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The effect of cash transfers and household vulnerability on food security in Zimbabwe

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ABSTRACT

We study the impact of the Zimbabwe Harmonized Social Cash Transfer (HSCT) on household food security after 12 months of implementation. We investigate determinants of food security as measured by a well-known food security scale – the Household Food Insecurity Access Scale (HFIAS) – and as measured by value of household food consumption composed of own-production, market purchases and gifts received. We find that several dimensions of household vulnerability correlate more strongly with the food security measure than with food consumption. Labor constraints, which is a key vulnerability criterion used by the HSCT to target households, is an important predictor of the food security score but not food consumption, and its effect on food security is even larger during the lean season. Impact analysis shows that the program has had statistically significant impacts on Food Security and Diet Diversity scores but null to low impacts on food consumption. However aggregate food consumption hides dynamic activity taking place within the household where the cash is used to obtain more food from the market and rely less on food received as gifts. The cash in turn gives beneficiaries greater choice in their food basket, which improves diet diversity.

1. Introduction

The United Nations, as part of its post-2015 Sustainable Development Agenda, has declared ending hunger and achieving food security as the second of its 17-goal agenda, to be achieved by 2030. At present, about 800 million people are still undernourished globally, and the prevalence rate in sub-Saharan Africa is 23 per cent. In Zimbabwe, the proportion of undernourished in the total population is even higher at 33 per cent (FAO, IFAD and WFP, 2015). In 2015–16 food security worsened due to a poor 2015 harvest season and El Niño-induced below normal rains in early 2016. The Government declared a state of national disaster in February 2016 and appealed for USD 1.5 billion aid for food and other emergency needs (FEWS NET, 2016). Addressing the challenge of growing food insecurity requires implementation and scale up of effective social protection programs.

Cash transfers are a policy instrument that can help build household resiliency in obtaining access to food. In their Resilience Index Measurement and Analysis (RIMA) model, Alinovi et al., (2009) include income and food access as one of the six different dimensions that determines resiliency. Alleviating poverty and increasing food consumption are primary objectives of cash transfer programs. In this paper, we use longitudinal data collected for the impact evaluation of Zimbabwe's Harmonized Social Cash Transfer Program (HSCT), an unconditional cash transfer targeted to ultra-poor, labor-constrained households. The Program was introduced in 2011 and initially reached 55,000 households, though with the recent fiscal crisis in the country these numbers may soon go down.

This paper makes contributions to two distinct but inter-related literatures. First, we provide evidence on the relative merits of using an aggregate consumption expenditure measure versus a food security scale to assess household vulnerability and food insecurity. Second, we contribute to a small but growing literature on the effects of state-sponsored *unconditional* cash transfers in Africa on household behavior and food security. Existing evidence on cash transfers is dominated by studies from Latin America on *conditional* cash transfers, and many of those are from one single program (Progresa/Oportunidades). The generalizability of that evidence to different contexts and without conditions is not straightforward.

2. Literature review

Food security is defined as the situation "when all people, at all

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times, have physical, social and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life" (FAO, 2009). A common framework utilized by scholars to highlight the different dimensions of food security is a four-tier categorization – availability of food; access to food, which refers to the ability of households to obtain food from the market or own production or gifts; utilization of food; and stability, which is the ability of households to withstand risks and shocks that erode any of the other three dimensions (Webb et al., 2006). During the 1980s, there was a shift of emphasis from food-availability indicators to food-access indicators such as household food consumption expenditure and household food insecurity score. More recently, a further shift in focus has been in moving from objective to experiential measures in recognition of the importance of the experiential aspect of the process that leads to the condition of being hungry. Some households can be food insecure, and yet not immediately experience hunger. The rationale for utilizing experiential-based indicators is that it "puts people's experiences and behavioral responses at the core of the definition of what food security means" (Ballard et al., 2013), rather than focusing on determinants of food security or its outcomes (nutrition). This research led to the development of the Household Food Insecurity Access Scale (HFIAS), by the Food and Nutritional Technical Assistance (FANTA) project of USAID. It is a 9-item scale, with a reference period of the past four weeks where households are asked to rate their experience on a scale from 'Rarely' to 'Often', generating a total score from 0 to 27. It thus "provides a continuous measure of the degree of food insecurity of the household" (Coates et al., 2007). A higher score indicates the household suffers from more food insecurity and is relatively worse off. It captures the experiential aspect of food insecurity by including anxiety about future availability of food; consumption of food items that are not preferred; and limiting diet diversity as part of its construct. These three domains were identified based on the ethnographic work done by Radimer et al. (1990) in the United States. Coates et al. (2006) confirmed these domains to be common across diverse cultural settings.

The HFIAS then, goes beyond a food expenditure measure by capturing not just present food consumption status but also the uncertainty and vulnerability associated with maintaining or improving that status[1]. Vulnerability has been defined in different ways but the basic idea is that it captures the risk or "likelihood that at a given time in the future, an individual will have a level of welfare below some norm or benchmark" (Hoddinott and Quisumbing, 2003). It is a forward-looking concept as opposed to a snapshot in time presented by food consumption expenditure. This distinction has been well documented in the literature on poverty (Dercon, 2001; Chaudhuri et al., 2002; Hoddinott and Quisumbing, 2003). In the food insecurity literature, the direction this research has taken has been generally that of validation studies. Jones et al. (2013) provide a review of four key validation studies of HFIAS in Iran (urban Tehran), Tanzania (poor rural households), Burkina Faso (urban households), and Ethiopia (community health volunteers). They find evidence of the construct validity of the HFIAS and high internal consistency. They also find that the HFIAS score is negatively associated with other proximate determinants for food security such as household wealth/assets, maternal education, husband's education, household per capita income and expenditure, and diet diversity. In Zimbabwe, Nyikahadzoi et al. (2013) found the HFIAS score to be higher in elderly headed households and within these households, food insecurity is negatively associated with social capital, remittances, and off-farm income. In another study among smallholder farmers in the Mudzi district of Zimbabwe, Mango et al. (2014) found that the HFIAS score is predicted by household labor, education of the household head, household size, remittances, livestock ownership and access to market information. In this paper, we accept the validity of the HFIAS given past research and instead investigate if factors explaining variation in the HFIAS and food expenditure are substantively different.

In this paper we use a longitudinal ward-level matched case-control design to analyze the impact of a cash transfer program implemented in rural Zimbabwe on household food security after 12 months of implementation. The theoretical basis for cash transfer programs is that regularity and predictability of cash payments allow poor households to smooth consumption across the year and build human and physical capital that will allow them to absorb shocks (Arnold et al., 2011; FAO, IFAD and WFP, 2015). Their impacts on food consumption and nutrition have been well documented (Adato and Bassett, 2008; The Kenya CT-OVC Evaluation Team, 2012). According to a comprehensive global review by the Department for International Development of the United Kingdom (Arnold et al., 2011), about half the value of a cash transfer is spent on food. Impacts vary depending on the duration over which the transfer is received, age of the recipient, and size of the transfer. In Malawi, Miller et al. (2011) demonstrate large effect sizes that are statistically significant on food expenditure, consumption, food adequacy, and diet diversity. These large effect sizes are explained in part by the size of the cash transfer, which on average accounted for sixty percent of per capita total household expenditure. However, most of these evaluations do not utilize the standardized HFIAS to measure impact, and evidence from sub-Saharan Africa is still scant.

The relationship between economic status as measured by expenditure or income and calories has been a fundamental line of inquiry in the development literature with some findings supporting the conventional wisdom that as income rises, so does demand for calories while others have found the elasticity between the two to be non significantly different from zero (Behrman and Deolalikar, 1987). In their seminal paper on demand for food and calories, Subramanian and Deaton (1996) find that food expenditure elasticity with respect to total expenditure is driven by elasticity of calories and the elasticity of price of calories in equal measure. So, "A 10 percent increase in food expenditure is associated with a 5 percent increase in calorie consumption and a 5 percent increase in the price paid per calorie" (Subramanian and Deaton, 1996, p.154). In other words, as income increases, people tend to substitute cheaper coarser foods with more expensive, refined calories that taste better. As we shall describe later in this paper, our results of the impact of the cash transfer indicate something similar, in that a greater number of cash beneficiaries are able to diversify their diet and consume foodstuffs that they were earlier not consuming.

One reason they are able to do so is because cash enables them to exercise greater control over their food basket, since with the cash they are able to purchase more foodstuffs from the local market in addition to own-producing in their capacity as farmers, or receiving food gifts. With respect to that latter, theory dictates that the cash transfer may crowd-out food gifts that the beneficiary household receives from either other households that are motivated by altruism or gifts received from charitable organizations. In fact, there exists a substantial body of literature on the empirical analysis of the crowding-out effect of public transfers on private transfers. Angelucci et al. (2012) analyzed the impact of the cash transfer in urban Mexico on loans and in-kind transfers and found that treated households are both, 10 percentage points less likely to receive an in-kind transfer, and observed lower loans for the treated group. Nielsen and Olinto (2007) estimate the impact of conditional cash transfers in Nicaragua and Honduras on three kinds of private transfers: remittances, food transfers, and food/money donations from NGOs. They find no effect on remittances in either country but an impact on food transfers in Nicaragua. Strobbe and Miller (2011) estimate the crowding effect on three types of private transfers – gifts, remittances, and informal loans. They find that the government cash transfer in Malawi leads to crowding-out for gifts and remittances but not for informal loans. Thus, existing empirical

[1] Aside from construct validity, an additional reason why practitioners might choose to utilize the HFIAS in the field is its relative ease of deployment since it is less time intensive to complete than a complete food consumption module. As a result, it is also less expensive to deploy.