558)	(0.368)
Household head reads and writes			-0.0334	-0.349
			(0.0946)	(0.460)
Minutes to primary school			0.0354	
			(0.0534)	
Distance to the nearest transport stop			0.0136	
			(0.0829)	
Good condition of ceiling in a house			0.0712	
			(0.0758)	
Good condition of walls in a house			-0.136*	
			(0.0686)	
Household own bicycle			-0.0737	
			(0.0632)	
Household owns radio			0.00418	
			(0.0780)	
Household bought non-durable goods			0.0320	
			(0.0664)	
Number of children (14-17 years) in the household			-0.0474	0.161
			(0.0563)	(0.236)
Number of children (7-14 years) in the household			-0.0357	0.0643
			(0.0585)	(0.194)
Number of children (0-7 years) in the household			-0.0355	0.115
			(0.0586)	(0.175)
Number of working age men in the household			0.0241	0.106
			(0.0429)	(0.208)
Number of elderly in the household			-0.106*	0.0865
			(0.0512)	(0.180)
Total number of people in the household		-0.00836	0.00663	-0.0987
		(0.00566)	(0.0439)	(0.189)
Female-headed household			-0.0912	0.836*
			(0.0633)	(0.413)
Age of a household head			6.57e-05	-0.00194
			(0.00156)	(0.00256)
Age dummies	No	No	Yes	Yes
Household dummies	No	No	No	Yes
Dummy for treatment	Yes	Yes	Yes	No
Constant	0.0175	0.124*	0.351*	-0.927*
	(0.0190)	(0.0591)	(0.192)	(0.470)
Observations	204	203	203	106
R-squared	0.076	0.096	0.290	0.572

Table X:Weighted regression: Marginal Effects of Cash Transfers on Performance of Any Type of Work for Pay by Children (6-12 years old)

VARIABLES	(1)	(2)	(3)	(4)
Dummy for year 2009	0.00431	-0.0135	0.140	0.102
	(0.0398)	(0.0941)	(0.114)	(0.105)
Interaction between dummy for treatment	-0.0797	-0.0628	-0.220*	-0.147*
and dummy for year 2009	(0.0489)	(0.0985)	(0.113)	(0.0751)
Gender (male)		-0.0291	0.0194	-0.0305
		(0.0708)	(0.0503)	(0.0468)
Living parent		-0.0485	-0.0854	0.421
		(0.0491)	(0.0594)	(0.332)
Household head reads and writes			0.00850	-1.194***
			(0.0776)	(0.391)
Minutes to primary school			0.0532	
			(0.0539)	
Distance to the nearest transport stop			-0.0765	
			(0.0703)	
Good condition of ceiling in a house			1.25e-07	
			(0.0342)	
Good condition of walls in a house			-0.116**	
			(0.0508)	
Household own bicycle			-0.130	
			(0.114)	
Household owns radio			0.0272	
			(0.120)	
Household bought non-durable goods			0.100	
			(0.0684)	
Number of children (14-17 years) in the			-0.000868	0.163
household			(0.133)	(0.0920)
Number of children (7-14 years) in the			-0.0650	0.0926
household			(0.115)	(0.0628)
Number of children (0-7 years) in the			-0.0816	0.236*
household			(0.0937)	(0.122)
Number of working age men in the			-0.0250	0.302***
household			(0.112)	(0.100)
Number of elderly in the household			-0.153*	0.194
			(0.0860)	(0.139)
Total number of people in the household		-0.00961	0.00231	-0.0986
		(0.00802)	(0.0992)	(0.0572)
Female-headed household			-0.230**	0.671
			(0.103)	(3.999)
Age of a household head			0.000996	-0.00567
			(0.00303)	(0.00449)
Age dummies	No	No	Yes	Yes
Household dummies	No	No	No	Yes
Dummy for treatment	Yes	Yes	Yes	No
Constant	0.0313	0.120	0.462	-0.444
	(0.0396)	(0.101)	(0.274)	(0.563)
Observations	200	200	200	106
R-squared	0.013	0.026	0.469	0.552