Food and Agriculture Organization
of the United Nations

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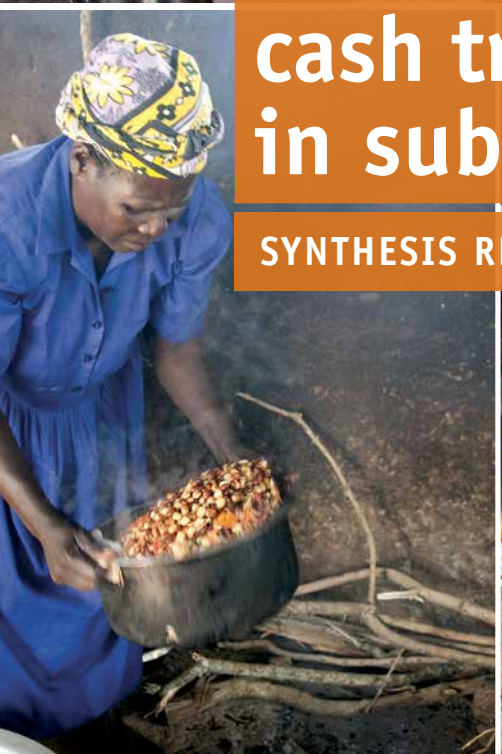
SYNTHESIS REPORT



The household and individual-level economic impacts of cash transfer programmes in sub-Saharan Africa

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FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS, ROME 2017

ISBN 978-92-5-109635-2

Cover page photos:

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ABSTRACT

Results from seven recently completed rigorous impact evaluations of government-run unconditional social cash transfer programmes in sub-Saharan Africa show that these programmes have significant positive impacts on the livelihoods of beneficiary households. In Zambia, the Child Grant programme had large and positive impacts across an array of income generating activities. The impact of the programmes in Ethiopia, Kenya, Lesotho, Malawi and Zimbabwe were more selective in nature, while the Livelihood Empowerment Against Poverty programme in Ghana had fewer direct impacts on productive activities, and more on various dimensions of risk management.

In most countries there was a reduction in household participation in casual agricultural wage labour, often seen as an activity of last resort, with reallocation of labour in a number of cases to on-farm activities. Cash transfers did not translate into an overall reduction in work effort or increased dependency on the transfers. In most of the countries, transfers led to increased use of agricultural inputs and increases or changes in agricultural production. Most of the cash transfer programmes led to increased livestock accumulation. In almost all countries, cash transfers allowed beneficiary households to avoid negative risk coping strategies and to better manage risk, partly by allowing beneficiaries to "re-enter" existing social networks and thus strengthen their informal social protection systems. The differences in impacts across countries can be attributed to a variety of factors, including the availability of household labour and programme design and implementation, in particular the level of transfers, the regularity and predictability of payments and the type of messaging associated with receipt of the programme.

PREFACE

This report synthesizes the analysis and findings of a set of seven country impact evaluation studies that explore the impact of cash transfer programmes on household economic decision-making, productive activities and labour allocation in sub-Saharan Africa. The seven countries are Ethiopia, Ghana, Kenya, Lesotho, Malawi, Zambia and Zimbabwe. The research is being carried out under the auspices of the "From Protection to Production" (PtoP) project, a collaborative effort of the United Nations Children's Fund (UNICEF), the United Kingdom Department for International Development (DFID) and the Food and Agriculture Organization of the United Nations (FAO). The PtoP is part of a larger effort, the Transfer Project – jointly implemented by UNICEF, FAO, Save the Children and the University of North Carolina – that supports the implementation of cash transfer evaluations in sub-Saharan Africa. The PtoP research covers themes such as the extent to which cash transfers can help households to manage risk, overcome credit constraints, make productive investments and improve their access to markets, as well as the effect of transfers in stimulating local economies. It complements other studies of cash transfer programmes that focus more on social indicators such as health and education outcomes.

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ACKNOWLEDGEMENTS

We would like to thank: Fabio Veras Soares for excellent peer-review of the report; Marco Knowles for the technical review; Brett Shapiro and Chiara Gnetti for copy editing, and Pietro Bartoleschi, Elisabetta Cremona and Arianna Guida of Studio Bartoleschi Communication Design for the graphic design. All mistakes and omissions are our own. We would also like to remember Josh Dewbre, a founding member of the PtoP team, who passed away in April 2015, who had participated in the fieldwork and in the analysis of several programmes included in this report.

ABBREVIATIONS AND ACRONYMS

CG Child Grant model of the Social Cash Transfer (Zambia)

CGP Child Grants Programme (Lesotho)

CSR Center for Social Research, University of Malawi

CT-OVC Cash Transfer to Orphans and Vulnerable Children (Kenya)

CASS Centre of Applied Social Sciences, University of Zimbabwe

DFID Department for International Development, UK

DiD Difference-in-Differences

FAO Food and Agriculture Organization of the United Nations

FEG Food Emergency Grant (Lesotho)

FISP Farmer Input Subsidy Programme (Malawi)

Ha Hectare

HSCT Harmonized Cash Transfer Programme (Zimbabwe)

ISSER Institute of Statistical Social and Economic Research, University of Ghana

IPW Inverse Probability Weighting

Kg Kilogram

LEAP Livelihood Empowerment Against Poverty Programme (Ghana)

MKW Malawian Kwacha

OVC Orphans and vulnerable children

pp Percentage points

PtoP From Protection to Production

PSM Propensity Score Matching

RCT Randomized Control Trial

RDD Regression Discontinuity Design

SCTP Social Cash Transfer Programme (Malawi)

SCTPP Tigray Social Cash Transfer Pilot Programme (Ethiopia)

SSA Sub-Saharan Africa

UNICEF United Nations Children's Fund

ZMK Old Zambian Kwacha

ZMW New Zambian Kwacha

BOX 1 INTERNATIONAL DOLLARS (PPP) CONVERSION RATES

Countries	Baseline	Follow up
Ethiopia	2011: 4.919*	2013: 6.659
Ghana	2010: 0.627	2012: 0.791
Kenya	2007: 25.035	2011: 34.298
Lesotho	2011: 3.923	2013: 4.188
Malawi	2013: 110.37	2014: 131.073
Zambia	2010: 2.185	2012: 2.499
Zimbabwe	2013: 0.52	2014: 0.517

*Units of local currency per 1 international dollar

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EXECUTIVE SUMMARY

Research background

This synthesis report presents findings on the impacts of cash transfer programmes on households' productive activities. These effects were assessed using evaluations undertaken through the From Protection to Production (PtoP) project, which was initially funded by the United Kingdom Department for International Development (DFID) with complementary funding from the European Union and FAO's Regular Programme. Working under the umbrella of the Transfer Project, which focuses on the broad range of impacts of government-run cash transfer programmes in sub-Saharan Africa (SSA), the PtoP project explored the linkages between social protection, agriculture and rural development. The project included evaluations of government-run programmes in seven sub-Saharan countries: Ethiopia's Social Cash Transfer Pilot Programme (SCTPP); Ghana's Livelihood Empowerment Against Poverty (LEAP); Kenya's Cash Transfer to Orphans and Vulnerable Children (CT-OVC); Lesotho's Child Grants Programme (CGP); Malawi's Social Cash Transfer (SCT) programme; the Child Grant (CG) model of Zambia's Social Cash Transfer (SCT) programme; and Zimbabwe's Harmonised Social Cash Transfer (HSCT) programme.

Methodology

Most of these evaluations used mixed methods, combining qualitative research, econometric analysis of quantitative evaluation data, and general equilibrium modelling of local economy impacts. This report focuses on the results from the quantitative evaluation data, complemented by results from the qualitative research.

In four of the countries —Kenya, Lesotho, Malawi and Zambia—randomized control trials were used to create a counterfactual. In this approach, randomization was implemented at the village or community level to avoid impact results being contaminated by spillover effects on control households. In Zimbabwe, a matched case-control design was used. Comparison districts entering the programme at a later stage were matched to treatment districts by agro-ecological conditions, level of development and availability of services. Targeting to identify eligible households was identical for both treatment and comparison wards, so as to create a genuine 'delayed entry' comparison group. A longitudinal propensity score matching (PSM) design was used for the evaluation of the LEAP programme in Ghana. Baseline data were collected from future beneficiaries and matched to a comparison group of households who were part of a larger nationally representative sample of households (and who were not going to be beneficiaries of the programme). Finally, in Ethiopia, randomization was not possible, so control communities were purposefully selected within treated communities (*tabias*) and a PSM design was used.

Evaluators used the difference-in-difference (DiD) estimator to estimate the average treatment effect of the cash transfer programmes. The DiD was estimated in a multi-variate framework, controlling for potential intervening factors that might not be perfectly balanced across treatment and control units and/or are strong predictors of the outcome. Cluster-robust standard errors were applied due to clustering of households within communities. In three of the studied programmes (Lesotho, Zambia and Zimbabwe), evaluators used inverse probability weights to account for attrition in the follow-up sample. In the remaining four countries, attrition was either quite low (Ghana and Malawi) or not systematically related to observed characteristics over time (Ethiopia and Kenya).

The qualitative field work took place in six countries - Ethiopia, Ghana, Kenya, Lesotho, Malawi and Zimbabwe - and was guided by a shared set of hypotheses and a common methodology. The methodology included focus groups using participatory methods, key informant interviews and in-depth household case studies. The field work used a number of tools, including social mapping, livelihood analysis, institutional analysis and household income and expenditure analysis.

Findings

Overall, the cash transfer programmes had significant positive impacts on the income-generating activities of beneficiary households, although the intensity and nature of these impacts varied across countries and types of households. Taken together, instead of reducing work effort or creating dependency, the cash transfer programmes clearly increased the ability of households to improve their livelihoods.

Crop production. Crop production increased as a result of the cash transfer programmes in Lesotho and Zambia, while in Ethiopia, Malawi and Zimbabwe, cash transfers induced changes in the types of crops that were cultivated. Programmes led to increased crop sales in Ethiopia, Malawi and Zambia and increased the consumption of own-farm production in Kenya and Zambia. A significant increase in livestock holdings, particularly of chickens and smaller animals, was common to most countries, with the exception of Ethiopia and Ghana, where beneficiaries reduced the size of holdings.

Agricultural inputs. The cash transfer programmes had significant impacts on the use of, and expenditure on, agricultural inputs such as seeds, fertilizer and pesticides, although the magnitude and type of input varied considerably across countries. Increased investment in agricultural assets was limited to ownership and/or use of small agricultural tools, for which significant positive impacts were found in Ethiopia, Malawi, Zambia and Zimbabwe. As for area of cultivated land, only the CG model in Zambia showed significant impacts.

Time and labour allocation. The cash transfer programmes gave households more flexibility in terms of time, affecting labour reallocation within and outside the household. While programmes did not lead to a reduction in the household's total labour supply, a reduction in agricultural wage labour was common to most countries. In Ghana and Zambia this was offset by a significant increase in on-farm labour activities by household members. While in most cases not statistically

significant overall, this shift from agricultural wage labour of last resort to their own on-farm activities was observed among some sub-groups of men and women (i.e. elderly females in Malawi and adult males in Ghana) and was consistently recounted during qualitative field work in Ghana, Kenya, Lesotho, Malawi and Zimbabwe. As one elderly beneficiary said, "I used to be a slave to *ganyu* (labour) but now I'm a bit free." Moreover, in a number of countries the impact varied by gender and/or age—in Malawi for example, adult males were more likely to work on farm, while adult females were less likely.

Risk management. The cash transfer programmes improved risk management capacities, although the specific behaviour changes varied by country. Households diversified their income-generating activities by increasing their engagement in non-farm businesses (Zambia and Zimbabwe) or switching types of non-farm business (Malawi). A reduction in negative risk-coping strategies, such as distress sales of assets, begging or changing eating patterns, was seen in Ethiopia, Lesotho and Malawi, probably as a consequence of improved food security, while beneficiary households in almost all countries were less likely to take their children out of school. In Ethiopia, Ghana and Malawi, cash transfers contributed to debt repayments and to a reduction in loans. With the exception of Lesotho and Malawi, cash transfers did not crowd out private remittances from family members living outside the community.

Social networks. In general, the programmes reinforced existing social networks by increasing informal transfers within communities and increasing participation of the poorest households in these networks. Statistically significant impacts on receipt and provision of informal transfers were found in Ghana, Lesotho and Zimbabwe, while qualitative fieldwork in Ethiopia, Ghana, Kenya, Lesotho, Malawi and Zimbabwe, found that the programmes increased social capital and allowed beneficiaries to "re-enter" existing social networks and/or to strengthen informal social protection systems and risk-sharing arrangements.

Taken overall, the programme in Zambia had large and positive impacts across an array of income-generating activities. The impacts of programmes in Ethiopia, Kenya, Lesotho, Malawi and Zimbabwe were more selective in nature, even though no clear pattern in results was observed, while the LEAP programme in Ghana had fewer impacts on productive activities, and more on various dimensions of risk management.

Programme impacts appear to be bigger - both for livelihoods as well as other outcomes - when transfers are regular and predictable, which allows households to plan their spending and smooth their consumption, essentially expanding their time horizon and letting them think about the future, instead of just daily survival. Transfer levels also need to be large enough -between 20 and 30 percent of beneficiary pre-programme consumption appears to be the level that leads to stronger impacts across a range of domains. Specific features of individual programmes, such as whether the target group has adequate labour and whether there are specific messages surrounding the transfer, are also important in explaining cross-country variations in productive outcomes.


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1. Introduction

Cash transfers have become a primary means of promoting social protection in developing countries. In general, cash transfer programmes provide cash to beneficiary households with the objective of alleviating poverty while at the same time contributing to long-term poverty reduction (Fiszbein *et al.*, 2009; Slater, 2011). As cash transfers are key components of social protection strategies, understanding their impact on social outcomes is critical. A large body of literature has emerged on the social impacts of cash transfers, which focused primarily on the health, nutrition and schooling of the children of the poor (Fiszbein *et al.*, 2009; Adato and Hoddinott, 2010; Handa, Devereux and Webb, 2010). Yet cash transfers may have more than just social impacts, leading also to economic impacts, a dimension that has not received much attention in cash transfer impact evaluation literature. For this reason, this report examines the impacts of cash transfers on economic activities, productive investment and labour supply.

From a policy perspective, understanding the productive impacts of cash transfer is important, as governments often voice concerns about "dependency" when cash transfers are used as a means of social protection. First, there is a concern that providing cash to the poor leads them to work less and to live off the transfers. An analysis of resource use, particularly labour use, and the productive impacts of cash transfers then provides insights into whether, in the short to medium term, cash transfers induce households to reduce their productive activities or to increase them. Increases in productive activity should allay fears that transfers are driving beneficiaries away from work and creating laziness.

Second, there is a concern regarding whether over the medium term a cash transfer programme could induce households or individuals to transition out of poverty and to "graduate" from the programme (Daidone *et al.*, 2015). Of course, given the focus on often very poor households and on breaking the intergenerational transmission of poverty through improved child outcomes, such an expectation may be unrealistic. But assessing the economic impact of cash transfers can at least determine if transfers are consistent with increased productive engagement and asset accumulation. The analysis presented here helps to at least partially address concerns of policy makers regarding dependency.

Understanding the productive impacts of cash transfers is also of research interest. If markets function perfectly, the expectation is that providing cash to poor households should have no impact on production (Singh *et al.*, 1986). In the presence of credit, insurance, labour and other market constraints, the provision of cash may help overcome market failures, leading to greater productive investment and spending, and potentially creating a household-level multiplier effect. Along with shifting investment and spending, cash may also lead to a reallocation of household resources, particularly labour. If cash transfers have these types of impact, it is suggestive of

market failures. A relatively small number of papers have sought to address these productive impacts, including Boone *et al.* (2013) and Covarrubias, Davis and Winters (2012) for Malawi, Gertler *et al.* (2012) and Todd, Winters and Hertz (2010) for Mexico, Veras Soares, Perez Ribas and Issamu Hirata (2010) for Paraguay and Maluccio (2010) for Nicaragua. However, few have collected data for the purpose of examining productive impacts and are thus limited in what they can analyse.

This paper brings together evidence from seven experimental and non-experimental impact evaluations of government-run unconditional cash transfer programmes in SSA. The unique focus on economic and productive impacts of cash transfer programmes was introduced into these evaluations by the From Protection to Production (PtoP) research project, itself part of the broader Transfer Project, a joint FAO, UNICEF and University of North Carolina effort to support and systemize lessons from impact evaluations of cash transfer programmes in SSA. The PtoP project facilitated more in-depth modules on household productive activities and risk management, including labour and social networks of reciprocity, and combined the social experiments with qualitative field work and village level computable general equilibrium-Local Economy Wide Impact Evaluation modelling in a mixed-method approach.

To meet the objectives of the report, this paper is divided as follows: Section 2 provides an overview of the seven cash transfer programmes included in the PtoP project as well as a discussion of why these programmes might have a productive effect at the household level; Section 3 describes the methodology used to analyse the programmes and includes a discussion of the models used to assess the programmes; Section 4 provides an overview of the results coming from the impact evaluations of the seven programmes; and Section 5 presents conclusions and policy implications.

2. Cash transfer programmes and their potential productive impact

The basic characteristics of the seven government-run cash transfer programmes covered in the paper can be found in Table 1. Most of them provide cash without any explicit conditions on their receipt, although in some cases there appears to be either some messaging or soft conditions. For example, in Lesotho the transfer is provided with messaging on the importance of children's needs like food, clothes, shoes, school uniforms and related expenses (Oxford Policy Management, 2014; Pellerano *et al.*, 2014). In Malawi a bonus payment is provided for schooling, highlighting the emphasis on investment in children. In Ghana, caretakers of orphans and vulnerable children (OVC) are supposed to register the children and ensure they are enrolled in school, but these conditions are not applied (Oxford Policy Management, 2013). While the cash remains unconditional, for reasons discussed more fully below such messages might have an impact on the use of transfer funds.

The targeting of a programme determines the characteristics of the households receiving the transfer. The targeting in these programmes tends to emphasize very poor households with limited availability of labour. Ethiopia, Ghana and Kenya explicitly target households with OVCs, and most programmes target households that are explicitly defined as labour-constrained or that are likely to be labour-constrained by the manner in which they are identified (e.g. elderly, single parents, OVCs being supported by grandparents or single parents.). The Child Grant model of the Zambia Social Cash Transfer (CG) is an exception to this approach for two reasons: first, it targets households with children in a more narrow age range (between 0 and 5 years), which has the implication of giving preferential access to families with relatively younger parents; second, it adopts a pure categorical targeting approach within communities, as it aims at covering all children within selected districts (Kalabo, Kaputa, Shangombo), and does not select households on the basis of poverty, as these districts are some of the poorest in Zambia. The CG model was eventually phased out by the Government of Zambia, as a consequence of an evaluation of the targeting categories of each model of the Social Cash Transfer (Oxford Policy Management and Rural Net Association, 2013), which indicated that the incapacitated (labour-constrained) model had a higher correlation with poverty (Michelo, 2015).

The importance of targeting is seen in Figure 1, where we observe the age pyramids of the baseline samples used for the evaluation of the seven programmes. In Zambia, there are a large number of children in the age band from 0 to 5 years of age, a large share of adults between 18 and 29 years

of age and very few elderly household members. The other countries show a smaller share of able-bodied adult members. In Malawi the programme targets families with children of primary school age (6-12 years). In Zimbabwe, and especially in Ghana and Ethiopia, a large segment of the sample is made up of elderly people who are partially programme beneficiaries themselves and partially caretakers of orphans and disabled people.

Along with the type of households that receive a transfer and the particular recipient within the household that receives the transfer, the amount of the transfer relative to household income or expenditures and the timing of the receipt of transfers is also important. As shown in Figure 2, the CG in Zambia was the most generous transfer for the eligible population, at around 28 percent of median household consumption at baseline. Most of the other programmes were providing between 20 and 25 percent of household consumption, with the noticeable exception of Ghana, where this share was around 10 percent—although after the follow-up survey the Government tripled the amount for transfer beneficiaries. Between the baseline and the follow-up survey, some governments increased the amount of the transfer: in Zambia the increase was meant to offset the negative effects of inflation, which eroded beneficiaries' purchasing power.[1] On the other hand, in Lesotho equity considerations drove the change from a flat transfer scheme to a transfer mechanism linked to the number of resident children.

Although transfers are intended to be provided on a regular basis, this is not necessarily what happens in practice. In Zambia the transfers were delivered regularly throughout the evaluation period, with only one missed payment in Shangombo district (American Institutes for Research, 2013a). In Ghana and Lesotho the schedule suffered major disruptions (Figure 3). In the latter countries, several missed payments occurred during the evaluation period, which were partly recovered with large lumpy amounts close to the follow-up survey.[2] Given these features of the programmes, the question to address is how they might affect the productive activities of recipient households.

Cash transfers and household productive decisions

If markets function perfectly, the provision of cash should have no impact on household decisions with respect to production. Households that face no labour, credit or other market constraints are assumed to be able to hire labour at the going wage, obtain credit at the prevailing interest rate, and buy and sell inputs or outputs at given market prices. Production decisions are made to provide the maximum return. Under such conditions, production and consumption decisions

1 In Zambia the transfer amount increased from 55 000 old Zambian Kwacha (ZMK) to 60 new Kwacha (ZMW). Between the two surveys, the rebasing was introduced at a rate of 1 000 ZMK = 1 ZMW. In Kenya the increase in transfer size took place after the 2011 follow-up survey and it was meant, as in Zambia, to deal with the negative effects of inflation.

2 In both Ghana and Lesotho access to administrative data on payments was obtained. While in Ghana data were aggregated at district level, in Lesotho data were provided at household level and thus we were able to construct the exact amounts delivered to each household included in the evaluation sample. In the remaining five countries administrative data were not available.

can be viewed as "separable" in that households first maximize profit/income from production decisions and then use the income generated from these decisions to maximize utility from consumption (Singh, Squire and Strauss, 1986). A cash transfer should influence consumption by relaxing a household's budget constraint, but not production.

Thus, hypothesizing a productive impact of cash transfers assumes that recipient households face market constraints. This appears reasonable in that poor households in developing countries potentially face significant barriers in multiple markets. Credit markets are plagued by asymmetric information which leads to adverse selection and moral hazard. One means of overcoming these problems is through the use of collateral. Yet, poor households often have difficulty borrowing due to a lack of secure assets to use as collateral and often face credit rationing due to asymmetric information or government policies (Feder *et al.,* 1990). Credit constraints are generally viewed as a key factor that limits poor agricultural households from investing optimally (Rosenzweig and Wolpin, 1993; Fenwick and Lyne, 1999; López and Romano, 2000; Barrett, Bezunehb and Aboud, 2001; Winter-Nelson and Temu, 2005). Similarly, markets for insurance to cope with risk are also plagued by issues of adverse selection and moral hazard. Even in localized settings where information availability might allow for enforcement of mutual insurance arrangements, the evidence suggests only partial insurance is possible (Deaton, 1992; Townsend, 1994; Jalan and Ravallion, 1999). As such, households faced with uncertainty often manage risk through *ex ante* strategies such as precautionary savings (via livestock or other assets) or diversification of varieties, crops and income-generating activities, which may not provide the highest expected income but allow for hedging against risk. In the labour market, monitoring worker effort is difficult, particularly in agriculture, where yields are uncertain and it is difficult to judge individual labour effort in yields (Dasgupta, 1993). The need to supervise hired labour can inhibit hiring and create an incentive to use family labour, thus making family and hired labour imperfect substitutes. In food markets, transportation costs, opportunity costs of time for transactions, and the need to gather market information add costs to selling and buying food, creating a price difference between the selling and buying price. These high transaction costs in staple markets can make self-sufficiency the optimal choice leaving some households outside the market (Key, Sadoulet and Janvry, 2000).

If multiple market failures exist as described above, the production and consumption decisions of households can be viewed as "non-separable" in the sense that they are jointly determined (Singh, Squire and Strauss, 1986). The choice of crops to produce is not necessarily what would be the most profitable, but what would ensure that households have enough food to eat. For example, to minimize the risk of high food prices, households may produce more food for consumption to ensure food security even if they could make more money from a cash crop (Fafchamps, 1992). Households may sell labour not because it is the highest return to labour, but to obtain liquidity to purchase inputs or as a means to hedge against risk. In general, households may take a series of actions to overcome liquidity constraints and to manage and cope with risk.

Under conditions of market imperfections and thus non-separability, an infusion of cash into a household can alter household decision making. Cash provides liquidity to allow the purchase of inputs and for productive investment that alter production possibilities. If the cash is a steady and regular external source of income, it should be uncorrelated with local economic cycles,

particularly the agricultural cycle, and thus allow for a reduction in income uncertainty. As such, the regularity of a transfer can alter a household's risk management and coping strategies, allowing greater investment in activities with the higher return rather than activities that reduce risk. Since transfers help overcome or limit the effects of market imperfections, the transfers can potentially alter productive decisions.

Since cash may facilitate overcoming constraints and allow spending and investment that was not previously possible, it is expected to alter resource allocation, expand productive activities and thus production and income. Of course, it could be that labour is being used in low productive activities to obtain liquidity or to hedge against risk. Cash could then act as a substitute for these activities and thus reduce labour time, creating what policy makers might view as evidence of dependency. The role of cash for a given household depends on the conditions facing the household. If a household has limited productive opportunities or complementary resources, such as labour or land, to take advantage of opportunities, transfers may have a limited productive influence and may primarily shift consumption outcomes. Alternatively, if credit and insurance constraints are binding and limit a household's ability to produce, cash transfers can have a substantial impact as they allow households to use their available resources and take advantage of productive opportunities. The impact of cash transfers on production is then likely to be heterogeneous and to depend on household characteristics and the context in which the household operates.

Given this situation, the design and implementation of a cash transfer programme has an influence on its potential productive impact. A key component of a programme's design is the targeting of beneficiaries, as the targeting rules determine the demographic profile of beneficiary households. As noted in Table 1 and discussed previously, many of the cash transfer programmes target labour-constrained households. With limited labour availability, the impact of cash transfers on production may be muted. The geographic targeting of households is also likely to affect the degree and direction of productive investments. Households in high-potential agricultural areas may be more likely to invest in agriculture as compared to those in areas with less potential or in peri-urban areas where non-agricultural activities may have a higher return.

Other aspects of programme design may also influence productive impacts. The above discussion makes two assumptions about household decision making: first, that the recipient of a transfer does not matter, and second, that the source of the transfer does not matter - that income is income. With respect to the former, the literature on intra-household allocation shows that households respond differently to income changes depending on who has control of the resources within a household (Quisumbing, 2003). If transfers target female beneficiaries, income is likely to be used differently than if transfers target male household members. If transfers accrue to household members who are more concerned with certain consumption preferences or even an interest in a particular productive activity, resources may be used in a certain direction. As noted in Table 1, for the programmes in which information is available there is a tendency to target women. In Zambia nearly all recipients are women, and they also represent a large majority of recipients in Ghana, Kenya and Malawi.

Even without explicit conditions on transfers, the fact they come from the government and come with messages or expectations can influence how they are used. There is evidence that

individuals use "mental accounting" to decide on how to use funds - that is, they dedicate income from certain sources for specific types of expenditures. For example, using data from Côte d'Ivoire, Duflo and Udry (2004) find that increases in the output of the "appreciated" crop, yam, are associated, *ceteris paribus*, with shifts towards expenditures on education, staples, and overall food consumption and away from adult goods and "prestige" goods such as jewellery. This suggests that certain income sources are mentally linked to expenditure categories and, therefore, if these income sources change associated expenditures change disproportionately (Villa, Barrett and Just, 2010). The use of transfers can then depend on how beneficiaries perceive these funds and if, due to messaging or other factors, they link these transfers to certain types of spending, including productive spending.

The household-level hypothesis to test then is that cash transfers have an impact on productive outcomes. The literature on this particular impact of cash transfer programmes is quite limited. In SSA, an early evaluation of the Malawi Social Cash Transfer Programme (SCTP) found positive impacts on agricultural and non-agricultural productive choices (Covarrubias, Davis and Winters, 2012; Boone *et al.*, 2013). In Latin America, the Mexican *Oportunidades* programme increased the value and variety of food consumed from own production and increases land use, livestock ownership, crop spending and the likelihood of operating a micro-enterprise (Todd, Winters and Hertz, 2010; Gertler, Martinez and Rubio-Codina, 2012). The Paraguayan *Tekopora* programme increased agricultural expenditures, particularly for extremely poor households (Veras Soares, Perez Ribas and Issamu Hirata, 2010). In Nicaragua, however, nearly all the transfer from the *Red de Protección Social* programme was used on consumption and education with little spending linked to agricultural or non-agricultural activities (Maluccio, 2010).

3. Methodological approach

Design of the evaluations

The objective of an impact evaluation is to attribute an observed impact to the programme intervention. The critical step in identifying impacts of cash transfers is to create a reasonable counterfactual of what would have happened in the absence of the programme. Since one cannot observe the outcome of a household if it had not been a beneficiary, an impact evaluation is essentially a missing data problem and entails identifying a group of non-beneficiaries, the control group, as similar as possible to the beneficiary group, to yield a proxy for this missing data (i.e., a counterfactual). Ideally, the only difference between the beneficiary and the control group is that the latter does not participate in the intervention. If the two groups are dissimilar in other dimensions, the outcomes of non-beneficiaries may differ systematically from what the outcomes of participants would have been without the programme, producing bias in the estimated impacts. This bias may derive from differences in observable characteristics between beneficiaries and non-beneficiaries (e.g. location, demographic composition, access to infrastructure, wealth) or unobservable characteristics (e.g. natural ability, willingness to work). Some observable and unobservable characteristics do not vary with time (such as natural ability), while others may vary (such as skills). Furthermore, the existence of unobservable characteristics correlated with both the outcome of interest and the programme intervention can result in additional bias (i.e. omitted variables).

Randomized control trials (RCTs) are widely seen as the best way to generate a reasonable control group (Khandker, Koolwal and Samad, 2010; Gertler *et al.*, 2011). For government programmes, this generally involves the use of randomized phase-in of beneficiaries into the programmes (Duflo, Glennersterz and Kremer, 2008). In this approach, eligible households in villages or communities where the programme will operate are identified and the order in which they will receive the programme is randomly determined. This creates a treatment group that will receive the programme in the short term and a control group which will eventually receive the programme but not during the evaluation period. The random selection is usually done at the village or community level to prevent the impact evaluation results are contaminated by spillover effects into the control group and for practical reasons. Since all treatment and control households meet the criteria for eligibility, the only difference between the two groups is that the treated group participates in the programme and control group does not (in the short run), creating the ideal control group. In four of the countries analysed for this study - Kenya, Lesotho, Malawi and Zambia - this approach was used to measure the counterfactual. Pellerano *et al.* (2012), Ward *et al.* (2010), Handa *et al.* (2014) and American Institutes for Research (2011) provide detailed descriptions of the different evaluation designs in these countries.

However, experimental designs are difficult to implement in practice for political, ethical, institutional and/or logistical reasons, particularly when programmes are owned by national governments. Non-experimental design methods are often used when a randomised experiment is not possible or when the experimental design fails to achieve a good balance among treatment and control groups, which can occur due to chance or when, for example, the number of units of randomisation is relatively small.

In the case of the Livelihood Empowerment Against Poverty (LEAP) programme in Ghana, an RCT was not possible due to practical considerations of the programme and the data collection, and a longitudinal propensity score matching (PSM) design was used instead. Baseline data were collected from future beneficiaries who were part of a larger nationally representative sample of households surveyed, as part of a research study conducted by the Institute for Statistical, Social and Economic Research of the University of Ghana-Legon (ISSER) and Yale University in the first quarter of 2010. A comparison group of 'matched' households was selected from the ISSER sample and re-interviewed after 24 months along with LEAP beneficiaries to measure changes in outcomes across treatment and comparison groups. The conditions surrounding the LEAP study were virtually ideal for PSM to approximate the benchmark experimental estimator as indicated by Diaz and Handa (2006) and Heckman *et al.* (1998): 1) a rich set of pre-programme information was available from both groups of households; 2) information was collected in the same manner, in this case using the exact same instruments, survey protocols and field teams; and 3) longitudinal data were available to account for potential unobserved community differences across comparison and intervention sites over time. The main challenge on the other hand, was the ability to generate enough observations from the national survey that were on the 'thick' region of common support, given LEAP's unique eligibility criteria. This proved difficult and was ultimately addressed by applying inverse probability weighting (IPW) to the resulting samples. Further details of this design and analysis of the matched comparison group are presented in the LEAP Evaluation Baseline Report (Handa and Park, 2011).

In Zimbabwe, the evaluation study of the Harmonized Social Cash Transfer Programme (HSCT) compared cash transfer recipient households from Phase 2 districts with eligible households in Phase 4 districts that were not going to receive the transfers during the period of the study. The major factor in the choice of a non-experimental design for the HSCT instead of a RCT was the stated policy of the Government that all eligible households would have been enrolled once a district entered the programme. This immediate scale-up of the programme within districts meant that it was not possible to use a lottery process to select beneficiaries and control households. Comparison districts entering the programme at a later stage were selected based on similarities to treatment districts by agro-ecological conditions, level of development, and culture. After randomly selecting the study wards within treatment districts and by geographic proximity and similarity in agro-ecological conditions in comparison districts, the Government conducted targeting to identify eligible households in exactly the same way in both the treatment and the comparison wards to create equivalent and comparable groups. In this sense, households in the comparison group are precisely those that are eligible for the programme and that were enrolled at a future date – they are thus a genuine 'delayed entry' comparison group (American Institutes for Research, 2013b).

Finally, in Ethiopia the Tigray Social Cash Transfer Pilot Programme (SCTPP) evaluation also faced significant constraints that conditioned the design of the impact evaluation, reducing the robustness of the analytical outcomes (Berhane *et al.*, 2011, 2012). First, randomization was not possible, given the rollout of the pilot. Second, the evaluators from the International Food Policy Research Institute argued that it was not possible to find comparable comparison communities (*tabias*), and therefore comparison households were taken from the treatment *tabias*. Third, the evaluators had originally planned to take advantage of the ranking system used in the targeting process to employ a Regression Discontinuity Design (RDD) approach to identify a comparison group. The programme is targeted via local community care coalitions (CCCs) at the *tabia* level. These coalitions first identify households that meet the criteria of extreme poverty and labour-constrained and then rank these households by neediness. Beneficiaries are then selected from this ranked list. Given the level of resources available for the SCTPP within this list, there is a cut-off point; households ranked below this cut-off point were to receive payments, while households above the cut-off do not. However, evaluators were not able to obtain detailed information on how the cut-off was constructed, and thus were not able to use the discontinuity approach. Instead, they used difference-in-difference (DiD) with PSM. Fourth, transfers began in September 2011, nine months prior to the implementation of the baseline, in June, 2012. Where possible, this was addressed by the including retrospective questions in the baseline survey.

With the creation of a reasonable control/comparison group, the quantitative analysis in each country involved taking a random sample of treatment and control households of suitable a size (based on power calculations) for assessing impact on key indicators, collecting baseline information prior to the start of the programme, and administering one or more rounds of follow-up data collection to assess impact. Table 2 provides an overview of the evaluation design of the programmes, noting when the first (baseline) and subsequent rounds of data were collected. It also includes the sample size for both the eligible and, when available, ineligible population. Data on the latter were needed to simulate multiplier effects that cash transfers generated in the local economies. In Ghana and Zambia this was done by recurring to alternative secondary data (Thome *et al.*, 2016).

Estimation issues

The statistical approach used by evaluators to derive the average treatment effect of the cash transfer programmes is the DiD estimator. The key assumption underpinning the DiD is that there is no systematic unobserved time-varying difference between the treatment and control groups, that would cause the outcomes for the comparison group and treated group to have different trajectories/trends over time. The random assignment to the groups, the geographical proximity of the samples, and the rather short duration between pre- and post-intervention measurements make this assumption reasonable. Further, the DiD was estimated in a multivariate framework, controlling for potential intervening factors that might not be perfectly balanced across treatment and control units and/or are strong predictors of the outcome. Not only does this allow for possible confounders to be controlled, but it also increases the efficiency of the estimates by reducing the residual variance in the model. Cluster-robust standard errors were applied to account for the lack of independence across observations due to clustering of households within communities (Bertrand, Duflo and Mullainathan, 2004). The SCTP evaluation in Malawi also employed a finite population correction. Further, in a few cases where panel data were not available (i.e. outcome variables were observed only at follow-up), a single-difference estimator or a PSM or a combination of the two, such as the IPW, were applied.

Another important methodological aspect is treatment of attrition. Several factors can cause households from the baseline sample to be missing at follow-up, such as migration, dissolution of the household, death and divorce. Not only does attrition lead to less precise estimates of programme impacts, due to reduced sample size, but it can also contribute to selection bias and a change in the characteristics of the sample. The former issue, known as differential attrition, leads to biased programme impact estimates, since the treatment and control samples differ in the types of individuals who leave the sample, eliminating the balance between the treatment and control groups. The latter problem instead is called overall attrition and affects the ability of the study's findings to be generalized.

In three of the studied programmes (Lesotho, Zambia and Zimbabwe), evaluators explicitly recognized these issues and used inverse probability weights to account for attrition in the follow-up sample. In Lesotho, the overall rate of attrition was not particularly high (8.8 percent), but Pellerano *et al.* (2014) found that there were some systematic differences in the response to the follow-up survey between the treatment and control group. The non-response rate among eligible households was higher in the control group (12 percent), compared to the treatment group (8 percent), because of a higher share of households in the control group having moved outside the cluster in a location where tracking was not viable. In Zambia, American Institutes for Research (2013a) tested for both types of attrition without finding any differential attrition, meaning that the benefits of randomization were preserved. They found instead small differences at the 24-month follow-up; the differences from overall attrition were primarily driven by the lower response rate in Kaputa district, where the Cheshi Lake had dried up, forcing baseline households that relied on the lake for fishing and farming to move their homes as they followed the shore of the lake inward. This problem in Kaputa affected treatment and control households equally. Similarly to the CG in Zambia, American Institutes for Research (2015) found no differential

attrition in Zimbabwe. However, some evidence of overall attrition emerged, since for 24 out of 135 outcome indicators at baseline, statistically significant differences were found between the group of households that remained in the follow-up and the households who were missing in the follow-up.

In Ghana and Malawi the overall attrition rate was quite low (6.7 and 4.5 percent respectively), a fact that does not rule out differential attrition, but makes it more difficult to occur. In fact, in Ghana Handa, *et al*. (2014) found that very few household characteristics were statistically significant determinants of attrition in both the treatment and comparison groups, and no systematic pattern was found. In Kenya, the attrition rate was quite substantial (18 and 22 percent at follow-ups in 2009 and 2011, respectively). However, Kenya CT-OVC Evaluation Team (2012) suggested that attrition of treatment households and larger households were less likely to occur over the time period analysed, so that their results might have been more relevant for larger households, although they controlled for household demographic composition.

4. Results and discussion

Baseline balance

In previous studies, assessing the impact of social cash transfers on productive outcomes has been limited due to the lack of data. In addressing this issue, working within the Transfer Project the PtoP project facilitated the addition of productive questions in the questionnaires administered to treatment and control groups. These questions included details about agricultural and non-agricultural economic activities as well as the use of labour by the household. As such, in each country a range of analyses can be conducted that were not possible in other studies. Of course, limitations in the ability to administer a questionnaire in a timely manner as well as varying priorities and contexts across countries mean that the specific questions asked in each case were not exactly the same. But the general modules were similar, allowing for comparison across countries.[3]

In Table 3, we provide basic baseline characteristics concerning income generating activities of eligible households for both the treatment and the control/comparison groups in the studied cash transfer programmes. Unsurprisingly, given the targeting of rural populations, the vast majority of beneficiaries are engaged in agricultural activities and work for themselves. The share of households dedicated to either livestock rearing or crop production is above 80 percent in five countries, with the exception of Ethiopia and Ghana (71 and 63 percent, respectively). A minority of households generate income from off-farm enterprises, especially in Ghana, where 30 percent of households are involved in small businesses such as retail sale. Given the lack of local labour markets, wage employment is mostly casual/temporary. Further, eligible households rely on various sources of cash and in-kind transfers, especially private remittances from friends and relatives.

In Table 4, key baseline characteristics of eligible households for both the treatment and the control/comparison groups are reported, with some of these variables being used for programme targeting. T-tests on the differences and low standardized biases show that randomization has worked to create a good counterfactual in Lesotho, Malawi and Zambia. In Zimbabwe too, despite the non-experimental nature of the study, the households' identification process managed to create equivalent balanced groups. Further, baseline reports produced by evaluators in each country tested additional primary outcome measures and control variables for statistical differences between the two groups. Only few indicators are not balanced between groups, and

[3] Details of the questionnaires can be found at the Transfer Project website under each country page (http://www.cpc.unc.edu/projects/transfer).

the differences are not large enough to be meaningful. Also some differences are to be expected as a result of chance, owing to the large number of statistical tests used, especially given the large sample sizes (Hurrell, Ward and Merttens, 2008; American Institutes for Research, 2011, 2013b; Pellerano *et al.*, 2012; Handa *et al.*, 2014).

In Ghana, the ISSER matched sample was quite different as compared to the sample of programme beneficiaries, because LEAP households are very unique and the ISSER survey was a national survey. Similarly in Ethiopia, there were a large differences in baseline characteristics across the treatment and comparison groups for a number of variables related to household demographic structure. For instance, households in the treatment group were much smaller than in the comparison group, with older heads, much more likely to be female-headed and more labour-constrained. These differences are not surprising, since controls were chosen from the non-selected households in treatment communities, because an RDD was envisioned at the beginning of the evaluation. In fact, these differences represent the success of the targeting process. In Kenya too, despite the RCT design, balance at baseline was not achieved because the final priority ranking of eligible households (based on age of household head) that was performed in treatment areas was not simultaneously conducted in control areas. Table 3 and Table 4 show household characteristics for these three countries after having applied IPW.

Household-level productive impacts

To test hypotheses that cash transfers have household-level productive effects, four sets of indicators are examined: (i) agricultural production, (ii) agricultural inputs and assets, (iii) labour use, and (iv) other livelihood strategies and risk coping behaviour. As argued previously, the expectation is that regular cash transfers provide a steady source of liquidity that can be used for spending on inputs and investment, since they allow a reallocation of resources towards more optimal uses, and reduce the need to cope with risk through alternative means. These are tested for the seven countries using the data and approaches outlined above. Since the details of questionnaires vary due to a number of aforementioned reasons, indicator availability and definitions may vary according to the country. Nonetheless, the tables of results have been organized to ensure the greatest comparability possible with data limitations noted (N/A=not available).

The results presented in the tables focus on full sample mean impacts. As Heckman, Smith and Clemens (1997) point out, however, judgments about the "success" of a social programme should depend on more than the average treatment effect. Many interesting questions regarding the political economy, distribution of benefits and the option values conferred on programme participants require the knowledge of the distribution of impacts. For instance, it may be of interest to assess whether social protection programmes have differentiated effects for any subgroups of study participants, as defined by their baseline characteristics, local area contexts, and programme experiences. Variation in effects has important implications, by informing decisions about how to best target specific interventions and suggesting ways to improve the design or implementation of the assessed interventions. Unconditional cash transfer programmes like those investigated in the PtoP project are likely to generate heterogeneous treatment effects. Cash is fungible and when provided without conditions can be spent on any good/service in different ways and can induce different behaviours on productive investment, risk management, labour and time use by members of beneficiary households.

In all seven countries included in the PtoP project, heterogeneity analysis has been widely performed, even though the choice of the sub-groups has not been the same across countries, since the analysis was done taking into account each country and programme context, as described below. Impact results are presented by the gender of the head of the household in four countries: Ethiopia, Ghana, Kenya and Malawi.[4] In Kenya and Zambia, the transfer provided by the CT-OVC and the CG programmes represented a fixed amount regardless of the number of household members. Therefore, a natural dimension of the heterogeneity analysis concerned the size of the household, with the sample being split between small and large households (i.e. households below and above the median size at baseline). As smaller households tend to receive a higher per capita amount compared to larger households, we expect that the impact of the programmes in these countries may differ for these subgroups. As mentioned in section 2, one of the main demographic characteristics of beneficiary households across programmes, with the noticeable

[4] In Zambia, the cash transfer was delivered to households in which women were the main breadwinner. 99.8 percent of sampled households were female headed, and as a consequence it was impossible to run this type of analysis.

exception of Zambia, is the relative absence of able-bodied adult labour. In Lesotho, Malawi and Zimbabwe the heterogeneity analysis focused on the varying degree of labour availability.[5] Finally, the only country where impact results are presented based on the geographic location of treatment and control/comparison groups is Ethiopia. The heterogeneity analysis of the Tigray SCTPP is done in two *woredas*: Abi Adi, an urban area, and Hintalo-Wajirat, a rural area (Asfaw *et al.,* 2015; Berhane *et al.,* 2015).[6] We refer to the most significant heterogeneous results, while discussing each set of indicators.

Impacts on agricultural production

Overall, the cash transfer programmes had statistically significant impacts on agricultural activities, although the nature of these impacts varied across countries and across types of households. Crop production increased in Lesotho and Zambia, while in Ethiopia, Malawi and Zimbabwe, cash transfers induced changes in the types of crops that were cultivated. A positive impact on livestock accumulation was common to most countries, with the exception of Ethiopia and Ghana.

Table 5 presents the impact of the cash transfer programmes on indicators of agricultural production. In Zambia agricultural output expanded, as shown by a slightly larger share of households producing rice and groundnut and a much larger value of harvest (145.9 new Zambian Kwacha - ZMW). The magnitude of impact for the latter result was greater for smaller households.[7] Cassava production fell, consistent with a reduction observed in consumption, probably as a result of the change in diets. This jump in agricultural output is associated with increases in home consumption and crop sales, the latter increasing by 12 percentage points (pp) from an overall base of 22 percent.

In Lesotho the CGP led to a significant increase in maize, sorghum and vegetable production. The latter is at least partially attributable to more rounds of planting and production. This increase in crop production did not translate into higher marketing of crops, except for a small increase in bartering. Because of high levels of food insecurity, the additional cereal production was likely used for own consumption, though we could not test this hypothesis due to a lack of specific questions in the survey instrument. In terms of heterogeneous impact effects, the large and positive impact on the quantity of maize produced was substantially driven by labour-unconstrained households, while the impacts on sorghum were significantly larger for moderately

[5] Households were divided in three groups. The first one included severely labour constrained households, if there was no able-bodied or fit-to-work member, i.e. no adult member (18-59 years of age) without chronic illnesses or disabilities. The second group included moderately labour-constrained households, where at least one able-bodied member was present, but the dependency ratio was greater than three. The third group was made up of labour-unconstrained households, in which the dependency ratio was equal or smaller than three.

[6] For Hintalo-Wajirat, Bahr Tseba was the only ward (*kebele*) where payments occurred after the baseline survey was completed. Further, payments in Bahr Tseba were backdated, so that beneficiaries received a lump sum payment in June 2012 (Behrane *et al.*, 2015). For these reasons, Asfaw *et al.* (2015) present results for Bahr Tseba separately from the other *kebeles* in Hintalo-Wajirat.

[7] The impacts on value of harvest for smaller households is 182.3 ZMW, going down for larger households to 104.2 ZMW without being statistically significant.

and severely labour constrained households.[8] Daidone *et al.* (2014) explain this different pattern of results by the lower labour requirements for sorghum compared to maize, especially for harvest activities. Further, households with labour capacity were also much more likely to be involved in homestead gardening.

In Zimbabwe, households moved away from traditional crops such as finger millet to groundnuts and pearl millet, and overall marketing of surplus production remained low (American Institutes for Research, 2015). Similarly, in other countries we observe a switch in crop production. For instance in Ethiopia the value of production increased by 256 Ethiopian Birr, probably driven by higher sorghum yields, but production of barley decreased. In Malawi, a smaller share of households cultivated pigeon pea and sorghum, but groundnut production increased. In both Ethiopia and Malawi, the impacts of the cash transfers on production were larger for male-headed households who reported significantly higher values of crop production in both countries. In Ethiopia, this result was a likely consequence of the higher sorghum yields and that male-headed households were cropping more sorghum than female-headed households.

Unsurprisingly, in Ethiopia, the magnitude of the impacts on crop production was relatively higher in Hintalo-Wajirat, which is a rural *woreda*. For instance, sorghum yields increased overall by 62.54 kilograms (kg), while barley yields decreased by 44 kg. These impacts were driven by the group of households in Hintal-Wajirato (excluding Bahr Tseba), where the impact estimates are 117 kg for sorghum and -79.57 for barley. Since sorghum is the most important commodity in the targeted districts, it does not come as a surprise that the positive impacts on its productivity led to positive impacts on the total value of production, which are clearly higher in Hintalo, both in absolute terms and per hectare (ha) of cultivated land.

Further, in Malawi the heterogeneity analysis was also extended to other aspects related to livelihoods. Given the importance of the Farmer Input Subsidy Programme (FISP), Asfaw, Pickmans and Davis (2015) reported the impacts of the SCT on crop productivity by baseline FISP and non-FISP beneficiaries. Since FISP provides subsidised improved seeds and chemical fertilizers mainly for maize, but also for cash crops such as cotton and tea, it is unsurprising that the SCT significantly contributed to higher maize productivity for FISP beneficiaries (32 kg per acre, around 12.9 kg per ha). Further, maize represents the most important crop in the districts targeted by the cash transfer programme (and in the whole country), which also explains why the impact on the value of production was significantly larger for FISP beneficiaries compared to non-FISP receivers (2 622 vs. 1 060 Malawian Kwacha - MKW, respectively). These results are quite interesting, as they reveal potential complementarities – confirmed in Pace *et al.* (2016) - between existing social protection and agricultural interventions. The impacts in Ghana and Kenya on the other hand were more muted and even suggest some shifting away from agricultural production.

With respect to livestock, five programmes had significant impacts: large effects on the share of households investing in diverse animal species and the number of heads of livestock in Malawi

[8] The 38.87 kg overall impact on the quantity of harvested maize increases up to 62.35 kg for labour-unconstrained households, while the overall 9.82 kg impact on sorghum reaches 22.74 kg and 49.32 kg for moderately and severely labour-constrained households.

and Zambia, especially chickens. More limited effects were observed in Kenya, Lesotho and Zimbabwe – for Kenya and Zimbabwe, the impact was concentrated on small ruminants, while for Lesotho the effect was on pigs. No impact was found in Ghana, and disinvestment out of livestock production was observed in Ethiopia. With respect to the heterogeneity of these results, in Malawi impacts on the number of animals owned were much larger for male-headed households, while the opposite occurred in Kenya, where impacts on female-headed households drove the results observed in livestock ownership. In Zambia, we observed stronger effects in livestock accumulation for larger households, as opposed to what was observed in crop production.[9]

Impacts on agricultural inputs and assets

Overall, the cash transfer programmes had significant impacts on the use of, and expenditure on, agricultural inputs such as seeds, fertilizer and pesticides, although the magnitude and type of input varied considerably across countries. Increased investment in agricultural assets was limited to ownership and/or use of small agricultural tools, for which significant positive impacts were found in Ethiopia, Malawi, Zambia and Zimbabwe. As for area of cultivated land, only the CG model in Zambia showed significant impacts.

Table 6 presents the impact of the cash transfer programmes on indicators of agricultural inputs. With cash available, households should potentially be able to expand purchase of inputs. Of course, this assumes agriculture is a desirable economic activity and inputs are available. Coherent with the results on crop production, overall this impact is most strongly seen in Zambia, where cash transfers increased the share of households purchasing crop inputs by 18 pp, especially seeds (10 pp), as well as the intensity of input purchases, which increased by around 31 ZMW. This increase in spending on crop inputs mirrored the crop production results in terms of heterogeneity, as the impact for smaller households was almost 43 ZMW, compared to a non-significant impact of 18.4 ZMW for larger households.

Similar results were found in Lesotho, although not to the same degree as in Zambia. The CGP contributed to a 7.4 and a 5.8 pp increase in the share of households purchasing seeds and chemical fertilisers, respectively. An increase in the use of pesticides was also observed (7.9 pp), which was probably the reaction to an armyworm outbreak (FAO Lesotho, 2014). Further, the observed impacts on agricultural inputs use and purchase are driven unsurprisingly by labour-unconstrained households.

In Ghana, the LEAP led to an increase in seed expenditures, a result driven by male-headed households, which also reduced the hiring of labour. In Kenya, instead, expenditure on seeds decreased, suggesting a shift away from intensified production. In Ethiopia we observed two opposite results: a reduction in the share of households using improved seeds and an increase in the share of those using fertilisers. In Malawi, while we did not observe significant impacts on the proportion of households using and/or purchasing crop inputs, intensity of use increased

[9] Livestock accumulation in rural settings is often considered a risk-coping strategy, a second-best means for precautionary savings. Therefore, an increase in livestock rearing can be seen also as a mean to overcome barriers in the access to insurance and credit markets. In these evaluation surveys it is not possible to differentiate when livestock accumulation represents a source of precautionary savings compared to when it represents increases in productive investments.

substantially for organic fertilisers by 157 MKW. The impacts on this indicator were led by male-headed households, reporting higher expenses than female-headed households, and by non-FISP beneficiaries. Finally no impacts are reported in Zimbabwe, except a negligible reduction in the proportion of households using pesticides. However, while purchase of chemical fertilizers is not significant overall, for severely labour constrained households, the impact is significant and equals USD 2.5. The heterogeneous impacts on crop input for both Malawi and Zimbabwe are clearly consistent with the observed heterogeneous impacts on crop production.

With respect to land use, in Zambia the CG brought about large increases in operated land (0.18 ha, which corresponds to around one third of baseline mean). In Ethiopia, the share of households using land increased by around 4 pp, while in Ghana land use significantly decreased by 0.3 ha. In Lesotho and Malawi, we did not observe significant changes in land owned or operated. In Kenya, data on land size were not collected, while in Zimbabwe estimates on land were not been made because of measurement issues occurring at baseline (American Institutes for Research, 2015; Daidone *et al.*, forthcoming).

The cash transfer programme in Zambia showed dramatic increases in agricultural tools, both for the share of households owning assets and the number of assets owned. These impacts were much higher for larger households. In other countries impacts were more selective, often linked to one asset. For instance, we observed an increase in sickle ownership in Ethiopia, Malawi and Zimbabwe, scotch carts in Lesotho and troughs in Kenya. While the programme in Ethiopia led to an increase in an overall farm tool index, there was a decrease in selected assets. Ownership of hoes and axes was generally widespread at baseline in all countries, and unsurprisingly we did not observe statistically significant impacts for these tools.

Impacts on labour supply

The cash transfer programmes affected labour reallocation within and outside the household, but did not reduce total labour supply nor create dependency. A reduction in casual agricultural labour was common to most countries. In Ghana and Zambia, this was offset by an increase in on-farm labour. Cash transfer programmes led to a decrease in the engagement of children in own-farm activities in four of the countries.

The impacts of cash transfers on labour allocation are presented in Table 7 (adult labour supply) and Table 8 (children work), with estimates divided across types of labour activities. Cash transfers led to a reduction in adult agricultural wage labour in all countries but Ghana and Zimbabwe. In interpreting these results, it should be clear that agricultural wage labour and even many non-agricultural activities in rural areas are often a "refuge" sector where poor households work to survive, hedge against agricultural risk or obtain needed liquidity. A reduction in participation and time worked in these activities is suggestive of improved economic conditions. In Zambia, the results showed that this shift in agricultural wage labour participation was compensated by significant increases of 20 days working on farm and by increases in nonfarm businesses (17 pp and 1.6 days weekly).

In the other countries, Ghana showed an increase in men working on their own farms (almost eight days), while conversely in Zimbabwe we observed a reduction in the intensity of farm family labour, 20 days less in the last rainy season (from December to March), especially male labour, as

cash transfer beneficiaries shifted to less labour-intensive crops (Daidone *et al.*, forthcoming). In Lesotho, results on wage labour could not be disentangled between farm and non-farm activities and showed a slight reduction in both participation and intensity of work. However, these impacts were significant only when a short horizon was considered (the week prior to the survey). When looking at longer recall periods, the statistical significance vanishes. In Malawi, the reduction in casual agricultural labour (*ganyu*) was quite relevant, especially for adult males (13 pp less and 17 days less in the last 12 months), and was not offset by either more own-farm agricultural labour or more work in non-farm family businesses. In Ethiopia, we observed a significant reduction in the number of days worked in off-farm family businesses, especially for women, although small in magnitude (1 day per month), and a reduced participation in non-agricultural wage labour, even though statistical significance and intensity vary by type of occupation.

Despite the lack of consistent statistical significance in the overall impact in the switch from casual agricultural wage labour to on-farm activities, this switch was recounted by beneficiaries in the qualitative field work in Ghana, Kenya, Lesotho, Malawi and Zimbabwe. As one elderly beneficiary said, "I used to be a slave to *ganyu* (labour) but now I'm a bit free" (Barca *et al.*, 2015). While casual labour remained an important coping strategy, the qualitative field work reported a generalized sense that beneficiaries had more choice about when to seek agricultural wage work, particularly outside the lean season (Barca *et al.*, 2015).

Moreover, heterogeneity analysis by gender and age revealed a more complex picture of this switch in a number of countries. For example, while in Malawi the SCT led to a large reduction in participation in *ganyu* labour, overall there was not a corresponding positive impact on on-farm activities (with the exception of a small increase in livestock activities). However, when disaggregating by gender, we found that adult males were more likely to work on farm, particularly in land preparation and planting, while adult females were less likely to do so. Elderly individuals, both male and female, were also more likely to carry out certain on-farm activities. The gender of the head of the household was also important; the lower likelihood of female participation in on-farm activities was concentrated in male-headed households.

With respect to engagement of children in work activities, participation in family farming decreased overall in Kenya and Lesotho, for younger children in Ethiopia and for girls in Zimbabwe.[10] With respect to paid labour, results were generally statistically not significant, with a significant reduction in wage labour for boys in Ethiopia and an increase in the number of days worked by boys in Malawi. However, despite the statistical significance, the latter results were quite modest in magnitude (0.7 days/month reduction in Ethiopia, 1 day/year increase in Malawi).

[10] With the survey instruments available in the seven countries of the project, it is rarely possible to disentangle the many kinds of work children do. Some are difficult and demanding, others are more hazardous and even morally reprehensible. With the term "child labour", organizations, such as the International Labour Organization, refer to work that deprives children of their childhood, their potential and their dignity, and that is harmful to physical and mental development. For this reason, we prefer to avoid using the term child labour in the report since this could create misunderstanding, even though from an economic point of view, terms such as child labour, child work or engagement of children in family farming or wage labour can be used interchangeably.

Impacts on other livelihood strategies and risk-coping behaviour

The cash transfer programmes improved risk management capacities, although the specific behaviour changes varied by country. Households diversified their income-generating activities by increasing their engagement in non-farm businesses (Zambia and Zimbabwe) or switching types of non-farm business (Malawi). A reduction in negative risk-coping strategies, such as distress sales of assets, begging or changing eating patterns, was seen in Ethiopia, Lesotho and Malawi, while beneficiary households in almost all countries were less likely to take their children out of school. In a few countries cash transfers contributed to debt repayments and to a reduction in loans. With the exception of Lesotho and Malawi, cash transfers did not crowd out private remittances. The programmes in general reinforced existing social networks by increasing informal transfers within communities and increasing participation of the poorest households in these networks.

Table 9 and Table 10 present results on other livelihood strategies and risk-coping behaviour where information is available. The cash transfer programmes in Zambia and Zimbabwe led to significant increases in non-farm enterprises. In Zambia the impact was quite large in magnitude both on the share of households operating a business (almost 17 pp) and on the intensive margin of these operations (1.4 more months in operations and 69 ZMW more monthly profits for cash transfer beneficiaries compared to the control group). In Zimbabwe, the impacts were smaller in size but still economically relevant, with almost 5 pp increases in the proportion of households running this kind of businesses and 5 pp increases in the share reporting profits. The impact of the HSCT on non-farm activity is driven by statistically significant and positive results in severely labour-constrained households, especially on the share of them reporting profits and business assets (Daidone *et al.*, forthcoming) and for the poorest 50 percent households, for which the increase was equal to 10 pp (American Institutes for Research, 2015).

In other countries we did not find similarly strong results. For instance, in Ethiopia, Ghana and Kenya, impacts were statistically not significant overall, although in Kenya the CT–OVC had a positive impact for female-headed households and negative for male-headed households. In Malawi, overall we did not find significant impacts but we observed an increase in the share of households doing petty trading and a reduction in charcoal/firewood enterprises. These results were stronger by type of enterprise not only for mean impacts, but also when we look at the sub-group level. In fact, moderately and severely labour-constrained households show positive impacts on operating a petty trading business and negative impacts on operating a charcoal or firewood enterprise, which generally requires more intense physical activity. In Lesotho, results were slightly blurry, as the impact was significant and negative when we considered a short recall period (last month), but insignificant in the longer term (last year). The observed reduction was stronger for severely labour-constrained households, probably as a consequence of a reduction in home-brewing, an income-generating activity that is generally performed infrequently, at small scale, and often as an activity of last resort (Oxford Policy Management, 2014).

In terms of private transfers, we were able to disentangle remittances (transfers received from household members living elsewhere) from informal transfers received within the communities from family members and/or non-family members. From a theoretical perspective, the impact of a cash transfer on both kinds of transfers could be either positive or negative. On the one

hand, if private transfers are driven by altruistic motives on the part of senders (concern for the welfare of the family at origin), an increase in social transfers received by a household may lead to a reduction in private transfers, as the family may have less need for the additional resources provided through private transfers. On the contrary, if private transfers are exchange-driven (as part of an explicit or implicit ex-ante arrangement or promise), they may remain the same or increase as a result of an increase in social transfers.

With respect to remittances, two opposite results were found. In Ghana the amount received increased by 18 percent of adult equivalent consumption, while in Lesotho the amount received decreased. With respect to other informal private transfers, generally we observed positive impacts, especially food transfers (Ghana and Lesotho) and sharing of agricultural inputs (Zimbabwe), with the exception of Malawi, where we observed a reduction in the value of food transfers. The heterogeneity analysis in the Lesotho CGP evaluation showed that the overall positive impact on sharing arrangements around food was higher for severely labour-constrained households.

This result, combined with the results from the qualitative fieldwork across six of the countries, supports the argument that cash transfer programmes have a positive effect on re-engagement and participation in the local communities and social networks, especially for the most disadvantaged segment of the population. Moreover, cash transfers generally increased the ability of the poorest and most vulnerable beneficiaries to "re-enter" the social life of their extended families and communities, leading to a reduction in the "social distance" between the poorest households and local institutions. The qualitative field work also underscored that the cash transfer programmes improved beneficiary self-esteem. In those communities where there was particular stigma around being poor or vulnerable, beneficiaries reported that being less obviously poor enabled them to participate more in the social life of the community (Barca *et al.*, 2015).

With respect to risk-coping behaviour, impact results suggest that households were better able to handle risk. For saving and risk-coping strategies, however, data were not collected consistently and we were able to run the analysis on only a few countries. For example, in Malawi beneficiary households reported smaller amounts from sales of assets as compared to control households, indicating a reduction in the distress sale of assets, generally considered a negative risk-coping strategy in times of hardship. In almost all countries, beneficiary households were significantly less likely to take children out of school (Handa and Milliano, 2015), and in Lesotho beneficiaries were less likely to send them to work or to live elsewhere. Moreover, the qualitative field work found evidence of a reduction in negative risk-coping strategies in all six countries (Barca *et al.*, 2015).

In Ghana and Zambia, the proportion of households saving increased by approximately 11 pp and 24 pp respectively, while the CGP in Lesotho did not seem to have had any effect on savings. In terms of households' borrowing position, cash transfers in Ghana and Malawi contributed to a reduction of loans and higher debt repayments. In Malawi the reduction in the amount borrowed concerned mainly older debts. These results likely reflect households' preferences and risk-aversion towards being in debt. In Zambia, the small 1.7 pp increase in the share of households borrowing could represent the more risk-seeking attitude of beneficiary households that became more creditworthy because of the CG and that invested in livestock and non-farm businesses.

Influence of programme and evaluation designs on impact results

The evidence on the effects on productive activities of the seven cash transfer programmes included in the PtoP project reveals some common trends as well as contrasts across countries. The CG programme in Zambia had a broad range of impacts across productive outcomes, while the other programmes had more selective impacts. The results provide some indication as to the conditions which enable cash transfers programmes to have a stronger effect on transforming livelihoods and increasing productive activities.

Targeting. A first set of factors relates to the characteristics of households and individuals that are targeted by these programmes. One group of cash transfer programmes (for example LEAP in Ghana, SCT in Malawi and HSCT in Zimbabwe) were targeted to households that are vulnerable as well as poor, in part out of the intention to reach households affected by the HIV pandemic. Vulnerability is often defined as inability to work (elderly, disabled), and/or with a high dependency ratio. In a second group of countries (such as Kenya and Lesotho), programmes adopted a stronger focus on reducing child poverty, often mediated by the notion of OVC. The Zambia CG model varied the approach; it targeted households with children in a narrower age range (between 0 and 5 years), who live in households with relatively younger parents.

The adoption of different targeting criteria had strong implications for the demographic characteristics of beneficiary households across programmes (Figure 1). Ghana's LEAP programme has the largest concentration of elderly beneficiaries, with relatively few adults of working age, few small children, and lots of older children and adolescents. Similarly, Zimbabwe's HSCT has a large share of dependents. The Zambia CG benefits a much larger proportion of working-

age adults with small children. The varying degree of labour availability likely contributes to explaining the differences in productive impacts observed across programmes. While labour-constrained households may hire in labour and carry out limited economic activities, households with available labour are in a better position to take advantage of the cash for productive activities, in both the short and long terms.

Transfer value and predictability. A second group of factors that can facilitate or inhibit the productive impacts of cash transfers has to do with transfer value and predictability. The amount of money transferred to a beneficiary household is clearly a factor in the range and intensity of impacts on productive activities. Transfer levels are set following different criteria across countries. Some countries (Kenya in the early phase, Zambia) adopted a flat transfer schedule, while others vary the amount in accordance with household size (Kenya at a later stage), number of children (Lesotho), number of vulnerable people (Ethiopia, Ghana, Zimbabwe), or number of children enrolled in school (Malawi, Ethiopia). The programmes generally lack mechanisms to adjust the transfer amount on a regular basis for inflation. For example, in Kenya the real value of the transfer fell by almost 60 percent because of inflation between 2007 and 2011. As a result there is a great deal of variation in the value of the transfer as a share of beneficiary households' per capita consumption. In Zambia the relative value of the transfer reached almost 30 percent of per capita consumption, compared to around 10 percent for the Ghana LEAP in its early days. For those countries using a flat rate, the per capita value varies by household size. While for average-size households the Kenya transfer represented 14 percent of per capita consumption, the share ranged from 10 percent to 22 percent for large and small households, respectively.

A critical feature of cash transfer programmes is to provide income support to poor and vulnerable households in a frequent, regular and predictable manner. The frequency and predictability of cash transfers are important, as this facilitates consumption smoothing, planning of expenditures, and moderate risk taking, in anticipation of future payments. With strong expectations on the reliability of the transfer flow, households can build up assets and precautionary savings that can be used to maintain minimum standards of living during times of hardship. This can incentivize risk-taking that is more conducive to income diversification and productivity enhancement. At the time of their respective evaluations, operational performance varied from country to country and is likely to have influenced how households spend their transfers. In Zambia the transfers were delivered regularly throughout the evaluation period, with minor irregularities occurring in one district for one payment only (American Institutes for Research, 2013a). In Ghana payments were also meant to be bi-monthly, but the schedule suffered major disruptions. The Lesotho CGP was the programme with the least frequent payment schedule (quarterly), yet it was also affected by significant delays.

Messaging. A third dimension likely to influence productive impacts is the messaging and information provided to beneficiaries regarding the expected use of the resources provided. All programmes considered in this study were – in practice - unconditional. Yet unconditional transfers often adopt implicit, indirect or soft conditioning or messaging mechanisms that can have important consequences for the impact of the transfer (Schüring, 2010; Pellerano and Barca, 2014). The Lesotho CGP had especially strong messaging on spending the money on children's

needs. Impact analysis confirmed large impacts on children' s food security and expenditures towards children's clothes, shoes and uniforms, possibly to the detriment of spending on more productive activities. At the same time, in Lesotho one payment delivered five months before the follow-up data collection included a top-up, the Food Emergency Grant (FEG), which was delivered to cash recipients with the message of increasing agricultural production, in response to a severe drought that had affected the country the previous year. The CGP evaluation could not disentangle the effect of the CGP *vis-à-vis* the FEG, but we assume that this additional cash had an immediate impact on some of the positive outcomes in agricultural activities, for instance on pesticides purchases or on homestead gardening.

Evaluation. Finally, the evaluation design is an additional aspect, which helps explain observed impacts. Clearly, when RCTs are well implemented at village/community level and able to separate the treatment from the control group, it is easier to avoid contamination. This facilitates finding impacts and may be one reason why the strongest productive impacts were observed in countries where RCTs were rigorously implemented, like in Lesotho, Malawi and Zambia. Subject to a set of pre-defined parameters (e.g. number of clusters, size of treatment arms) *a priori* the researcher was expected to find impacts on selected outcomes of interest.

The length of the evaluation period is a critical dimension in explaining impacts too. For instance, the quasi-experimental approach in Zimbabwe was able to create a very robust comparison group, but the follow-up survey round in Zimbabwe occurred only 12 months after the baseline. Therefore, with only six payments, it was difficult to obtain results that other similar programmes achieved in two years of programme implementation. Similar considerations apply for Malawi. The original design called for a follow-up survey 12 months after baseline (July/August 2013) when beneficiary households would have received ten or perhaps eight months of transfers, depending on how quickly households could be enrolled and paid after the baseline survey. However due to the delay in the start of the payment (May 2014), the follow-up survey was postponed until November 2014, at which time beneficiary households would have received five payments (10 months' worth).

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5. Conclusions

During the past ten years, a growing number of SSA governments have launched cash transfer programmes as part of their social protection strategies. Many of these government-led programmes originated from a concern about vulnerable populations, often in the context of HIV/AIDS. This drove the setting of objectives and targeting towards an emphasis on the ultra- poor, labour-constrained households and/or households caring for OVCs. The majority of the transfer programmes are unconditional and have been designed to improve food security, health, nutritional and educational status, particularly of children.

Along with meeting these social objectives, cash transfer programmes are likely to influence the productive activities of beneficiary households. The livelihoods of most beneficiaries in SSA are predominantly based on subsistence agriculture and rural labour markets, and will continue to be so for years to come. Most beneficiaries live in places where markets for financial services, labour, goods and inputs either do not exist or do not function well. In this context, when cash transfers are provided in a regular and predictable fashion, they can help households to overcome credit constraints, manage risk and address other market failures. This in turn can increase productive spending and investment, improve access to markets and stimulate local economies.

This report brings together the critical mass of evidence that has emerged from recent rigorous impact evaluations of government-run cash transfer programmes in SSA. We found that cash transfers have significant impacts on the livelihoods of beneficiary households, particularly with regard to agricultural activities, although varying from country to country, and context to context. In Zambia, the CG programme activated a transformative process leading to a stronger engagement of beneficiary households in capital investment (e.g. agricultural tools and inputs, livestock) for agricultural production and new economic activities. The impacts in Ethiopia, Kenya, Lesotho, Malawi and Zimbabwe were more selective in nature, while the LEAP programme in Ghana had fewer direct impacts on productive activities, and more on various dimensions of risk management.

In most countries we have constantly found a reduction in casual agricultural wage labour, which is often seen as a refuge sector to access liquidity, where poor households work to survive or hedge against agricultural risk. In Ghana and Zambia this reduction in casual wage labour was offset by an increase in family labour on-farm, and in Zambia also in off-farm work. However, there is no evidence that cash transfers translated into an overall reduction of labour supply or work effort – in fact quite the opposite: the transfers were used to improve household income-generating activities. The cash transfers contributed to a higher proportion of beneficiary households investing in livestock and on diverse types of animals in Malawi and Zambia, while impacts were concentrated on small ruminants in Kenya and Zimbabwe and on pigs in Lesotho.

With respect to informal cash and in-kind private transfers and remittances, generally we did not observe a crowding-out effect induced by the cash transfers. In fact, positive impacts were estimated on informal transfers and sharing arrangements made within the communities, especially around food and agricultural inputs. These results are consistent with the story that emerged from qualitative fieldwork regarding re-engagement of beneficiaries with local social networks of reciprocity.

Mixed results were found in other areas related to rural income-generating activities. The cash transfer programmes in Lesotho and Zambia, and to a lesser extent in Malawi, brought about significant and positive impacts on agricultural production through greater input purchases and/or use. However, results in other countries are more nuanced. Similarly, cash transfer programmes increased non-farm businesses opportunities in Zambia and Zimbabwe, while significant impacts did not emerge in the other countries. Impacts on the engagement of children in work activities are also not uniform.

The differences in impacts across countries can be attributed to a variety of factors, including the availability of labour given the demographic profile of beneficiary households, and programme design and implementation features. The level of transfers, the predictability of payments and the type of messaging associated with the disbursement are critical factors that can be managed by programme implementers to facilitate economic impacts.

Overall, while cash transfer programmes have clear implications for beneficiary livelihoods, these do not seem to be sufficient to sustainably move households out of poverty. Poor households in rural areas, which in the absence of labour markets, are largely responsible for generating their own income through household farm and non-farm activities, face multiple constraints in terms of generating sustainable livelihoods. Cash transfers and other social protection measures have proven successful in reducing hunger and poverty, in meeting basic consumption needs and, as we have shown in this paper, in reducing some of the market failures faced by the smallholder farmers benefiting from the programmes. But cash transfers cannot address all of these constraints. Agricultural interventions, for example, can promote growth in smallholder productivity by addressing structural constraints that social protection cannot address and that limit poor households' access to land and water resources, inputs, financial services, advisory services and markets. Other non-agricultural livelihood programmes can help rural households diversify income-generating activities. Together, livelihood and social protection programmes are needed to transform the livelihoods of the rural poor and strengthen agricultural and rural development.

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FIGURES AND TABLES

FIGURE 1 AGE PYRAMID AT BASELINE, BY COUNTRY

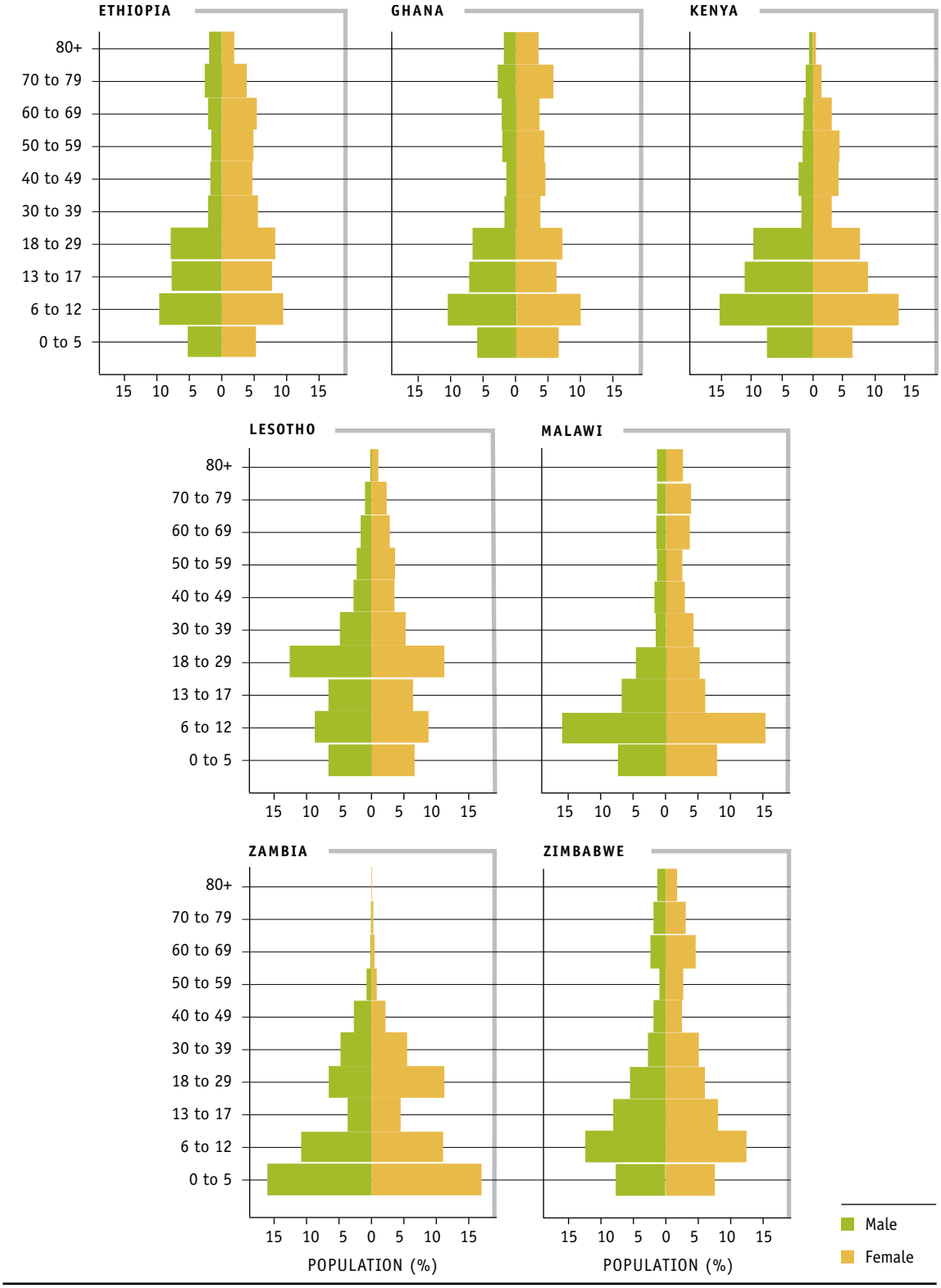

FIGURE 2 CASH TRANSFERS AS SHARE OF HOUSEHOLD CONSUMPTION

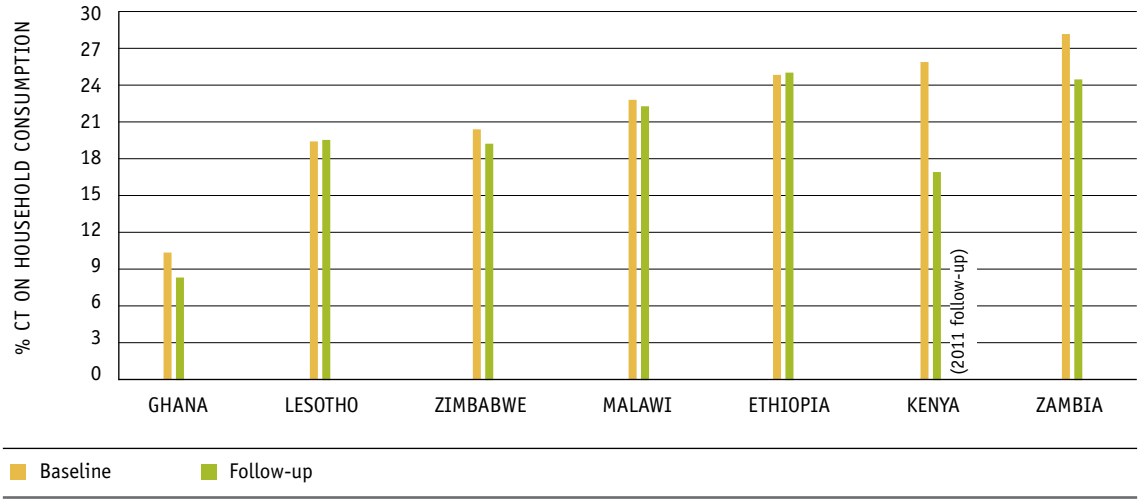

FIGURE 3 CASH TRANSFERS FREQUENCY IN GHANA AND LESOTHO

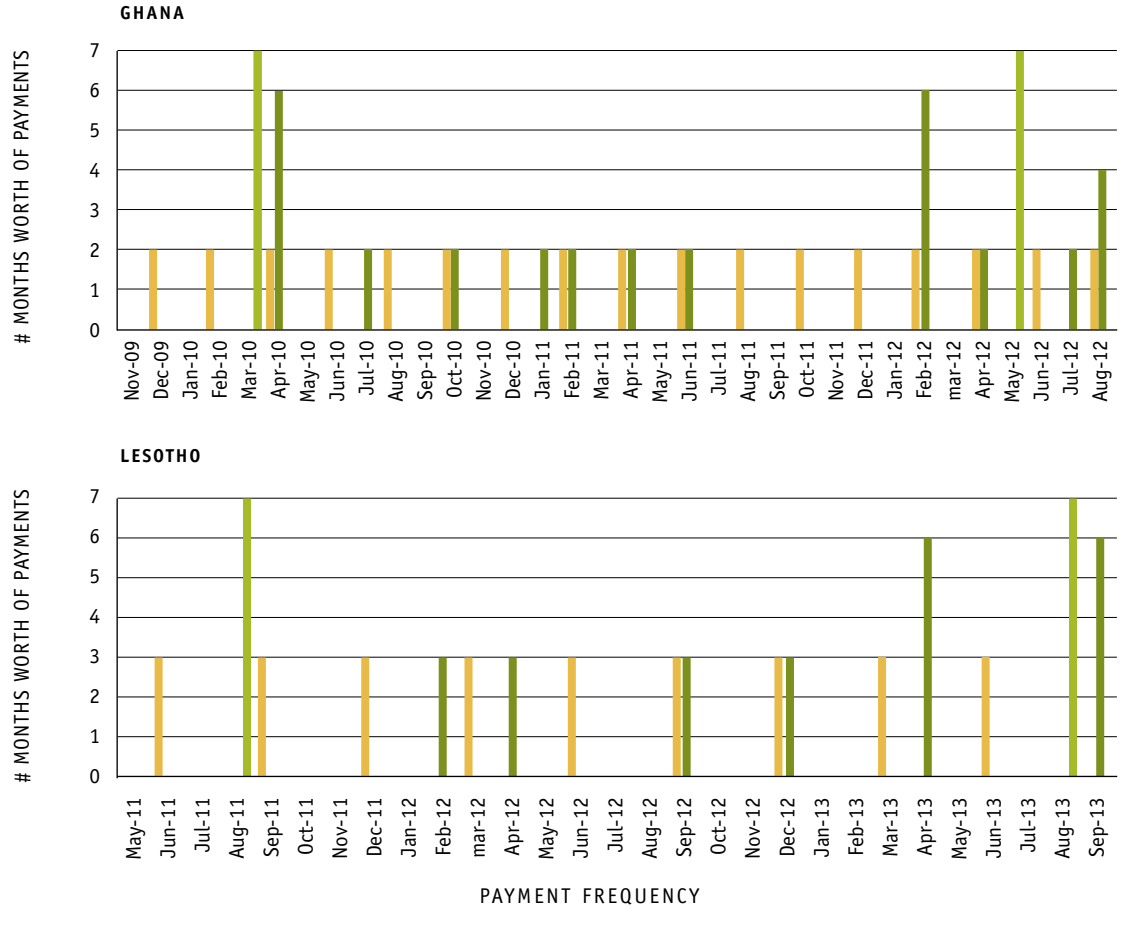

TABLE 1 COUNTRY PROGRAMMES

	ETHIOPIA	GHANA	KENYA
Program	Tigray Social Cash Transfer Pilot Programme (SCTPP)	Livelihood Empowerment Against Poverty program (LEAP)	Cash Transfer Program for Orphans and Vulnerable Children (CT-OVC)
Year initiated	2011	2010	2007
Conditionality	No conditions	No conditions for people over 65 and with disabilities; "soft" conditions for OVC caretakers	No conditions
Overlapping programmes	No	National Health Insurance Scheme (NHIS)	No
Targeting	Ultra poor, labour constrained households	Ultra-poor households with members in one of three categories: 1) single parent with OVC; 2) elderly poor; 3) people with extreme disability	Ultra-poor households with OVC
Recipient†	78.48% women	80.7% women	N/A
Frequency	Monthly	Bimonthly	Bimonthly
Monhtly amount	155 ETB basic household transfer 25 ETB for each child <16 years (at most 4) 10 ETB for each child in primary or secondary school (at most 4) 40 ETB for each disabled child <18 years 50 ETB for each disabled adult 60 ETB for each elderly dependant	8G¢ (1 eligible hh member) 10G¢ (2) 12G¢ (3) 15G¢ (4+)	2007: 1500KSh per hhld; 2011: 2000 KSh per hhld

Note: † Shares computed from the operational performance sections of the impact evaluation and not from administrative data.

	LESOTHO	MALAWI	ZAMBIA	ZIMBABWE
Program	Child Grants Program (CGP)	Social Cash Transfer (SCT) Program	Child Grant Program (CGP)	Harmonized Social Cash Transfer (HSCT) Program
Year initiated	2011	2006	2010	2011
Conditionality	No conditions, but strong message that cash should be spent on needs of children	No conditions	No conditions	No conditions
Overlapping programmes	Food Emergency Grant	No	No	No
Targeting	Ultra-poor households with children (0-18 years old)	Ultra poor, labour constrained households	Any household with a child under five years old	Ultra poor, labour constrained households
Recipient†	66.7% women	N/A	98.3% women	64% women
Frequency	Quarterly	Bimonthly	Bimonthly	Bimonthly
Monhtly amount	Start: 120LSL per hhld April 2013: 120LSL (1-2 children) 200LSL (3-4) 250LSL (5+)	1000Kw (1 hh member) 1500Kw (2 hh members) 1950Kw (3 hh members) 2400Kw (4+ hh members) Top-ups for school attendance: 300Kw for each member<=21 years in primary 600Kw for each member<=30 years in secondary	60 ZMK per hhld	10$ (1 hh member) 15$ (2 hh members) 20$ (3 hh members) 25$ (4+ hh members)

Note: † Shares computed from the operational performance sections of the impact evaluation and not from administrative data.

TABLE 2 PROGRAMMES EVALUATION, DESIGN AND SAMPLE SIZE

	Rounds of data collection	Design	Sample size for eligible population	Sample size for ineligible population	Partner
ETHIOPIA	Baseline: 2011 24 months endline: 2013 Five intermediate monitoring surveys	PSM	2012: HH 3,219 IND 9,950 2014: HH 3,173 IND 2,308	2012: HH 446 IND 2,123 2014: HH 440 IND 11,919	IFPRI and Mekelle University
GHANA	Baseline: 2010 24 months follow-up: 2012	PSM	2010: HH 1,613 IND 6,113 2012: HH 1,504 IND 5,728	Not sampled	UNC and ISSER
KENYA	Baseline: 2007 Midline: 2009 Endline: 2011	RCT	2007: HH 2,294 IND 12,812 2009: HH 1,907 IND 10,901 2011: HH 1,811 IND 10,399	2007: HH 465 IND 2,652 2009: HH 348 IND 2,056 2011: Not sampled	UNC, OPM and Research Solutions Africa
LESOTHO	Baseline: 2011 24 months follow-up: 2013	RCT	2011: HH 1,486 IND 8,294 2013: HH 1,406 IND 8,146	2011: HH 1,568 IND 7,695 2013: HH 806 IND 4,128	OPM and Sechaba Consultants
MALAWI	Baseline: 2013 17 months follow-up: 2014	RCT	2013: HH 3,531 IND 16,078 2014: HH 3,369 IND 15,407	2013: HH 821 IND 4,099 2014: Not sampled	UNC and CSR
ZAMBIA	Baseline: 2010 24 months follow-up: 2012 30 months follow-up: 2013 36 months follow-up: 2013	RCT	2010: HH 2,519 IND 14,345 2012: HH 2,298 IND 13,248	Not sampled	AIR, UNC and Palm Associates
ZIMBABWE	Baseline: 2013 12 months follow-up: 2014	Matched case-control	2013: HH 3,063 IND 14,597 2014: HH 2,630 IND 12,725	2013: HH 923 IND 4,598 2014: Not sampled	AIR, UNC, Ruzivo and CASS

TABLE 3 BASELINE INCOME SOURCES

	ETHIOPIA				GHANA			
	Treatment	Control	Diff	St.bias	Treatment	Control	Diff	St.bias
Self employment - agriculture	70,841	66,594	4,250 **	9,207	59,943	66,222	-6,280	13,032
Crop production	66,360	62,932	3,430	7,086	45,064	51,898	-6,830	13,697
Livestock	21,056	22,690	-1,630	3,833	40,773	48,840	-8,070	16,267
Self employment - non agriculture	9,576	10,215	-0,640	2,159	29,041	31,195	-2,150	4,692
Wage employment	10,252	11,075	-0,820	2,689	8,870	6,161	2,710	10,281
Formal/permanent labor	0,000	0,000	0,000	.	0,000	0,000	0,000	.
Temporary/casual labor	0,000	0,000	0,000	.	0,000	0,000	0,000	.
Transfer	34,622	43,014	-8,390 **	17,192	52,933	51,040	1,890	3,786
Public transfer	18,171	27,105	-8,930 **	21,495	3,577	0,000	3,580 ***	27,217
Private transfer	19,521	21,249	-1,730	4,164	51,073	51,040	0,030	0,065

	KENYA				LESOTHO			
	Treatment	Control	Diff	St.bias	Treatment	Control	Diff	St.bias
Self employment - agriculture	91,215	90,603	0,610	2,127	87,516	85,071	2,450	7,110
Crop production	78,915	80,829	-1,910	4,771	80,500	74,811	5,690	13,680
Livestock	78,762	76,083	2,680	6,409	65,303	61,037	4,270	8,848
Self employment - non agriculture	18,105	16,911	1,190	3,142	21,928	18,953	2,980	7,378
Wage employment	67,303	65,854	1,450	3,071	68,452	64,816	3,640	7,711
Formal/permanent labor	3,820	2,327	1,490	8,655	7,600	7,402	0,200	0,750
Temporary/casual labor	64,171	64,149	0,020	0,047	65,331	60,979	4,350	9,025
Transfer	29,106	30,130	-1,020	2,242	50,114	48,781	1,330	2,665
Public transfer	1,451	0,000	1,450 ***	17,157	13,927	12,526	1,400	4,132
Private transfer	27,655	30,130	-2,480	5,460	40,802	39,598	1,200	2,454

	MALAWI				ZAMBIA			
	Treatment	Control	Diff	St.bias	Treatment	Control	Diff	St.bias
Self employment - agriculture	93,327	94,159	-0,830	3,435	84,127	84,909	-0,780	2,160
Crop production	92,615	93,238	-0,620	2,431	76,825	78,952	-2,130	5,123
Livestock	28,991	27,251	1,740	3,872	48,571	47,101	1,470	2,943
Self employment - non agriculture	23,787	22,491	1,300	3,073	24,286	20,810	3,480	8,321
Wage employment	76,594	79,226	-2,630	6,346	37,619	37,331	0,290	0,594
Formal/permanent labor	6,827	8,430	-1,600	6,040	2,540	1,986	0,550	3,724
Temporary/casual labor	75,563	77,614	-2,050	4,844	35,238	35,425	-0,190	0,391
Transfer	90,475	93,683	-3,210	11,895	39,683	37,490	2,190	4,503
Public transfer	69,026	70,600	-1,570	3,427	13,889	12,153	1,740	5,159
Private transfer	75,892	82,969	-7,080	17,571	31,349	28,912	2,440	5,312

	ZIMBABWE			
	Treatment	Control	Diff	St.bias
Self employment - agriculture	92,213	93,037	-0,820	3,151
Crop production	88,073	87,331	0,740	2,259
Livestock	73,780	78,723	-4,940 **	11,632
Self employment - non agriculture	12,420	12,669	-0,250	0,752
Wage employment	47,462	48,743	-1,280	2,563
Formal/permanent labor	10,793	11,509	-0,720	2,272
Temporary/casual labor	41,498	41,876	-0,380	0,766
Transfer	63,923	73,791	-9,870 ***	21,424
Public transfer	2,169	3,772	-1,600 *	9,451
Private transfer	63,529	73,017	-9,490 ***	20,487

Note: significance level: ***<0.01, **<0.05, *<0.1

TABLE 4 BASELINE HOUSEHOLD CHARACTERISTICS

ETHIOPIA				
	Treatment	Control	Diff	St.bias
Household size	2,607	2,614	-0,010	0,382
# male	0,990	1,046	-0,060	4,827
# female	1,579	1,532	0,050	4,765
# hh members aged 0-5	0,192	0,187	0,000	1,085
# hh members aged 6-17	0,820	0,829	-0,010	0,847
# hh members aged 18-59	0,858	0,883	-0,030	2,751
# hh members aged 60+	0,700	0,679	0,020	3,447
% female headed	73,358	71,434	1,920	4,302
Age of head	60,508	60,256	0,250	1,322
% married head	21,486	21,280	0,210	0,502
Head is widowed	40,700	40,417	0,280	0,576
% hh with only elderly (>59) and children	41,068	40,170	0,900	1,828
% hh severely labor constrained	57,520	57,164	0,360	0,648
% hh moderately labor constrained	11,602	15,105	-3,500 **	10,330
% hh labor unconstrained	30,878	27,731	3,150	6,875
% dependents	68,249	67,029	1,220	3,745
% hh with at least one child orphan	0,184	0,104	0,080	2,105
# children orphan/abandoned	0,003	0,001	0,000	3,539
# years of education of head	1,012	1,051	-0,040	1,506
Highest # years of education in hh	4,103	4,227	-0,120	3,016
Per capita consumption	1181,630	2395,195	-1213,560	8,574
Per capita food consumption	1127,097	2341,696	-1214,600	8,581

GHANA				
	Treatment	Control	Diff	St.bias
Household size	3,831	3,992	-0,160	6,054
# male	1,688	1,721	-0,030	2,037
# female	2,143	2,240	-0,100	6,158
# hh members aged 0-5	0,441	0,451	-0,010	1,401
# hh members aged 6-17	1,316	1,354	-0,040	2,156
# hh members aged 18-59	1,160	1,262	-0,100	7,665
# hh members aged 60+	0,914	0,925	-0,010	1,402
% female headed	59,227	53,028	6,200	12,510
Age of head	61,119	61,643	-0,520	2,786
% married head	35,479	45,675	-10,200*	20,862
Head is widowed	38,627	29,281	9,350**	19,819
% hh with only elderly (>59) and children	36,624	37,645	-1,020	2,112
% hh severely labor constrained	46,209	42,130	4,080	8,214
% hh moderately labor constrained	22,747	15,681	7,070**	17,996
% hh labor unconstrained	31,044	42,189	-11,140*	23,274
% dependents	74,066	71,536	2,530	9,471
% hh with at least one child orphan	27,468	23,195	4,270	9,831
# children orphan/abandoned	0,682	0,610	0,070	5,068
# years of education of head	2,149	2,593	-0,440	11,380
Highest # years of education in hh	4,896	5,289	-0,390	9,269
Per capita consumption	45,216	48,793	-3,580	10,553
Per capita food consumption	30,133	33,444	-3,310	12,969

Note: significance level: ***<0.01, **<0.05, *<0.1

KENYA				
	Treatment	Control	Diff	St.bias
Household size	5,636	5,290	0,350	13,070
# male	2,750	2,453	0,300**	16,696
# female	2,886	2,837	0,050	3,021
# hh members aged 0-5	0,721	0,662	0,060	5,782
# hh members aged 6-17	2,608	2,467	0,140	9,332
# hh members aged 18-59	1,761	1,551	0,210	14,184
# hh members aged 60+	0,538	0,595	-0,060	9,011
% female headed	66,374	68,333	-1,960	4,176
Age of head	57,860	58,604	-0,740	5,055
% married head	32,547	34,118	-1,570	3,331
Head is widowed	63,774	60,457	3,320	6,836
% hh with only elderly (>59) and children	20,251	25,637	-5,390	12,826
% hh severely labor constrained	27,603	31,038	-3,440	7,546
% hh moderately labor constrained	28,437	26,114	2,320	5,216
% hh labor unconstrained	43,959	42,848	1,110	2,241
% dependents	70,694	72,382	-1,690	8,204
% hh with at least one child orphan	94,594	92,112	2,480	9,972
# children orphan/abandoned	2,457	2,320	0,140	8,719
# years of education of head	2,883	2,595	0,290	8,263
Highest # years of education in hh	7,254	7,425	-0,170	5,460
Per capita consumption	2049,385	1775,576	273,810	8,467
Per capita food consumption	1218,009	980,081	237,930*	16,093

LESOTHO				
	Treatment	Control	Diff	St.bias
Household size	5,777	5,352	0,420**	18,384
# male	2,765	2,517	0,250**	16,625
# female	3,004	2,835	0,170*	10,379
# hh members aged 0-5	0,923	0,785	0,140***	15,083
# hh members aged 6-17	1,869	1,850	0,020	1,469
# hh members aged 18-59	2,563	2,310	0,250**	17,538
# hh members aged 60+	0,422	0,407	0,010	2,534
% female headed	46,274	49,292	-3,020	6,041
Age of head	51,286	50,871	0,420	2,677
% married head	47,355	42,267	5,090	10,237
Head is widowed	43,077	46,970	-3,890	7,825
% hh with only elderly (>59) and children	4,560	5,908	-1,350	6,053
% hh severely labor constrained	8,962	13,282	-4,320*	13,763
% hh moderately labor constrained	21,462	18,804	2,660	6,627
% hh labor unconstrained	69,576	67,914	1,660	3,584
% dependents	55,916	56,996	-1,080	5,609
% hh with at least one child orphan	57,660	58,194	-0,530	1,081
# children orphan/abandoned	1,214	1,197	0,020	1,207
# years of education of head	4,188	4,154	0,030	1,122
Highest # years of education in hh	7,708	7,522	0,190	7,725
Per capita consumption	161,015	169,824	-8,810	7,609
Per capita food consumption	104,525	114,804	-10,280	12,762

Note: significance level: ***<0.01, **<0.05, *<0.1

MALAWI				
	Treatment	Control	Diff	St.bias
Household size	4,464	4,514	-0,050	2,170
# male	1,910	1,928	-0,020	1,191
# female	2,554	2,586	-0,030	2,136
# hh members aged 0-5	0,658	0,670	-0,010	1,330
# hh members aged 6-17	2,034	2,121	-0,090	5,596
# hh members aged 18-59	0,982	1,006	-0,020	2,397
# hh members aged 60+	0,790	0,717	0,070	10,950
% female headed	82,805	84,200	-1,400	3,758
Age of head	59,133	56,960	2,170	10,955
% married head	29,703	28,929	0,770	1,699
Head is widowed	44,585	42,016	2,570	5,184
% hh with only elderly (>59) and children	38,880	35,841	3,040	6,283
% hh severely labor constrained	49,129	46,204	2,930	5,858
% hh moderately labor constrained	33,795	34,132	-0,340	0,710
% hh labor unconstrained	17,075	19,665	-2,590	6,688
% dependents	80,534	79,632	0,900	4,504
% hh with at least one child orphan	56,546	52,045	4,500	9,042
# children orphan/abandoned	0,956	0,881	0,070	5,038
# years of education of head	1,069	1,075	-0,010	0,272
Highest # years of education in hh	3,913	3,864	0,050	1,641
Per capita consumption	891,690	822,839	68,850	10,619
Per capita food consumption	722,965	662,662	60,300	10,845

ZAMBIA				
	Treatment	Control	Diff	St.bias
Household size	5,757	5,632	0,120	5,905
# male	2,674	2,682	-0,010	0,541
# female	3,083	2,950	0,130	9,608
# hh members aged 0-5	1,883	1,917	-0,030	4,518
# hh members aged 6-17	1,777	1,696	0,080	5,315
# hh members aged 18-59	2,021	1,949	0,070	8,853
# hh members aged 60+	0,077	0,070	0,010	2,412
% female headed	98,968	99,603	-0,630	7,537
Age of head	30,074	29,644	0,430	4,489
% married head	73,333	71,247	2,090	4,661
Head is widowed	6,508	6,354	0,150	0,626
% hh with only elderly (>59) and children	1,111	0,794	0,320	3,261
% hh severely labor constrained	3,492	3,733	-0,240	1,291
% hh moderately labor constrained	30,079	31,612	-1,530	3,318
% hh labor unconstrained	66,429	64,654	1,770	3,732
% dependents	62,681	63,345	-0,660	4,798
% hh with at least one child orphan	13,889	14,218	-0,330	0,946
# children orphan/abandoned	0,357	0,341	0,020	1,608
# years of education of head	4,295	3,781	0,510*	15,498
Highest # years of education in hh	6,543	6,072	0,470*	15,207
Per capita consumption	47,491	45,310	2,180	5,880
Per capita food consumption	30,795	29,269	1,530	5,736

Note: significance level: ***<0.01, **<0.05, *<0.1

ZIMBABWE				
	Treatment	Control	Diff	St.bias
Household size	4,758	4,781	-0,020	0,872
# male	2,098	2,183	-0,080	5,150
# female	2,659	2,599	0,060	3,562
# hh members aged 0-5	0,684	0,702	-0,020	1,992
# hh members aged 6-17	2,087	2,018	0,070	3,989
# hh members aged 18-59	1,130	1,134	0,000	0,379
# hh members aged 60+	0,857	0,926	-0,070	9,398
% female headed	70,330	64,990	5,340***	11,430
Age of head	57,060	58,747	-1,690	8,811
% married head	47,955	48,839	-0,880	1,770
Head is widowed	38,196	38,878	-0,680	1,401
% hh with only elderly (>59) and children	36,422	34,429	1,990	4,165
% hh severely labor constrained	47,018	43,907	3,110	6,249
% hh moderately labor constrained	31,444	34,720	-3,280	6,963
% hh labor unconstrained	21,538	21,373	0,160	0,400
% dependents	80,219	80,213	0,010	0,030
% hh with at least one child orphan	56,678	59,865	-3,190	6,463
# children orphan/abandoned	0,834	0,874	-0,040	2,781
# years of education of head	3,126	3,478	-0,350*	9,650
Highest # years of education in hh	6,377	6,743	-0,370*	10,109
Per capita consumption	32,504	34,378	-1,870	6,881
Per capita food consumption	20,734	21,441	-0,710	3,567

Note: significance level: ***<0.01, **<0.05, *<0.1

TABLE 5 IMPACTS ON AGRICULTURAL PRODUCTION

	Agricultural output	Crop sales	Home consumption of crop production	Livestock ownership
ETHIOPIA	Crop prod (prop HH): Teff -0.054** Barley -0.026 Maize 0.010 Sorghum 0.018 Crop yield (kg per ha): Teff -19.019 Barley -44.02* Sorghum 62.546*** Value of production 256.680**	Crop quantity sold (kg): Teff -5.085 Barley -7.474* Wheat -1.936 Maize -0.051 Sorghum 5.774** Lentils 0.496	N/A	Share HH: Any livestock -0.174* Cows -0.000 Sheep -0.033*** Goats -0.023** Mules -0.029** Chickens 0.013 Number of animals: TLU total 0.031 Cows -0.005 Sheep -0.081 Goats -0.145** Mules -0.041** Chickens 0.168
GHANA	Share producers: Maize -0.030 Cassava -0.098** Cocoa -0.049*** Rice 0.012* Yam -0.035 Value (GhC): Maize -48.6** Cassava -18.8* Cocoa -70.8*** Rice 0.3 Yam 69.9*	Share HH selling crops -0.073*	N/A	Share HH: Total -0.016 Sheep -0.047 Goats -0.061 Chickens -0.028 Cattle -0.041 Number of animals: Sheep -0.2 Goats -0.4* Chickens -1.0 Cattle -0.1
KENYA	Share HH growing crops -0.024	N/A	Proportion food spending: Cereals 0.06 Meat & fish 0.04 Dairy & eggs 0.13** Other food 0.04***	Share HH: Large livestock 0.038 Small livestock 0.054* Poultry -0.001
LESOTHO	Share producers: Maize 0.030 Sorghum 0.019 Wheat 0.023 Harvest (kg): Maize 38.870** Sorghum 9.817* Wheat 6.866* Home gardening: Share producing vegetables 0.055** Number of vegetables 0.227* Number of seasons 0.342***	Share selling crops -0.019 Share bartering crops 0.027***	N/A	Share HH: Total 0.028 Chickens 0.012 Pigs 0.078** Number of animals: Chickens -0.0 Pigs 0.1** Cattle -0.1

Note: significance level: ***<0.01, **<0.05, *<0.1. N/A not available. HH stands for households

	Agricultural output	Crop sales	Home consumption of crop production	Livestock ownership
MALAWI	Share producers: Groundnut 0.08 Pigeonpea -0.07* Cotton 0.02* Sorghum -0.02** Harvest (kg): Groundnut 6.82** Pigeonpea 0.19 Cotton 0.41 Sorghum -0.67 Value of production 1512.56	Share selling: Any crop 0.06* Pigeonpea 0.05** Nkhwani -0.02*** Rice -0.02** Sorghum -0.01*** Crop quantity sold (kg): Groundnut 2.95* Value of sales (MWK) 351.22	N/A	Share HH: Chickens 0.08*** Goats or sheep 0.11*** Cows, bulls or ox -0.00 Pigs 0.00** Number of animals: Chickens 0.45*** Goats or sheep 0.28*** Cows, bulls or ox 0.01 Pigs 0.003***
ZAMBIA	Share producers: Maize 0.049 Rice 0.031* Cassava -0.026 Groundnut 0.035*** Value (ZMK): Total harvest 145.9** Harvest (kg): Maize 49.5 Cassava -68.1* Rice 20.4	Share selling crops 0.120*** Value of sales 81.5***	Share consuming 0.059* Value of consumption (ZMK) 41.2	Share HH: Total 0.209*** Chickens 0.154*** Cattle 0.084*** Goats 0.036*** Number of animals: Chickens 1.234*** Goats 0.142*** Ducks 0.198***
ZIMBABWE	Share producers: Maize -0.015 Sorghum -0.036 Fmillet -0.042* Pmillet 0.093** Roundnuts 0.040*** Harvest (kg): Maize -56.5 Sorghum -66.5 Fmillet -1.0 Pmillet 34.5*** Roundnuts 3.5**	Share selling crops (%) -0.012	HH consuming crop (%) -0.015	Share HH: Any livestock 0.047* Cattle -0.037 Goats 0.068* Chickens 0.060** Number of animals: TLU total 0.0 Cattle -0.1 Goats 0.0 Chickens 0.1

Note: significance level: ***<0.01, **<0.05, *<0.1. N/A not available. HH stands for households

TABLE 6 IMPACTS ON AGRICULTURAL INPUTS AND ASSETS

	Agricultural inputs	Land use	Agricultural tools
ETHIOPIA	Share HH using: Improved seed -0.047*** Fertilizer 0.058***	HH used land for production 0.039*** Crop area (ha): Teff -0.006 Barley -0.035*** Maize 0.002 Sorghum 0.017*	Share HH owned: Sickles - imported 0.029* Pick axes, spades, and shovels 0.031* Axes -0.015 Malakino -0.016* Hoes 0.009 Leather straps -0.035** Number of assets owned: Farm tool index 0.057* Plow sets -0.043* Axes -0.056* Malakino -0.022** Hoes -0.041 Leather straps -0.105***
GHANA	Share HH used/purchased: Seeds 0.027 Transport -0.036 Fertilizers -0.024 Expenses (GhC): Seeds 24.68*** Transport -0.73 Days hired labour last season: Total -2.1 Men -3.4**	Operated land (ha) -0.313**	Share HH used: Hoes -0.027 Axes -0.061 Shovels -0.053** Picks -0.047*
KENYA	Share HH using: Seeds -0.015 Pesticides -0.031 Organic fertilisers -0.005 Inorganic fertilisers -0.028 Expenditure per acre: Seeds -104.8** Pesticide 7.43 Organic fertilisers 10.69 Inorganic fertilisers -72.45	N/A	Share HH owned: Hoes 0.010 Axes -0.007 Sickles 0.005 Plough -0.006 Trough 0.011***
LESOTHO	Share HH used: Seed 0.038 Pesticides 0.079** Organic fertilizers 0.074* Share HH purchased: Seeds 0.074* Pesticides 0.051 Inorganic fertilizers 0.058* Purchases (LSL): Any input 15.1 Seeds 12	Owned land (ha) 0.1 Operated land (ha) 0.0	Share HH used: Any asset 0.021 Hoes 0.030 Plough 0.038 Cultivator 0.071 Scotchcart 0.085** Share HH owned: Any asset 0.006 Hoes 0.022 Plough 0.009 Cultivator 0.026 Scotchcart 0.045**

Note: significance level: ***<0.01, **<0.05, *<0.1. N/A not available.

	Agricultural inputs	Land use	Agricultural tools
MALAWI	Share HH using: Chemical fertilizer -0.02 Organic fertilizer 0.02 Pesticide 0.00 Improved/hybrid seed -0.01 Intensity: Chemical fertilizer (kg) 1.68 Chemical fertilizer per acre (kg) 0.76 Exp organic fertilizer (MWK) 157.58*** Exp organic fertilizer per acre (MWK) 99.51***	Cropped area (ac) Groundnut 0.08*** Maize -0.1 Nkhwani -0.02	Share HH owned: Hand hoe 0.01 Axe 0.04 Panga knife 0.02 Sickle 0.06*** Number of assets: Hand hoe 0.18* Panga knife 0.05 Sickle 0.10***
ZAMBIA	Share HH: Purchased crop inputs 0.177*** Purchased seeds 0.100*** Hired labour 0.054*** Intensity: Crop expenses 31.2*** Seeds exp 9.9*** Fertilizers exp 7.6**	Operated land (ha) 0.18***	Share HH owned: Hammers 0.044*** Shovels 0.031** Plough 0.036** Number of assets: Axes 0.184*** Hoes 0.296*** Hammers 0.042**
ZIMBABWE	Share of HH using crop inputs: Any input 0.026 Chemical fertilizers -0.003 Pesticides -0.029* Share of HH purchasing crop inputs: Any input 0.014 Chemical fertilizers 0.024 Pesticides -0.013 Purchase of crop inputs, US$: Any input 1.093 Chemical fertilizers 1.345 Pesticides -0.431	N/A	Share HH owned: Hoe -0.018 Axe -0.007 Sickle 0.088** Chains -0.047 Rope -0.046 Number of assets: Hoe 0.1 Axe 0.0 Sickle 0.1*** Chains 0.0 Rope 0.0

Note: significance level: ***<0.01, **<0.05, *<0.1. N/A not available.

TABLE 7 IMPACTS ON ADULT LABOUR SUPPLY

	Agricultural wage	Family farm	Non-farm business	Non-agricultural wage
ETHIOPIA	N/A	N/A	HH participation (%): -0.003 Days worked per month: Men -0.652* Women -1.080***	HH participation (%): All occupations -0.033** Professional -0.011* Construction worker -0.043*** Unskilled worker 0.006 Domestic servant 0.013*
GHANA	**Ag & non ag:** HH participation (%) 0.014 Weeks worked last year 0.494	Days worked last ag season: Men 7.7* Women 6.1	N/A	(See ag wage)
KENYA	**Ag & non ag:** Participation (%): All -0.026 Women 0.017 Men -0.091* Days worked per year: All -20.409** Women -13.912 Men -18.582	Participation (%): All -0.047 Women 0.007 Men -0.055 Days worked per month: All -0.042 Women 0.406 Men -0.622	N/A	(See ag wage)
LESOTHO	**Ag & non ag:** Participation (%): Last year -0.03 Last week -0.044** Hours worked last week -1.7***	Participation (%): Last year 0.023 Last week -0.035 Hours worked last week: -1.1	Participation (%) Last year -0.006 Last week 0.004 Hours worked Last week -0.1	(See ag wage)
MALAWI	HH participation (%): Adult men -0.13*** Adult women -0.07 Days worked in a year in HH Adult men -17.35*** Adult women -12.89***	HH participation (%): Adult men 0.03 Adult women -0.01 Days worked last rainy season: Adult men -1.64 Adult women -1.40	HH participation (%): Adult men -0.01 Adult women -0.03	HH participation (%): Adult men 0.03 Adult women -0.02 Days worked in a year: Adult men 4.48 Adult women -1.08
ZAMBIA	HH participation (%): Any adult member -0.1449*** Days worked last year Any adult member -13.75***	HH participation (%): Any adult member -0.0132 Days worked last year Any adult member 20.12*	HH participation (%): 0.1707*** Days worked last week: 1.57***	HH participation (%): 0.0371* Days worked last year 3.03
ZIMBABWE	HH participation (%): Any HH member -0.002 Days worked last year All adult HH members -0.1	HH participation (%): Overall -0.022 Days worked last rainy season: Overall -20.4** Women -9.1** Men -11.2***	HH participation (%): 0.065 Hours worked last week: 1.5	HH participation (%): Any HH member 0.017 Days worked last year All adult HH members 0.7

Note: significance level: ***<0.01, **<0.05, *<0.1. N/A-not available. Adult 18-59 years of age, elderly 60+ years of age. HH-household

TABLE 8 IMPACTS ON CHILDREN WORK

	Wage labor	Family farm
ETHIOPIA	Teenagers participation (%): Boys -0.051 Girls -0.001 Days/month worked by teenagers: Boys -0.727* Girls 0.409	# hours/day worked by children: Children 6-12 -0.163** Boys 6-12 -0.163* Teenagers 13-17 -0.024
GHANA	N/A	Days worked last season 0.8
KENYA	Participation (%): Total -0.006 Boys -0.003 Girls -0.002	Participation (%): Total -0.124*** Boys -0.120** Girls -0.072 Days worked per month: Total 0.072 Boys -0.266 Girls 0.488
LESOTHO	Participation (%): Last year 0.000 Last week -0.004 Hours worked last week 0.0	Participation (%): Last year -0.018 Last week -0.059** Hours worked last week -2.2**
MALAWI	HH participation (%): Children 10-17 0.00 Total days worked in a year: Children 1.10* Boys 10-17 1.57* Girls 10-17 -0.05	Participation (%): Children 6-9: -0.04 Children 10-17: -0.01 Days worked last rainy season: Children 6-9: -0.72 Children 10-17: 0.82
ZAMBIA	Paid work -0.018	Unpaid work 0.039
ZIMBABWE	HH participation (%): Children -0.003 Hours worked last week: Children 0.1	Children in HH (%) last rainy season: Overall -0.013 Girls -0.004 Boys -0.018 Children in HH (days) last rainy season: Overall -5.2 Girls -4.6* Boys -0.6

Note: significance level: ***<0.01, **<0.05, *<0.1. N/A-not available. Teenagers in Ethiopia are 13-17 years of age. HH-household

TABLE 9 IMPACTS ON OTHER LIVELIHOOD STRATEGIES

	Non-farm enterprise (NFE)	Informal transfers made	Informal transfers received	Remittances
ETHIOPIA	HH operating NFE (%): Overall -0.003 Trading -0.026** Food processing -0.009 Crafts -0.004	% HH giving transfers -0.005 Amount given -2.827	% HH receiving transfers 0.012 Amount received -37.012	N/A
GHANA	HH operating NFE (%): Last year 0.003	Gifts giving: HH given gifts (%) 0.099*** Amount given (GhC, AE) -0.149 Donations: HH donated food (%) -0.01 HH donated non food (%) 0.123**	Receiving food gifts: HH received (%) -0.024 Value of food (GhC) 3.0***	HH received (%) -0.020 Amount received† 0.186**
KENYA	HH operating NFE (%): Last year 0.016	N/A	N/A	N/A
LESOTHO	HH operating NFE (%): Last year -0.038 Last 30 days -0.048* Intensity of NFE operations: # months in operation -0.226 # enterprises -0.036	% HH giving cash 0.012 Amount of cash given (LSL)-12.2 % HH providing food 0.184***	Private cash transfers received (%): From family members 0.001 From non-family members 0.009 Private cash transfers amount (LSL): From family members -53.6 From non-family members 9.1 HH received in-kind transfers (%): Food 0.150*** Labour -0.028	HH received (%) -0.024 Amount received (LSL) -406.2*
MALAWI	HH operating NFE (%): Overall -0.04 Petty trader 0.03* Charcoal -0.04*** Intensity of NFE operations: # businesses -0.05* # months in operation -0.48**	HH made transfer (%): Any transfer 0.05 Cash 0.00 Food 0.04 Ag inputs -0.02 Value of transfers made (MWK): Any transfer -2.27 Cash 6.99 Food 37.83	HH received transfer (%): Any transfer -0.04* Cash 0.04 Food -0.05 Ag inputs -0.03 Value of transfers received (MWK): Any transfer -617.83 Cash 185.24 Food -598.86**	N/A
ZAMBIA	HH operating NFE (%): Last year 0.166*** intensity of NFE operations: # months in operation 1.445*** Monthly profits 69.1***	N/A	N/A	N/A
ZIMBABWE	HH operating NFE (%): Last year 0.048** Intensity of NFE operations: # businesses 0.059** # months in operation 0.119 % HH reporting profits 0.051**	HH made transfers (%): Any transfer -0.018 Cash 0.014 In kind -0.017 Ag inputs 0.028* Value of transfers made (USD): Any transfer -4.8 Cash -1.0 In kind -3.7	HH received transfers (%): Any transfer 0.112** Cash 0.024 In kind 0.072 Inputs 0.057* value of transfers received (USD): Any transfer 8.4 Cash 2.5 In kind 5.8	N/A

Note: significance level: ***<0.01, **<0.05, *<0.1. N/A-not available. HH-household. † as share of AE consumption.

TABLE 10 IMPACTS ON SAVINGS AND RISK COPING BEHAVIOUR

	Negative risk coping	Savings	Purchase on credit	Debt payment
ETHIOPIA	N/A	N/A	(See debt payment)	Borrow/purchase on credit: HH borrowed (%) 0.053*** Amount borrowed -96.217*
GHANA	N/A	HH savings: % HH saved (%) 0.108*	N/A	Loans: HH hold (%) -0.032 # loans -0.124** Amount repaid† 0.234* Amount outstanding† -0.191
KENYA	N/A	N/A	HH sought credit (%) 0.010	HH received loan (%) 0.007
LESOTHO	HH practiced strategy (%): Send children... • *living elsewhere* -5.533*** • *for wage employment* -2.883* • *out of school* -7.785*** Reduce health care spending -7.243***	HH saved (%): Total -0.024 Stockvel -0.029 Formal institutions -0.20** Savings amount (LSL): Total -26.7 Stockvel -1.3 Formal institutions -3.8	HH purchased on credit (%) 0.025	HH borrowing (%): Total 0.003 Community group -0.042*
MALAWI	Asset sale: HH sold assets (%) -0.00 Sales amount (MKW) -147.34**	N/A	HH purchased on credit (%) -0.06**	Loans: HH hold (%) -0.02 Amount outstanding (MKW)... • *from previous loans* -162.33*** • *from recent loans* -107.23 Borrowing last year: HH borrowed (%) -0.03* Amount borrowed (MKW) -196.91
ZAMBIA	N/A	HH savings: % HH saved (%) 0.240*** Savings amount (ZMK) 54.4***	HH purchased on credit (%) -0.048	Borrowing: HH borrowed (%) 0.017** Amount borrowed (ZMK) -0.3
ZIMBABWE	N/A	N/A	Purchases on credit last 12 months: % HH purchasing 0.070* Amount of purchases (US$) 1.0 Outstanding amount (US$) -2.7	Loans older than 12 months: HH still own money (%) -0.003 Outstanding amount (US$) -2.0 Loans last 12 months: HH borrowing (%) -0.020 Amount borrowed (US$) -2.9 Outstanding amount (US$) -6.6

Note: significance level: ***<0.01, **<0.05, *<0.1. N/A-not available. HH-household. † as share of AE consumption.

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SYNTHESIS REPORT

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Viale delle Terme di Caracalla
00153 Rome, Italy

The From Protection to Production (PtoP) project is, jointly with the United Nations Children's Fund (UNICEF), exploring the linkages and strengthening coordination between social protection, agriculture and rural development. PtoP is funded principally by the UK Department for International Development (DFID), the Food and Agriculture Organization of the United Nations (FAO) and the European Union.

The programme is also part of a larger effort, the Transfer Project, together with UNICEF, Save the Children and the University of North Carolina, to support the implementation of impact evaluations of cash transfer programmes in sub-Saharan Africa.

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ISBN 978-92-5-109635-2

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I6826EN/1/04.17