# The Impact of Cash Transfer Programs in Building Resilience: Insight from African Countries

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Almost three-quarters of the economically active rural population in Africa south of the Sahara (SSA) is made up of smallholder farmers, making them important players in national agricultural development plans (Gollin 2014). Thus, agricultural development that contributes to increasing the productivity, profitability, and sustainability of smallholder farming is critical to reducing poverty and improving food security and nutrition. Agriculture in SSA, however, is increasingly exposed to a variety of risks and uncertainties, including market risk, production risks, climate variability, pest and disease outbreaks, windstorms, and institutional risks (Antonaci, Demeke, and Soumare 2012). There has been growing interest at the African and international community levels in increasing the resilience of households and communities, which can be defined as their ability to remain at a certain minimum level of income or well-being despite the presence of shocks (Barrett and Headey 2014). Social cash transfer (SCT) programs represent a key tool for increasing resilience to shocks. The main premise is that by providing a steady and predictable source of income, cash transfer programs can enhance household- and community-level resilience by improving human capital, facilitating changes in productive activities by relaxing liquidity constraints, improving natural resource management, and improving the ability to respond to and cope with exogenous shocks (for example, Handa et al. 2016; Asfaw et al. 2012). The aim is to strengthen and improve resilience for rural producers to allow them to prevent future fluctuations in consumption and move to the next welfare level (Antonaci, Demeke, and Soumare 2012).

Government strategies for managing agricultural risks at the household or community level have taken different forms in different countries but are generally classified into three groups. The first group is related to risk mitigation activities designed to reduce the likelihood of an adverse event or reduce the severity of actual losses. Risk mitigation options are numerous and varied (including irrigation, use of resistant seeds, improved early warning systems, and adoption of better agronomic practices). The second form is linked to risk transfer, such as commercial insurance and hedging. The last group deals with resilience-improving mechanisms to withstand and cope with events ex ante. Examples of these government strategies include social safety net programs, buffer funds, savings, strategic reserves, contingent financing, insurance, and so on.

Unlike in other parts of the world, most farmers in SSA have no access to government or market-based risk management tools. When they do, government programs or private-sector initiatives to manage price and production instability are often insufficient. Moreover, social protection programs are seldom institutionalized and are rarely used as risk management instruments to address food and nutrition insecurity. However, an increasing number of African governments over the last 15 years have launched social protection programs including cash transfers, workfare and public works programs, and in-kind safety nets.[2]

SCT programs in African countries have tended to be unconditional (with regular and predictable transfers of money given directly to beneficiary households without conditions or labor requirements) rather than conditional (requiring recipients to meet certain conditions, such as using basic health services or sending their children to school), the latter being the more common format in Latin America. Most of these programs seek to reduce poverty and vulnerability by improving food consumption, nutritional and health status, and school attendance. There is robust evidence from numerous countries (especially within Latin America and increasingly in SSA) that cash transfers have leveraged sizable gains in access to health and education services, as measured by increases in school enrollment and use of health services. In some cases, conditional cash transfer (CCT) programs

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2   In 2016, the International Policy Centre for Inclusive Growth catalogued 127 social protection programs in 39 African countries (Cirillo and Tebaldi 2016).

show stronger effects, but unconditional programs have also been shown to be highly effective (for example, Baird et al. 2014; Bastagli et al. 2016).

Building on the existing literature, this chapter synthesizes the key findings of the From Protection to Production (PtoP) project of the Food and Agriculture Organization of the United Nations (FAO), which studies the impact of SCT programs on household economic decision making. [3] The cash transfer programs studied here are government-run cash transfer programs in SSA. We examine cross-country results to test the magnitude and distribution (that is, the heterogeneity) of the programs' impacts on productivity and economic indicators, and the implications of these impacts for resilience. We also explore the underlying program design and implementation features that mediated the impacts. The chapter is organized as follows. We first provide an overview of selected SCT programs in SSA, and then present a conceptual framework on the linkages between cash transfers and economic impacts and resilience. The next section outlines the impact evaluation design and data collection methods. The final sections offer a synthesis of key cross-country findings and a short conclusion and discussion of policy implications.

## Overview of Selected SCT Programs in Africa

SCTs launched by African governments over the past two decades have provided assistance to the elderly and to households that are ultra-poor, labor constrained, caring for orphans and vulnerable children (OVCs), or experiencing a combination of these disadvantages. Typically, ministries of social development manage the programs. The main types of social protection instruments used in African countries include cash transfers, workfare

and public works programs, and in-kind safety nets. The most common element of social protection programs is unconditional cash transfers; in 2016, the International Policy Centre for Inclusive Growth identified 70 social protection programs in Africa that included an unconditional cash transfer component (Cirillo and Tebaldi 2016). The next most common components are cash for work, CCTs, social support services, and school feeding, each with around 20 programs or program components on the continent in 2016 (Cirillo and Tebaldi 2016).

Workfare and public works programs supply temporary employment for recipients able to contribute their labor in return for benefits, at the same time creating public goods in the form of new infrastructure, improvements to existing infrastructure, or performance and delivery of services (del Ninno, Subbarao and Milazzao, 2009). In-kind safety nets (such as food aid, supplementary and school feeding programs, and so on) help recipients access food, healthcare, education, and other basic goods and services. Other common instruments in parts of southern Africa include social insurance programs—primarily social pensions and health insurance.

Some of the African social protection instruments implemented during the last decade include Burkina Faso's nationwide school feeding program under the Burkinabé Response to Improve Girls' Chances to Succeed (BRIGHT) integrated program, Ethiopia's Productive Safety Net Program (PSNP), the Livelihood Empowerment Against Poverty (LEAP) program in Ghana, the Kenyan Cash Transfer for Orphans and Vulnerable Children (CT-OVC), the Child Grants Program (CGP) in Lesotho, the Malawi Social Cash Transfer Programme (SCTP), Mozambique's Programa de Subsidios de Alimentos, Rwanda's Vision 2020 Umurenge Program, South Africa's Child Support Grant and Old Age Pensions, Zambia's CGP, and the Zimbabwe SCT. Several other countries, including Uganda, Tanzania, and Liberia, have

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3   PtoP is one element of the broader Transfer Project, a collaboration between FAO, UNICEF, the University of North Carolina at Chapel Hill, and Save the Children UK that supports the design and evaluation of public cash transfer programs in several African countries. Many of the impact evaluations cited here rely on data collected through the Transfer Project.

also pursued safety net programs (Asfaw et al. 2012). The remainder of this section describes the programs on which our study focuses.

In Ethiopia, the Social Cash Transfer Pilot Program (SCTPP), initiated by Tigray regional state and UNICEF, aimed to improve the quality of lives of OVCs, the elderly, and persons with disabilities, as well as to enhance their access to essential social welfare services such as healthcare and education, via access to schools in two selected *woredas* (districts) (Berhane et al. 2015); it served approximately 3,800 households as of 2016 (Handa et al. 2018).

The Ghanaian LEAP program provides cash and health insurance to extremely poor households to improve short-term poverty and encourage long-term human capital development. LEAP started a trial phase in 2008 and began expanding gradually in 2009 and 2010 (Handa et al. 2014), reaching around 213,000 households by 2016 (Handa et al. 2018). As the flagship program of the National Social Protection Strategy, it is fully funded from the central government's general revenues and operates in all 10 regions of rural Ghana. Within regions, districts are selected for inclusion based on the national poverty map; within districts, local Department of Social Welfare offices choose communities based on their knowledge of relative rates of deprivation (Handa and Park 2012).

The Kenyan CT-OVC, implemented by the Ministry of Home Affairs, is the government's flagship social protection program, reaching around 365,000 households with OVCs across the country as of 2016 (Handa et al. 2018).

The Lesotho CGP provides an unconditional cash transfer to poor and vulnerable households. The primary objective of the CGP is to improve the living standards of OVCs, including nutrition, health, and school enrollment (Pellerano et al. 2012). The CGP is implemented by the Ministry of Social Development and targeted at poor households with children, including child-headed households. As of 2016, the program was reaching approximately 26,600 households (Handa et al. 2018).

The Malawi SCTP was initiated in 2006 in the pilot district of Mchinji, providing small cash grants to ultra-poor, labor-constrained households. Its objectives include reducing poverty and hunger in vulnerable households and increasing child school enrollment. By March 2015, the SCTP had gone to full scale in 10 districts. Social welfare officers execute the program through the district councils on behalf of the central government (Handa et al. 2015). As of 2016, the SCTP was reaching approximately 170,000 households (Handa et al. 2018).

In 2010, Zambia's Ministry of Community Development and Social Services began implementing its own CGP in the three districts (Kalabo, Kaputa, and Shongombo) with the highest rates of mortality, morbidity, stunting, and wasting among children younger than five. The CGP includes all households with a child less than five years of age. Eligible households receive 55 Zambian kwachas (ZMK) a month (equivalent to about US$12) irrespective of household size, an amount considered enough to purchase one meal a day for everyone in the household for one month. The goal of the program is to reduce extreme poverty and the intergenerational transfer of poverty (Daidone, Davis, Dewbre, Gonzalez-Flores, et al. 2014).

Our impact evaluations focus on measuring the primary objectives of these programs, including food security, health, and nutritional and educational status, particularly of children. Most programs are located in some kind of social ministry and administered by professionals with backgrounds in the social sciences, including economists with specialization in the social sectors. The impact evaluations are most often implemented by research institutions and consulting firms that specialize in the relevant social sectors.

## The Role of Cash Transfers in Building Resilience

The potential benefits of cash transfer programs are built around the premise that the provision of regular and predictable cash transfers to very poor households, in the context of missing or thin markets, has the potential

to generate both economic and productive impacts at the household level (for example, Handa et al. 2016; Asfaw et al. 2012; Covarrubias, Davis, and Winters 2012). In rural areas, most beneficiaries depend on subsistence agriculture and live in places where markets for financial services (such as credit and insurance), labor, goods, and inputs are lacking or do not function well. The cash transfers often represent a dominant share of household income and can be expected to help households overcome the obstacles that block their access to credit or cash. Such access, in turn, can increase productive and other income-generating investments, influence beneficiaries' role in social networks, and increase their access to markets, improving their ability to deal with exogenous shocks and thereby strengthening household- and community-level resilience (Asfaw et al. 2012).

The predominant view from the literature is that social protection, including cash transfer programs, may protect beneficiaries from shocks, reduce the use of negative coping strategies that undermine longer-term livelihood sustainability, and reduce households' risk adversity toward more profitable yet more risky activities. One group of empirical literature investigates the impact of social protection on recovery from shocks. Evidence shows that a public works program in India reduced income fluctuations, and one in Ethiopia protected households from the negative effects of crop damage on child growth (Dercon and Krishnan 2003). Nonetheless, although a food-for-work program in Ethiopia increased risk sharing within treated villages, it also reduced households' capability of managing idiosyncratic crop shocks—perhaps because food aid crowded out informal insurance and subsequently left beneficiaries inadequately insured to manage idiosyncratic risk (Dercon and Krishnan 2003). CCTs in Latin America also facilitated recovery from shocks. Other positive effects include reduced child labor in Nicaragua (Maluccio, 2010), protection of consumption for coffee farmers in Nicaragua and Honduras during global price drops, income diversification in Brazil, and a decline in school dropout in Mexico (Maluccio 2005, IEG 2011a).

A second group of empirical studies looks at the impact of social protection on adverse coping strategies. The evidence generally shows a reduction in the use of adverse coping strategies that deplete household assets. One study finds that Ethiopia's PSNP dissuaded 60 percent of beneficiaries from engaging in distress sales during a drought (Devereux et al. 2005). The Malawi SCTP pilot in Mchinji reduced begging for food or money by 14 percent and reduced school dropout rates by 37 percent (Covarrubias, Davis, and Winters 2012). In Ghana and Kenya, respectively, the LEAP and CT-OVC programs reduced child labor, distress asset sales, and indebtedness (Pellerano et al. 2012). The impact on risk-coping behavior is also influenced by gender and program design. In the Mchinji pilot, children in female-headed households benefited from the SCT program via a decline in non-household wage labor and an increase in children's participation in household chores, whereas children in male-headed households experienced only a decline in school absenteeism. Yet these gender-specific outcomes are also a reflection of the constraints facing different households: female-headed households are also single-guardian households that face challenges in balancing domestic work with income-generating activities (Covarrubias, Davis, and Winters 2012). In addition, cash and in-kind transfers may increase social capital and strengthen informal safety nets and risk-sharing arrangements, provided that appropriate mechanisms and an enabling environment are created.

A third group of studies shows that SCT programs can have impacts on household decision making over labor supply, the accumulation of productive assets, and productive activities, which may subsequently have implications for resilience. A meta-analysis of social protection programs including cash transfers, public works, and food transfers found that beneficiaries increased their livestock holdings, farm and nonfarm productive assets, and savings (Hidrobo et al. 2018). Todd, Winters, and Hertz (2010) and Gertler, Martinez, and Rubio-Codina (2012) found that the Mexican Progresa program led to increased land use, livestock ownership, crop

production, and agricultural expenditures, as well as a greater likelihood of operating a microenterprise. From their analysis of a CCT program in Paraguay, Soares, Ribas, and Hirata (2010) found that beneficiary households invested between 45 to 50 percent more in agricultural production than they did before the program and that the program also increased households' probability of acquiring livestock by 6 percent. Martinez (2004) found that the Bonosol pension program in Bolivia had positive impacts on animal ownership, expenditures on farm inputs, and crop output, although the specific choice of investment differed according to the gender of the beneficiary. In contrast, Maluccio (2010) found that the Red de Protección Social program in Nicaragua had muted impacts on the acquisition of farm implements and no impact on livestock or landownership.

With respect to SSA, Covarrubias, Davis, and Winters (2012) and Boone and colleagues (2013) found that the Malawi SCTP led to increased investment in agricultural assets, including farm implements and livestock, and increased satisfaction of consumption by households' own production. Gilligan, Hoddinott, and Taffesse (2009) found that Ethiopian households with access to both the PSNP and complementary packages of agricultural support were more likely than nonparticipants to be food secure, to borrow for productive purposes, to use improved agricultural technologies, and to operate their own nonfarm business activities. In a later study, Berhane and colleagues (2011) found that the PSNP led to a significant improvement in food security status for those who had participated in the program for five years versus those who received only one year of benefits. Moreover, those households that participated in the PNSP as well as the complementary programs had significantly higher grain production and fertilizer use compared to nonparticipants. However, beneficiaries did not experience faster growth in assets (livestock, land, or farm implements) because of the programs (Gilligan, Hoddinott, and Taffesse 2009).

## Methodology

### Program Evaluation Design and Data

The core of the quantitative analysis for the Kenya, Lesotho, Malawi, and Zambia studies was an experimental design impact evaluation. In Ethiopia and Ghana, the evaluation designs were quasi-experimental. Table 5.1 summarizes the key evaluation design features of the cash transfer programs.

In Kenya's CT-OVC, the impact evaluation utilized a randomized cluster longitudinal design, with the baseline quantitative survey fieldwork carried out in mid-2007. Within each district, two locations were chosen randomly to receive the intervention and two were selected as controls (Ward et al. 2010). This method of randomization was not as robust as in the case of Lesotho (see below) due to the fewer units over which the randomization took place. Approximately 2,750 households were surveyed in 7 districts (Garissa, Homa Bay, Kisumu, Kwale, Migori, Nairobi, and Suba). Two-thirds of households were assigned to the treatment group. These

| Table 5.1—CORE EVALUATION DESIGNS | | | | |
|---|---|---|---|---|
| Country | Design | Level of randomization or matching | N = | Ineligibles sampled? |
| Ethiopia | Nonexperimental (PSM and IPW) | Household level within a village | 3,351 | Yes |
| Ghana | PSM (IPW) | Household and region | 1,504 | No |
| Kenya | Social experiment with PSM and IPW | Location | 2,234 | No |
| Lesotho | Social experiment | Electoral district | 2,150 | Yes |
| Malawi | Social experiment | Village cluster | 3,200 | Yes |
| Zambia | Social experiment | Community welfare assistance committee | 2,519 | No |

Source: Davis and Handa 2015.
Note: All studies are longitudinal, with a baseline and at least one postintervention follow-up; N refers to households sampled at follow-up; IPW = inverse probability weighting; PSM = propensity score matching.

households were reinterviewed two years later (these interviews constituting the first-round study), between May and July 2009, to assess the impact of the program on key welfare indicators (Ward et al. 2010). The reinterview success rate was approximately 83 percent. The second-round follow-up study was conducted between May and August 2011 with a more detailed economic activity module (including questions on wage labor, self-employment, crop and livestock activities, and so on) to capture potential investment and productive activity benefits of the program on families. The household-level analysis relied on data collected at the baseline (2007) and in the second-round follow-up (2011), with a sample of 1,811 households. However, it is important to point out that for many of the outcome variables of interest to the PtoP project, there is only one data point (that is, no baseline).

In Lesotho, participation in the program was randomized at the level of the electoral district (ED). First, all 96 EDs in 4 community councils were paired based on a range of characteristics, with 40 pairs randomly selected for the survey. Within each selected ED, 2 villages (or clusters of villages) were selected, and in every cluster a random sample of 20 households was selected. Baseline survey data were collected, followed by public meetings with a lottery to assign EDs (both sampled and non-sampled) to either treatment or control groups. Selecting the treatment EDs after the baseline survey helped to avoid anticipation effects (Pellerano et al. 2012). The baseline household survey was carried out in 2011 prior to distribution of cash transfers; a follow-up panel survey took place in 2013. A total of 3,102 households were surveyed; 1,531 program-eligible households (766 treatment and 765 control) were used for the impact evaluation analysis, with the remaining 1,571 program-ineligible households used for analysis of targeting and spillover effects. The baseline analysis report (Pellerano et al. 2012) shows that randomization was quite successful.

In Malawi, baseline data were collected in 2013, with a follow-up survey 17 months later, in 2014, and an endline survey in 2015 (Handa et al. 2016). The treatment and control groups each represented about half of the communities sampled. The sample was divided between Salima and Mangochi districts, which counted, respectively, 2,192 and 2,160 households. Of these households, 1,775 and 1,756, respectively, met the eligibility criteria. The longitudinal impact evaluation included 3,531 eligible households and 821 ineligible households at baseline.

In Zambia, the baseline survey was carried out in September–October 2010, with follow-ups in 2012, 2013, and 2014. Communities were randomly assigned to a treatment group (those incorporated into the program in December 2010) or the control (those to be brought into the program at the end of 2013). Baseline data collection began prior to group assignment. The study includes 2,515 households (1,228 treatment and 1,287 control). Analysis of the baseline data shows that randomization appears to have worked well. Greater detail on the randomization process can be found in Seidenfeld and Handa (2011).

For Ethiopia, the impact evaluation design is nonexperimental; the study follows a longitudinal design, with a baseline household survey conducted in mid-2012, followed by separate monitoring surveys and, finally, a 24-month follow-up in 2014. The evaluation sample includes three groups of households: treatment beneficiaries, control households, and ineligible households. The development of ranking lists of eligible households based on meeting targeting criteria was a vital component. Treatment and control households were both selected from the list of eligible households. The sample comprises 3,664 households at baseline, of which 1,629 were beneficiaries and 1,589 were control households. In addition, 446 sample households were randomly selected for the study from households who were not eligible to receive support from the program because they were less poor, had able-bodied members, or both. Attrition between baseline (May–August 2012) and endline (2014) was 8.70 percent, or 4.36 percent per year (Berhane et al. 2015).

The Ghanaian LEAP program impact evaluation took advantage of a nationally representative household survey implemented during the first

quarter of 2012. It focused on seven districts across three regions (Brong Ahafo, Central, and Volta). The initial treatment sample of 700 households was randomly drawn from the group of 13,500 households that were selected into the program in the second half of 2009. Households were interviewed prior to indication of selection, so as to lower the anticipation effect. The baseline survey instrument was an abridged version of the national household survey instrument, and the national survey sample and the treatment household sample were surveyed at the same time by the Institute for Statistical, Social and Economic Research (ISSER) of the University of Ghana–Legon. The strategy was to draw the control households from the national survey using propensity score matching techniques. A comparison group of "matched" households were selected from the ISSER sample and reinterviewed two years later, in March–April 2012, along with LEAP beneficiaries, to measure changes in outcomes across treatment and comparison groups (Handa and Park 2012).

## Analytical Methods

In the PtoP project, we seek to answer the question "How would cash transfer beneficiaries have fared in the absence of the program?" The identification of the counterfactual is the organizing principle of an impact evaluation because it is impossible to observe a household both participating in the program and not participating. The goal is to compare participants with nonparticipants who are as similar as possible except for receiving the program, in order to measure the differential impact of the intervention. The "with" data are observed in a household survey that records outcomes for recipients of the intervention. The "without" data, however, are fundamentally unobserved because a household cannot be both a participant and a nonparticipant of the same program (details discussed in Asfaw et al. 2012).

However, the outcomes of nonbeneficiaries may still differ systematically from what the outcomes of participants would have been without

the program, producing selection bias in the estimated impacts. This bias may derive from differences in observable characteristics (such as location, demographic composition, access to infrastructure, wealth, and so on) or unobservable characteristics (such as natural ability, willingness to work, and others). Some observable and unobservable characteristics do not vary with time (such as natural ability), whereas others may vary (such as skills). Furthermore, the existence of unobservables correlated with both the outcome of interest and the program intervention can result in additional bias (that is, omitted variables).

The validity of experimental estimators relies on the assumption that the control group units are not affected by the program; this is also referred to as the *stable unit treatment value assumption* (Rubin 1980; Djebbari and Hassine 2011). However, control households can be affected through market interactions and through informal transactions and risk sharing (the latter known as *nonmarket interaction*).

Toward this end, most of the evaluations used two approaches (that is, a difference-in-differences, or DD, estimator, as well as a single-difference approach combined with inverse probability weighting and propensity score matching), depending on the nature of the design and availability of data (details in Asfaw et al. 2012). When baseline data were not available, as is the case for some of the outcome variables in some countries, the single-difference method was applied. When panel data were available with pre- and postintervention information, which is the case for most of the countries, a DD approach was used. By taking the difference in outcomes for the treatment group before and after receiving the cash transfer and subtracting the difference in outcomes for the control group before and after the cash transfer was disbursed, DD is able to control for pretreatment differences between the two groups, in particular the time-invariant unobservable factors that cannot be accounted for otherwise (Wooldridge 2002).

The key assumption is that differences between treated and control households remain constant throughout the duration of the project. If

prior outcomes incorporate transitory shocks that differ for treatment and comparison households, DD estimation interprets such shocks as representing a stable difference, and thus its estimates will contain a transitory component that does not represent the true program effect. When differences between treatment and control groups exist at baseline, the DD estimator with conditioning variables has the advantage of minimizing the standard errors if the effects are unrelated to the treatment and are constant over time (Wooldridge 2002). Control variables are most easily introduced by turning to a regression framework, which is convenient for the DD, or by combining DD with propensity score matching or with inverse probability weighting.

All estimators presented above assume that the cash transfer impact is constant, irrespective of who receives it. Estimating the mean impact of a program or policy based on this assumption is a concise and convenient way of evaluating impacts. This approach is justified (Heckman, Ichimura, and Todd 1997) if researchers and policy makers believe that total output increases total welfare and that detrimental effects of the program or policy on certain parts of the population are not important or are offset by the program—either via an overarching social welfare function or through family members or social networks.

Overall mean impacts are most helpful when complemented with measurements of distributional impact. Even if the mean program effect were significant, whether the program had a significant beneficial or detrimental effect might vary across the distribution of targeted households (Khandker, Koolwal, and Samad 2010). For example, the impact on poorer households as compared with wealthier households is particularly interesting in the context of programs that aim to alleviate poverty.

There are several ways to calculate the distributional impacts of a cash transfer program. For example, one could divide the sample of households and individuals into different demographic groups (for instance, by gender or age cohort), perform a separate analysis on each group, and see if estimated impacts are different. Interacting the treatment group with different household socioeconomic characteristics is another way to capture differences in program effects, although adding too many interaction terms in the same regression can lead to issues with multicollinearity (Khandker, Koolwal, and Samad 2010). Another way to present the distributional impacts of cash transfer programs is by using a quantile regression approach to assess the magnitude of impact for each stratum of households. Simply investigating changes in the mean program effect, even across different socioeconomic or demographic groups, may not be enough when the entire shape of the distribution changes significantly.

## Results and Discussion

This section synthesizes key findings from the PtoP impact evaluation reports and discusses the results over three broad groups of outcome variables linked to household resilience: risk management including responses to climate change, investment in livelihood activities, and food security. We focus on quantitative studies and, where applicable, supplement the comparative analysis with results from the qualitative evidence that report on similar outcomes. The discussion draws on results from both midline and endline reports.

### Can Cash Transfers Promote Ex Post Risk Management?

By providing a reliable income stream, cash transfer programs improve risk management in poor rural households. An extra source of income can help households provide for school fees and avert the need for children to drop out of school to work on farms. The transfers flowing in and out of households can also change, and households may engage more in social networks through increased giving and so perhaps may be able to rely on these networks in the future. Households can also use the transferred money to pay off debts,

purchase on credit, or save the cash. Table 5.2 presents the cross-country summary of the impact of SCTs on risk-coping strategies, access to credit, community relations, savings, and debt payments.

Beneficiary households were found to have relied less on risk-coping mechanisms thanks to cash transfers. Asfaw, Pickmans, and Davis (2016) found that households in Malawi shifted away from undesirable *ganyu* (casual) labor because of the SCTP. Also, in Malawi, Handa and colleagues (2015) found that the SCTP reduced paid work outside the home for children ages 10–17. In the face of negative shocks, use of cash transfers emerged as the primary coping mechanism for one-quarter of the negative shocks among SCTP beneficiary households, and there were declines in the use of *ganyu* labor and of savings as coping mechanisms. The authors also found a smaller percentage of households engaging in coping mechanisms for negative shocks, particularly among the poorest households (Handa et al. 2015).

In the Tigray region of Ethiopia, the SCTPP reduced the number of hours per day children were engaged in household activities. In particular, children ages 6–12 in beneficiary households worked fewer hours per day on the family farm and across all other activities, compared with those in control households (Asfaw et al. 2015). However, the impact was more mixed in Lesotho: although boys 13–17 may have seen a reduction in engagement in paid work outside the house, girls saw an increase in such work due to the CGP (Pellerano et al. 2014). Pellerano and colleagues (2014) also found a reduction in the level of engagement in

occasional and irregular occupations among adults, noting that these results indicate that the cash support effectively worked as a safety net, preventing households from depending on low-paid and precarious occupations. The authors also found CGP beneficiaries to be less likely to send children to live

## TABLE 5.2—SYNTHESIS OF KEY FINDINGS

| Variable | Ghana | Kenya | Lesotho | Malawi | Zambia | Ethiopia |
|---|---|---|---|---|---|---|
| **Ability to manage risk** | | | | | | |
| Risk-coping mechanisms | + | N/E | +++ | ++ | + | ++ |
| Savings | + | N/E | - | N/A | ++ | N/A |
| Purchase on credit | + | NS | NS | -- | NS | 0 |
| Debt payment | ++ | N/E | - | ++ | + | N/E |
| Provide transfer | - | N/E | + | NS | N/E | - |
| Receive transfer | + | N/E | + | - | N/E | NS |
| Remittance receipt | + | N/E | - | N/E | N/E | N/E |
| **Agricultural asset** | | | | | | |
| Agricultural tools | N/E | + | + | ++ | +++ | 0 |
| Livestock ownership | N/E | ++ | + | +++ | +++ | 0 |
| Crop and livestock production and marketing | | | | | | |
| Agricultural inputs | 0 | - | ++ | ++ | +++ | 0 |
| Livestock inputs | N/A | 0 | 0 | N/E | NS | - |
| Land use | N/E | N/E | NS | N/E | ++ | N/E |
| Agricultural output | N/E | NS | ++ | ++ | ++ | ++ |
| Crop sales | N/E | N/E | 0 | ++ | ++ | 0 |
| Livestock by-products | N/E | N/E | + | N/A | N/A | 0 |
| Nonfarm enterprise | NS | 0 | - | 0 | +++ | 0 |
| **Household welfare** | | | | | | |
| Food security | +++ | N/A | +++ | +++ | +++ | +++ |
| Consumption | NS | +++ | + | +++ | +++ | ++ |
| Dietary diversity | 0 | +++ | NS | N/E | ++ | + |
| Home consumption of crop production | N/E | +++ | N/E | NS | + | N/E |

Source: Asfaw et al. (2014), Asfaw et al. (2015), Asfaw et al. (2016,) Asfaw et al. (2017), Daidone et al. (2014a), Daidone et al. (2014b), AIR (2013), AIR (2016), Handa et al. (2014) and Pellerano et al. (2014).

Note: N/A = not available; N/E = not estimated; NS = no shift; 0 = overall mixed shift; + = significant positive impact; - = significant negative impact. One, two, or three + or – signs indicate the level of the impact.

elsewhere by age 6, send children to work by 3, take children out of school by 8, and reduce spending on health by 7 percentage points as a response to shocks within the 12 months before the survey.

The decreased need to engage in negative risk-coping mechanisms because of cash transfers was also shown through increases in school enrollment and other educational outcomes for children. Handa and others (2015) found that children ages 6–17 increased their net school enrollment by 12 percentage points because of the SCTP in Malawi, with slightly stronger impacts when considering primary and secondary school–age children separately. The authors also found the dropout rate to have fallen for primary school–age children by 4 percentage points, and temporary withdrawal (missing more than 2 consecutive weeks of instruction at any time in the past 12 months) to have decreased by 5 percentage points.

By the endline in Ethiopia, Berhane and colleagues (2015) found the SCTPP to have raised enrollment by around 6 percentage points in Hintalo Wajirat, with a particularly strong effect for girls (13 percentage points). Instead of having to take time out of school to earn extra income, children were more readily participating in school thanks to the SCTPP.

In Ghana, the LEAP program reduced the likelihood of school-age (5–17) children's missing any school by 8 percentage points and also reduced the chance of missing an entire week by 5 percentage points (Handa et al. 2014). Among younger children, smaller households appeared to be more protective, with a larger impact on missing any school in smaller households. However, the significant impact on enrollment was entirely driven by larger households. Handa and others (2014) also found the impact on secondary school enrollment for children ages 13–17 to be similar to estimates for South Africa's Child Support Grant (6 percentage points) and Kenya's CT-OVC (8 percentage points).

Though the Lesotho CGP had mixed results for engagement in paid work, the program increased the proportion of children ages 6–19 enrolled in school by 5 percentage points, with a larger impact on older boys, ages 13–17

(Pellerano et al. 2014). AIR (2013) noted that children living in a CGP beneficiary household in Zambia were 1 percentage point more likely ever to enroll in school and 2 percentage points more likely to enroll on time, for every less year of education their mother has. The authors attributed this effect to the CGP's enabling or motivating mothers who had not enrolled their children in school at baseline to change their actions and start enrolling their children in school.

Cash transfer programs were found to strengthen community ties through various channels, but the impact on private transfers was mixed. In Lesotho, the CGP had a significant impact on strengthening the reciprocity arrangements around food sharing in treatment villages. Both the proportion of households receiving and the proportion providing in-kind help in the form of food increased because of the program. The impact was strong and significant, 15 and 18 percentage points, respectively, and the magnitude was larger for households with no labor capacity (Daidone, Davis, Dewbre, and Covarrubias 2014).

Handa and colleagues (2014) found a positive impact on the value of gifts received and the amount of credit extended to others in Ghana. Meanwhile, in Malawi, Asfaw, Pickmans, and Davis (2016) found SCTP beneficiary households to be 4 percentage points less likely to receive a transfer than non-beneficiary households. In Ethiopia, Asfaw and others (2015) found increases in social capital and the subjective belief in individuals' quality of life and control. Treated households were more likely to agree with offering additional support to poor people, to have fewer problems with neighbors, and similarly, to agree that people residing in their community are basically honest and trustworthy. Other opinions of life satisfaction and ability to achieve success were higher among male-headed beneficiary households, compared with male-headed control households. However, in Ethiopia, no impacts were observed in either receipt or giving of private transfers.

Beneficiary households were also found to use proceeds from cash transfer programs to pay off debts. In Ghana, Handa and others (2014) observed beneficiary households saving more and being more likely to repay

debts than nonbeneficiaries. Smaller beneficiary households also reduced their likelihood of holding a loan by 9 percentage points. The authors also found a corresponding significant impact on the amount paid off: 19 percentage points of adult-equivalent consumption (Handa et al. 2014). In Malawi, households overall, and female-headed households and large farm households in particular, reduced debt from previous loans due to the SCTP. Male-headed households and large farm households were also less likely to still owe money for outstanding loans (Asfaw, Pickmans, and Davis 2016) than nonparticipating households. AIR (2016) also found that larger households paid off loans because of the CGP in Zambia.

## Can Cash Transfers Contribute to Managing Climate Risk?

Climate change poses severe threats to households' well-being across the world, particularly in low-income countries, where poor households are often exposed to different sources of risk. Adoption of risk management strategies such as social safety nets is becoming gradually more relevant for improving households' ability to manage climate risk. Given the high incidence of climate shocks in Zambia, we also would like to present the findings of Asfaw and others (2017), who shed light on how households respond to the CGP cash transfer in a context of weather instability. These authors conducted additional analyses by merging the Zambia CGP impact evaluation data with rainfall data obtained from Africa Rainfall Climatology version 2, which covers the years 1983–2012.[4] They assessed whether regular and unconditional small cash payments (via the CGP) helped mitigate the negative effects of climate variability, protect and improve smallholders' livelihoods, and ensure food security and nutrition.[5] The authors also investigated how the CGP and climate variability affected households in different quintiles of various welfare and food security dimensions.

Asfaw and colleagues (2017) found that the CGP increased total food and nonfood expenditure, which implies that the treatment increases households' welfare. Because of an increase in food expenditure, both the quantity and the quality of food consumed responded positively to CGP receipt, implying that households benefited from the CGP in terms of food security and nutrition. With regard to the effect of climatic variables on welfare and food security, results from Asfaw and others (2017) showed that overall, households in areas that experienced lower-than-average rainfall had lower levels of daily caloric intake and lower food and nonfood expenditures, and that these effects were most pronounced for the poorest households in the sample. A possible explanation could be that the decline in rainfall had an initial negative impact on agriculture, livestock production, and other water-intensive activities. The decline in volume of production thus affected households' purchasing power, forcing them to improve their coping mechanisms.

Asfaw and others (2017) also found compelling evidence that cash transfer programs play a mitigating role against the negative effects of climate shocks. Households that participated in the CGP had much lower negative effects from weather shocks than nonparticipating households, with the poorest households least affected. This finding indicates the potential of social protection to support food access for households exposed to climate risk. However, the analysis also indicated that although participation in the CGP is beneficial in mitigating the negative effects of climate shocks on food security, it is not enough to fully overcome these effects. Thus, it is important to ensure that SCTs are well aligned with other livelihood and climate risk management programs, including disaster risk reduction activities. This result confirms the findings of authors such as Eriksen, Brown, and Kelly (2005), who found a positive relationship between the ability of people to draw on extra sources of income and their ability to withstand droughts in Tanzania and Kenya, with respect to those without any extra income.

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4  Dekads (that is, 10-day periods) at 0.1 degrees covering the period 1983–2012 at the ward level.

5  The outcome variables in the study included total expenditure, food and nonfood expenditure, daily caloric intake, and dietary diversity index.

# The Potential of Cash Transfers to Promote Ex Ante Risk Management

Cash transfers contribute to ex ante risk management by increasing household adaptive capacity through the accumulation of productive assets, increased crop and livestock production and productivity, and linkages with output markets. This section looks at various dimensions of the productive process to ascertain whether households were found to have increased spending on livelihood activities, including crop production, crop inputs, and asset building. Given that agriculture represents the primary economic activity of the households studied, investment in agricultural assets and increases in crop production are critical for livelihood strengthening and ex ante risk management. Households can also enhance their resilience by diversifying into different income streams, such as nonfarm enterprises. Table 5.2 presents the cross-country summary of the impact of SCTs on investment in livelihood activities.

## *Impacts on Accumulation of Productive Assets*

Beneficiary households overall (and larger ones in particular) in Zambia owned more axes and hoes and were more likely to own hammers, shovels, and plows because of the cash transfer program (Daidone, Davis, Dewbre, Gonzalez-Flores, et al. 2014). Beneficiary households in Kenya were more likely to own troughs, and male-headed beneficiary households were also more likely to own machetes and sickles (Asfaw et al. 2014). In Lesotho, Daidone, Davis, Dewbre, and Covarrubias (2014) found the CGP to increase the purchase and use of Scotch carts. In Malawi, beneficiary households overall, with both female and male heads, and large farm households owned more agricultural implements (Asfaw, Pickmans, and Davis 2016) than nonbeneficiary households. Handa and others (2015) also found the Malawi SCTP to increase crop production and agricultural assets (sickles in particular). In terms of agricultural asset ownership, beneficiary households

in Hintalo Wajirat, Ethiopia, were 6 and 7 percentage points more likely to own plows and imported sickles, respectively (over baseline shares of 47 and 41 percent). In contrast, beneficiary households in Abi Adi, Ethiopia were less likely to own those agricultural implements than nonbeneficiary households. In terms of the number of implements owned, overall there were more negative than positive effects (Asfaw et al. 2015). However, Berhane and colleagues (2015) constructed a farm productive assets index and found that the Ethiopia SCTPP increased scores on it by 2 percentage points in Hintalo Wajirat.

Cash transfers also led to increased livestock ownership in SSA, particularly of smaller animals. Both small and large beneficiary households in Zambia increased livestock ownership, but the impacts were stronger for large households (AIR 2016). Smaller households and female-headed households in Kenya increased their ownership of small livestock (such as sheep and goats), compared with control households. Among smaller households, there was about a 15-percentage-point increase in the percentage who owned small livestock, compared with control households, and female-headed households receiving the transfer increased their ownership by 6 percentage points (Asfaw et al. 2014). Daidone, Davis, Dewbre, and Covarrubias (2014) found the cash transfer in Lesotho to have increased the proportion of households owning pigs by about 8 percentage points and the number of pigs owned by 0.1 percentage point. Whether by number of livestock owned or by livestock ownership percentage, SCTP beneficiaries in Malawi experienced an increase (also noted by Handa et al. 2015) in chickens, goats and sheep, and pigs (Asfaw, Pickmans, and Davis 2016). Meanwhile, in Ethiopia, Asfaw and others (2015) found the impact on livestock ownership to be more mixed, depending particularly on the geographic area in which the transfer was given. Berhane and others (2015) found the SCTPP in Ethiopia to increase households' likelihood of owning any form of livestock by 7 percent in Hintalo Wajirat, with the increase largely driven by an increase in poultry ownership.

## Impacts on Crop Production and Productivity

The cash transfer programs evaluated generally led to increased crop production and productivity. Aggregating all crop output by value, the CGP in Zambia increased the value of all crops harvested by ZMK146,[6] approximately a 50 percent increase from baseline, with a larger value increase for smaller households, at ZMK182. Beneficiary households increased their crop production marketing by 12 percentage points and increased their average value of sales (Daidone, Davis, Dewbre, Gonzalez-Flores, et al. 2014).

Production of maize, the main staple commodity, increased in CGP households in Lesotho by around 39 kg more than in the control group, and even more for households with more available household labor. Sorghum production increased by around 10 kg, with a larger impact in severely constrained households, likely because sorghum requires less labor than other major crops. Furthermore, results on home gardening were consistently larger for unconstrained and moderately labor-constrained households, compared with households without adult members fit to work (Daidone, Davis, Dewbre, and Covarrubias 2014).

In Malawi, beneficiary households increased groundnut production and productivity, with fewer and mixed impacts on other crops. Medium-size farm households and male-headed households also increased their maize yields. Ultimately, both male-headed households and medium-size farm households increased the value of their crop production because of the SCTP. Households were more likely to sell any crop, and the value of crops sold increased for female-headed households, small farm households, and medium-size farm households, although it decreased for large farm households (Asfaw, Pickmans, and Davis 2016).

In Ethiopia, Asfaw and colleagues (2015) found households to have decreased their yield of sorghum, particularly in Hintalo Wajirat and among male-headed households. Ultimately, beneficiary households increased the total value of their crop production by 18 percent.

For the Kenya CT-OVC, Asfaw and others (2014) found a negligible impact of the program on crop production. However, there was an impact on the proportion of food consumption coming from households' own production, particularly for smaller households and female-headed households. The average treatment effect on the share of consumption from home-produced dairy and eggs was 20 percentage points for smaller households and 15 percentage points for female-headed households.

Increased crop production and productivity for beneficiary households also came through increases in land and crop input use. The CGP in Zambia increased the amount of operated land by about 34 percent from baseline, and 18 percent more households spent money on inputs, from a baseline share of 23 percent. This increase in money spent on inputs was particularly relevant for smaller households (22 percentage points) and included spending on seeds, fertilizer, and hired labor. The increase of 14 percentage points in the proportion of small households purchasing seeds is equivalent to more than a doubling in the share of households. Small beneficiary households spent ZMK42 more on crop inputs than the corresponding control households, including ZMK15 on hired labor, amounting to three times the value of the baseline mean for overall spending and four times for hired labor (Daidone, Davis, Dewbre, Gonzalez-Flores, et al. 2014).

The CGP in Lesotho significantly increased the share of beneficiary households using pesticides (by 8 percentage points); especially labor-unconstrained households were more likely to purchase pesticides after receiving the CGP. Households purchased seeds more often (by 7 percentage points), although there was no statistically significant change in the intensity of purchase (Daidone, Davis, Dewbre, and Covarrubias 2014).

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6    At the time of the study, ZMK5 = US$1.

In Malawi, household expenditure on organic fertilizer increased by 158 Malawian kwachas (MWK)[7] (from a baseline of MWK245). Increases in organic fertilizer expenditure also were found at disaggregated levels (aside from medium-size farm households, who faced no increase) and in expenditure per acre (Asfaw, Pickmans, and Davis 2016). An increase in the likelihood of chemical fertilizer use was also found among male-headed households.

In the case of the Ethiopia SCTPP, female-headed beneficiary households were 4 percentage points more likely to practice a soil and water conservation technique on their land, a noticeable increase over their baseline mean of 14 percent. Female-headed households were also 3 percentage points more likely to hire labor for farm work, from a low baseline mean of 5 percent (Asfaw et al. 2015).

### *Impacts on Nonfarm Enterprises*

On nonfarm enterprises, cash transfer programs were found to have mixed results. In Zambia, beneficiary households were 13 percentage points more likely to operate a nonfarm enterprise than nonbeneficiaries (AIR 2016). Cash beneficiary households participated more often in nonfarm enterprises in Kenya if they were headed by a female but less so if headed by a male; otherwise, no impact was recorded for the overall sample (Asfaw et al. 2014). In Malawi, results on nonfarm enterprise labor were mixed, with beneficiary households less likely to engage in charcoal/firewood enterprises but more likely to engage in petty trade enterprises (Asfaw, Pickmans, and Davis 2016). In Ethiopia (Asfaw et al. 2015) and in Ghana (Handa et al. 2014), no impacts found were at the overall level on the likelihood of participating often in nonfarm enterprises. Pellerano and colleagues (2014) found a reduction in the proportion of households with an enterprise in operation in the 30 days prior to the survey but noted that the reduction was mainly driven

by households' engaging less frequently in home brewing, which is generally small in scale and a livelihood strategy of last resort.

## Can Cash Transfers Promote Resilience by Enhancing Food Security?

Households consistently more able to consume an adequate amount of food and a more diverse food basket are necessarily more resilient and less food insecure than otherwise similar households. Depending on the availability of data across the different countries, we collected the impacts of cash transfer programs on consumption, dietary diversity, and subjective food security indicators. Table 5.2 presents the cross-country summary of the impact of SCTs on food security, consumption, and dietary diversity.

### *Impact on Food Security*

As expected, the studied cash transfer programs unambiguously increased the food security of beneficiary households. The CGP in Zambia increased the percentage of households eating two or more meals per day by 5 percentage points and raised beneficiary households' overall food security as measured by the food security score of the FAO's Food and Nutrition Technical Assistance Project, or FANTA (AIR 2016).

In Lesotho, Pellerano and others (2014) found that the CGP reduced the number of months that households experienced shortages of food and decreased the proportion of households without enough food to meet their needs for at least 1 month in the previous 12 months. Food security also increased in Malawi due to the cash transfer program: households overall, for example, were 11 percentage points less likely to have worried in the past 7 days about whether they would have enough food. The SCTP also allowed households to eat more meals per day, with effects observed for households at all levels except for large farm households. Medium-size farm households

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7   At the time of the study, MWK330 = US$1.

also increased the number of months that last year's maize harvest lasted (Asfaw, Pickmans, and Davis 2016).

In Ethiopia, there was a reduction in the number of months with problems satisfying food needs in the overall sample and among male-headed households. There was no impact on the number of months out of the last 12 that the household ran out of home-grown food, but there were increases in both the number of times a day both children adults in the household ate. Compared with control households, SCTPP beneficiary households were also less likely to have suffered a shortage of food during the past rainy season. With regard to measures of last resort, beneficiary households reduced their likelihood of having consumed seed stock during the past week, compared with control households (Asfaw et al. 2015).

### Impact on Consumption Expenditure

Cash transfers also enabled households to better meet their consumption needs. In Zambia, the program significantly increased food spending, with the largest share going to cereals, followed by meats including poultry and fish, then fats such as cooking oil, and then sugars (AIR 2016). The share of households consuming part of their harvest also increased by 6 percentage points, which came from increased groundnut and rice consumption out of home production (Daidone, Davis, Dewbre, Gonzalez-Flores, et al. 2014).

In Lesotho, Pellerano and colleagues (2014) detected a statistically significant CGP effect on food expenditure and total consumption when controlling for covariates, including differences in prices across locations, but at low levels of significance.

In Kenya, although there was no significant impact on consumption expenditure on cereals and legumes, there was an increase in food spending on dairy and eggs. The program had no effect on spending on most of the food consumption categories for larger households, but it caused large increases in three of the categories (dairy and eggs, meat and fish, and fruit) for smaller households. The program had larger and positive impacts on

female-headed households compared with male-headed households, as in the case of the share of consumption from home-produced dairy and eggs. Treated households in Kenya also appeared to consume more animal products as well as other foods from their own production, compared with control households (Asfaw et al. 2014).

In Malawi, there were increases in daily per capita calories consumed at all levels, with those increased calories coming from food purchases. Aside from a decrease for male-headed households, there were no impacts on calories coming from households' own production. Such results suggest that households are likely using the cash to buy food directly, although calories coming from their own production may take more time to show impacts. For both extremely poor and non–extremely poor households, the pattern holds up: increases in calories consumed came from purchases rather than from their own production, with decreases in calories consumed coming about due to gifts given and other activities (Asfaw, Pickmans, and Davis 2016).

Berhane and others (2015) found that the SCTPP in Ethiopia reduced the food gap, increased the availability of calories, and reduced seasonal fluctuations in children's food consumption. Meanwhile, Handa and others (2014) found that in Ghana, there was no overall change in food consumption between treated and control households.

### Impact on Dietary Diversity

There is also some evidence of improved dietary diversity due to cash transfer programs. In Zambia, there was a clear shift away from roots and tubers (primarily cassava) and toward protein (dairy and meats), indicating a possible improvement in dietary diversity among CGP recipients (AIR 2016). The CGP midline impact evaluation disaggregated consumption results by household size, finding that in smaller households, the impact on food expenditures was concentrated on cereals (accounting for 45 percent of the impact for these households) followed by meat (15 percent), fats (14 percent), and pulses (13 percent). Among larger households, the impact

of the grant on food expenditures was driven by meats (32 percent) and then cereals (30 percent) (AIR 2013). In the end, food expenditures increased for both groups of households because of the cash transfer program (Daidone, Davis, Dewbre, Gonzalez-Flores, et al. 2014).

In Kenya, the results showed no significant impact on consumption expenditure for cereals and legumes. However, there was about a 12-percentage-point increase in food spending on dairy and eggs. The program had no effect on spending on most of the food consumption categories for households with a larger number of members, but it had large, positive, and significant effects on three of the outcomes (dairy and eggs, meat and fish, and fruit) for smaller households. The program typically had larger and positive impacts on female-headed households compared with male-headed households, such as on consumption of animal products. Treated households also appear to have consumed more animal products, as well as other foods, from their own production, compared with control households. Dairy and egg consumption from households' own production increased by about 13 percentage points for beneficiary households, and the impact on other types of food was about 4 percentage points. The average treatment effect for the share of consumption from home-produced dairy and eggs was 20 percentage points for smaller households and 15 percentage points for female-headed households (Asfaw et al. 2014).

In Ethiopia, results from Asfaw and others (2015) showed an increase in household consumption of oils and fats; sweets; and spices, condiments, and beverages because of the SCTPP. This increase was mixed with reductions in household consumption of fruits and meats. Berhane and colleagues (2015) found the SCTPP to have improved dietary quality, as measured by the Dietary Diversity Index, in both May 2012 and May 2014, by 13 and 12 percent, respectively.

In Ghana, although there was no overall change in food consumption between treated and control households, Handa and others (2014) found a significant decline in starches and meats and an increase in fats and food

eaten out. Smaller households also saw a decline in alcohol and tobacco consumption. Among Lesotho CGP beneficiaries, the increased spending on dairy and eggs (as well as meat/fish and fruit for smaller households) did not translate into an impact on dietary diversity (Pellerano et al. 2014).

## Conclusions and Implications

The analysis of impact evaluation studies shows that cash transfer programs overall have important implications for household resilience. By providing a steady and predictable source of income, cash transfer programs can build human capital, improve food security, and potentially strengthen households' ability to respond to and cope with exogenous shocks, allowing them to diversity and strengthen their livelihoods to prevent future fluctuations in consumption. Many of the programs studied increased investment in agricultural inputs and assets, including farm implements and livestock. Beneficiaries in the studied country programs generally increased the volume and value of their crop production.

Although differing across countries, food security indicators revealed increases in the proportion of food-secure households owing to cash transfer programs, as well as increases in consumption and dietary diversity. Although the impacts on risk management are less uniform, the cash transfer programs seem to strengthen community ties (via increased giving and receiving of transfers), allow households to save and pay off debts, and decrease the need to rely on adverse risk-coping mechanisms.

Finally, the case study of the CGP in Zambia demonstrates the potential for cash transfers to help poor households manage climate risk. Not only was CGP receipt associated with increases in total, food, and nonfood expenditure, and subsequently the quantity and quality of food consumed, but the program was also found to benefit households even when they were facing climate shocks. The CGP's climate-mitigating effect is particularly evident for households at the lowest quintiles of the distribution, meaning that the cash transfer protected poorer households better than richer

households against climate variability. Thus, cash transfers can improve poor households' resilience in the face of an uncertain climate future.

The differences in impacts across countries can be attributed to a variety of factors, including the availability of labor given the demographic profile of beneficiary households, the relative distribution of productive assets, the local economic context, the impact of messaging and soft conditions on spending, and the regularity and predictability of the transfers themselves. In the case of LEAP in Ghana, irregular payments may have prevented households from increasing consumption because consumption is driven by permanent income. Instead, the lumpy flow of cash seems to have promoted declines in the number of households with outstanding loans and increases in the number of households with savings. In Ethiopia, the SCTPP targeted households that were particularly made up of either the elderly or youngsters, which may explain why beneficiary households did not experience increases in labor supply or changes in other dimensions of agricultural production. The amount offered through the Ethiopia SCTPP also was not as high, as a percentage of per capita income, as the payments under other programs that have been found to have widespread impacts.

Cash transfers can be more than just social assistance. Not only can they help vulnerable households avoid the worst effects of severe deprivation, but they can also contribute to economic and social development. Because cash transfer programs impact the livelihoods of households, articulation with other sectoral development programs in a coordinated rural development strategy could lead to synergies and greater overall impact. Complementary measures to maximize the positive spillover of the income multiplier effect generated by the cash transfer program should be targeted not only at cash transfer beneficiary households but also at ineligible households that provide many of the goods and services in the local economy. However, the potential productive impact of the cash transfer is sensitive to implementation, and delays and irregularities in payment can reduce its effectiveness in terms of helping households invest and manage risk.

Existing social protection programs rarely consider climate risk in their design and implementation. Being poverty reduction instruments, social safety net interventions tend to be targeted mainly through economic (wealth and income) criteria. Including environmental risks and vulnerabilities as targeting criteria could help improve the effectiveness of safety nets as risk-coping instruments. Such targeting could be done by developing maps of poverty and climate change vulnerability hot spots or by ensuring effective linkages of social protection management with information and early warning systems. Public works programs, including productive safety nets, can be designed in ways that simultaneously contribute to increasing household incomes; engaging communities in climate-smart agriculture; and generating "green jobs" in areas such as waste management, reforestation, and soil conservation.