Can maternal cash transfers coupled with nutrition behaviour change reduce food insecurity during the lean season? Experimental evidence from rural Malawi *

Anissa Collishaw[†], Dan Maggio [‡]and Aulo Gelli [§]

September 15, 2024

Abstract

Rural households in Malawi face high levels of poverty and recurring extreme lean season food security shocks. We conducted a randomized trial to assess the impact of coupling gender-targeted, unconditional cash transfers of varying sizes with a nutrition social behaviour change (SBC) intervention on the diets and food insecurity of households during the lean season. We find that households receiving a large cash transfer experienced significantly lower food insecurity, 16% higher food consumption, and were able to smooth caloric availability during the lean season. This effect is driven by a relative increase in consumption from own production rather than increased food expenditures.In contrast, households receiving the SBC intervention on its own or a smaller cash transfer experienced a significant decline in caloric availability over this period.

*We thank members of the Maziko Trial Team for their contribution to this study. Ethical approval was provided by the institutional review boards of the University of Malawi (protocol number: P. 02/22/128) and the International Food Policy Research Institute (protocol number: 7490). The trial was registered and our pre-analysis plan posted on the ISRCTN registry (ISRCTN-53055824). Any opinions, findings, conclusions, or recommendations expressed here are those of the authors alone.

[†]University of Illinois Urbana-Champaign, anissac2@illinois.edu

[‡]Rutgers University

[§]International Food Policy Research Institute (IFPRI)

1 Introduction

Global poverty is largely and increasingly concentrated amongst rural households in Sub-Saharan Africa. Rural households that derive their livelihoods from agriculture face significant risk. Uninsured risk can induce households to engage in ex ante and ex post risk management strategies with negative long-term negative consequences for household welfare, trapping them in poverty (Barrett and Carter, 2013). Such households may be unable to smooth consumption, even in the face of anticipated shocks to their income, such as due to seasonality in the agricultural labour calendar. During the “lean season” between planting and harvest, households simultaneously contend with reduced food availability from own production, fewer income-generating opportunities, and higher food prices, leading to increased hunger and food insecurity. Pregnant and lactating women and infants have higher nutritional needs and are especially vulnerable to the negative consequences of food security shocks (Ahern et al., 2021).

Cash transfers and other social protection programs [1] can enable households to smooth consumption by easing liquidity and credit constraints.

Across SSA, unconditional cash transfers (UCTs) are increasingly widespread. A large body of evidence points to their effectiveness at improving the welfare of recipient households (Bastagli et al., 2019, Davis et al., 2016), yet their impacts on food security have been varied (Burchi et al., 2018, Tiwari et al., 2016). Evidence is particularly mixed for nutrition-related outcomes of women and children (Manley et al., 2020). This is due in large part to differences in program design, such as modality, targeting, transfer size and distribution frequency. While cash transfers (CTs) enhance access to food, they do not necessarily influence nutrition knowledge and practice, suggesting that integrating CTs with nutrition-sensitive interventions can strengthen their impact on diets and nutrition (Burchi et al., 2018, Manley et al., 2022).

In this paper, we assess the impact of a combined unconditional maternal cash transfer and nutrition education intervention on household food security during the lean season

[1] Social protection programs “address risk, vulnerability, inequality, and poverty through a system of transfers in cash or in kind”, and encompass social insurance, labour market interventions and social assistance programs (Fiszbein et al., 2014).

in Malawi [2]. We conducted a cluster randomized trial in 156 communities in two districts of Malawi, Balaka and Ntcheu. Communities were randomly assigned to one of four treatment arms: 1) Standard of care (SOC), who received the Government of Malawi's maternal and child nutrition Care Group package, 2) nutrition-sensitive social behaviour change (SBC), who received an extended bundle of SBC interventions, in addition to the SOC package, 3) Low Cash, who received the SOC and SBC interventions and a maternal cash transfer worth ∼22% of household's pre-intervention monthly expenditure, and 4) High Cash, who received the SOC and SBC interventions and a larger maternal cash transfer worth ∼38% of household pre-intervention monthly expenditure. Receipt of the cash transfer was not conditional on participation in the SOC or SBC activities. All pregnant women and mothers of infants below 24 months of age were eligible for inclusion in the trial. A baseline survey was conducted in May-June 2022 with a sample of 2686 households. In this paper, we use data from a midline survey conducted in Nov-Dec 2023 that focused on 1307 women who were pregnant at baseline.

We estimate intent-to-treat effects using an ANCOVA specification. Households that received the large cash transfer reported experiencing lower food insecurity and 16% higher food consumption levels compared to the control (SOC) group, and largely maintained their baseline, post-harvest caloric availability in the lean season. In contrast, households in the control, SBC and low cash arms experienced large reductions in caloric availability between survey rounds. Neither the SBC intervention on its own nor the lower cash transfer had any impact on food security or consumption. The increase in caloric availability amongst households receiving the larger transfer was driven by higher consumption from own production rather than food expenditures.

We document uneven uptake in the intervention activities across treatment arms. We therefore also report IV estimates of the local average treatment effect for households that actually received CTs. We find a pronounced decrease in household food insecurity amongst households receiving both the smaller and larger CT compared to households in the SBC group. As in our ITT estimates, however, we find no effect on food con-

[2] Food security was a pre-specified secondary outcome in our pre-analysis plan. See Maziko Trial Team (2024) for more details.

sumption, expenditure, or caloric availability amongst households receiving the smaller CT. Interestingly, households receiving any sized CT report increased consumption from own production (measured in calories per adult equivalent per day), and higher dietary diversity at the household, mother and child level.

At first blush, our main results appear broadly consistent with those of Brugh et al. (2018), who find that the Social Cash Transfer Program (SCTP) in Malawi, an UCT targeted to ultra-poor, labour-constrained households, increased meal frequency and caloric availability and reduced the lean season hunger gap, but had null effects on food expenditures and diet quality. Although the transfer described in Brugh et al. (2018) was significantly lower than either the low or high CT in our study, it represented 30% of pre-transfer consumption. In our study, the transfers represented 45% and 115% of pre-intervention consumption in the low and high cash arms, and 24% and 60% of average household consumption in the control arm at midline. That we find no effects of the smaller cash transfer on consumption or caloric availability, but do see impacts on measures of dietary diversity, is therefore in striking contrast to the findings of Brugh et al. (2018).

We explore potential mechanisms that may explain the differential effects of the different sized transfers. We find that... [ANALYSIS ONGOING]

We contribute to the cash transfer literature in a number of ways. First, unlike most UCTs in the region and globally, we target beneficiaries on the basis of nutritional vulnerability rather than poverty. Pregnant and lactating women and young children have particularly high nutritional needs and malnutrition in utero and infancy negatively impact child growth and development. In Malawi, food insecurity and malnutrition are widespread rather than concentrated amongst the ultra-poor. In the latest Demographic and Health Survey (DHS), stunting in children below five years of age amongst households in the highest wealth quintile was 24.3%. Given the nutritional risks faced by women and children across the income distribution, we target all pregnant women and mothers of infants for inclusion in our study. In this respect, our study design is most similar to recent studies by Weaver et al. (2024) in India, Levere et al. (2024) in Nepal, Maffioli et al. (2024)

in Myanmar and Carneiro et al. (2021) in Nigeria, each of which involve a combination of cash transfers and complementary nutrition-sensitive interventions targeted at pregnant women.

Second, our experimental design allows us to compare the impacts of different sized cash transfers. Although both sized cash transfers represent more than the 20% of pre-intervention consumption rule of thumb suggested from cross-country analyses of the effectiveness of CT interventions, we find that the smaller cash transfer of $\sim$ 17,200 MWK was insufficient to protect households' consumption levels during the lean season.

The remainder of this paper is structured as follows. Section 2 discusses the context of our study and provides an overview of our study design, including a discussion of the interventions, randomization and data. Section 3 presents our empirical strategy, including our primary specification. In Section 4, we discuss our main results. Section 5 concludes.

2 Study Design and Context

Malawi is one of the poorest countries in the world, with the share of the population living below the international poverty line remaining constant at $\sim$70% between 2010 and 2019. Despite rapid urbanization, Malawi remains largely rural, with 82% of its 20.4 million inhabitants residing in rural areas. Agriculture plays a central role in the country's economy, contributing nearly 30% of GDP and employing 90% of the working age population in rural areas (Baulch et al., 2019). The agricultural sector is dominated by smallholder farmers, with small, rainfed plots. There are two main seasons in Malawi: the rainy season spanning November to April, corresponding to the main growing season, and the dry season from May to October. The lean season in Malawi is typically from October to March, between planting and harvest of the main growing season.

Maize is the most important staple crop grown by nearly all farming households. Although households produce maize for their own consumption, the majority purchase maize from markets at some point during the year (Ellis and Manda, 2012). Malawi regularly experiences some of the most acute seasonal differences in maize prices in sub-Saharan Africa (Gilbert et al., 2017). Maize prices are typically at their lowest following the harvest period from April to June, after which they rise steadily until peaking in February or March. This rise and peak in prices corresponds to a period in which many households, having drawn down their stores of maize from own production, rely on market purchases and have few income-generating opportunities, resulting in widespread food insecurity (de Janvry et al., 2022, Ellis and Manda, 2012). Lean season food insecurity is further exacerbated by climate shocks that reduce yield and the food stores available for households to draw on until the next harvest.

Maziko, which means "foundation" in Chichewa, is a three year cluster randomized controlled trial (RCT) designed to evaluate the effectiveness of a cash+ intervention at improving the diets, nutrition and development of young children and their mothers in rural Balaka and Ntcheu districts of Malawi. Within these districts, clusters were defined around community-based childcare centre (CBCC) catchment areas, corresponding roughly to villages. CBCCs are a core component of the Government of Malawi's National Policy of Early Childhood Development, under the Ministry of Gender, Community Development and Social Welfare. CBCCs are volunteer-operated childcare centres that provide stimulating environments and meals for children between the ages of 3 and 6, and training for caregivers and parents of children between 0 and 8 years of age (Gelli et al., 2018). Although CBCCs target children 3-6 years of age and parents of 0-8 year olds, CBCCs have also been shown to be an effective platform for improving the nutrition of younger children (Gelli et al., 2018).

The interventions of the Maziko trial, discussed below, were designed in collaboration with the Government of Malawi, Save the Children and GiveDirectly to build on existing programs to improve child nutrition and development. The Government of Malawi's Multi-Sectoral Maternal, Infant and Young Child Nutrition Strategy (2019-2023), under the Ministry of Health's Department of Nutrition, HIV and AIDS, focuses on promoting optimal feeding during the first 1,000 days of life and provides recommendations on feeding, care and practices for pregnant and lactating women and children under two years of age (Government of Malawi, 2019). These recommendations are operationalized using an approach called Care Group. Care Group is the government of Malawi's community outreach approach to improving maternal, infant and young child nutrition through a combination of home visits, group sessions and cooking demonstrations. In this model, promoters and cluster leaders hold sessions with groups of 10-15 mothers, who then home visit neighbours and friends to share what they have learned. Care group sessions use the SUN 1,000 Special Days Community Counseling package, which includes topics related to maternal nutrition and infant and young child feeding practices including breastfeeding, dietary diversity, micronutrients and growth monitoring.

2.1 Maziko interventions

The Maziko intervention consists of two components: a social behaviour change (SBC) component implemented by Save the Children and an unconditional maternal cash transfer (CT) implemented by GiveDirectly.

2.1.1 SBC Interventions

The SBC component consists of three 'plus' interventions: Caring for the Caregiver, Male Champions and Nutrition Sensitive Livelihoods. Caring for the Caregiver and Male Champions extend the Government of Malawi's Care Group model to offer additional messaging related to maternal mental health and gender equality. Caring for the Caregiver is a training for Care Group promoters and cluster leaders that includes skill-building exercises and activities to better support the mental health and emotional well-being of mothers during home visits. Male Champions engages fathers and husbands in group and couple sessions that discuss topics such as sharing chores, decision-making and resources, and gender-based violence.

Nutrition Sensitive Livelihoods uses an adapted version of the Government of Malawi's Integrated Homestead Farming approach to promote the production of climate-resilient, nutrient-dense crops. It includes agricultural training offered by agricultural extension workers, CBCC-based demonstration plots and meal preparation demonstrations, seed distribution, and the establishment or strengthening of Village Savings and Loans (VSAL) groups to help women save and borrow to invest in income-generating activities. The seed distribution includes groundnut seeds and innoculants for the main, rainfed harvest season and okra, Ethiopian mustard (*Kamganje*) and amararanthus seeds for winter cropping. In addition, CBCCs receive biofortified pro vitamin A seeds and NPK and UREA fertilizer.

2.1.2 Cash Transfers

The cash component of the intervention provides pregnant women and mothers of young children below the age of 2 with unconditional cash transfers of either MWK 17,204 (low) or MWK 43,516 (high) delivered monthly for 30 months via mobile money. Upon registration, all participants were provided with a free mobile phone or SIM card, as needed. The size of the transfers was determined based on a cost of diet analysis to meet either the mother and child's (low CT) or household's (high CT) nutritional needs (Schneider, 2022). For an average household with 4.4 members, the CT values represents 22% and 38% of estimated monthly expenditures at baseline. Of note, the value of the transfers is not indexed to inflation, meaning the purchasing power of the transfer declines over time. Malawi experienced a period of high inflation coinciding with the duration of this study. Year-on-year inflation in average consumer prices increased from 9.3% in 2021 to 20.8% in 2022 and 30.3% in 2023 (International Monetary Fund, 2024). The Government of Malawi also devalued the kwacha against the dollar twice over the period of our study, by 25% in May 2022 and again by 44% in November 2023. The value of the higher cash transfer declined from $43 to $25, while the lower cash transfer declined from $17 to $10 between the project start and midline survey. Following completion of the trial, communities assigned to the control and SBC arms will also receive a lump-sum cash transfer.

Randomization

The 156 CBCC clusters in our study were randomly assigned to one of four treatment arms: Control (standard of care), SBC, Low Cash, and High Cash. Women in the control arm received the government of Malawi's standard Care Group package. In the SBC arm, participants received the extended SBC package of interventions described previously, including Caring for the Caregiver, Male Champions and Nutrition Sensitive Livelihoods. Women assigned to the Low and High Cash arms received the SOC package, the suite of SBC interventions and monthly cash transfers of 17,204 MWK ($\sim$ 17 USD at project start) or 43,516 MWK ($\sim$ 43 USD at project start), respectively. Note that the value of the cash transfers was set in MWK prior to implementation, and was not adjusted to reflect changes in the exchange rate nor indexed to inflation. Randomization was conducted in Stata using a restricted randomization procedure, with stratification at the district level [3]. A model was developed that regressed selection into the intervention arms on village-level variable [4]. An algorithm tested 5000 random allocations and selected the permutation that minimized the R^2 for the predicted selection. Additional information on the randomization procedure can be found in the published trial protocol (Maziko Trial Team, 2024).

This study targets pregnant women and mothers with children 0-2 years of age. All self-reported pregnant women and caregivers of young children were eligible to participate in the intervention activities. Households were eligible for inclusion in the study if they: included a woman aged 15-49 who was pregnant or had a child younger than 24 months of age; and resided permanently in the CBCC catchment area. Women were excluded from the study if they did not consent to participate or their pregnancies were not confirmed. In addition, children with major non-fatal disabilities are excluded from the analysis sample if the disability is likely to affect growth and development.

Prior to the baseline survey, a household census was conducted within CBCC clusters to collect basic demographic information, identify eligible households, and construct a listing of households for the survey sample. The listing identified an index dyad (a

[3] The randomization assigned 39 clusters to each treatment arm

[4] Household data were aggregated to generate village-level variables used in the restricted randomization. Village-level variables included in the model are population size, total per capita household expenditure, household dwelling state, household drinking water source, women's empowerment, maternal caloric intake, maternal micronutrient intake, maternal age, pregnancy status, maternal weight, maternal education, maternal marital status, child age, child sex, child weight, child height, and child and total MDAT score

pregnant woman or a mother and her child) for each household. To construct the baseline survey sample, 20 households (dyads) were randomly selected from each CBCC cluster, stratifying by pregnancy status. Pregnant women were purposely over sampled.

Data Collection

The baseline survey for the trial was conducted between May and June 2022 with a total of 2,686 households. The realized sample includes 39 control clusters, 39 clusters assigned to SBC only, 39 clusters assigned to SBC and low cash, and 39 clusters assigned to SBC and high cash, with just over 17 households surveyed per cluster. Enrolment in the cash transfer component of the intervention began shortly after the baseline survey was completed. The research team provided GiveDirectly with a list of eligible households in each community and the community's treatment status, but GiveDirectly staff followed their own procedures to enroll households.

A midline follow-up survey and process evaluation was conducted with a subset of 1,307 households between November and December 2023, with just over 8 households per cluster. Selection for the midline survey prioritized women who were pregnant at baseline. Mothers with children at baseline were used as replacements until the budgeted sample size was reached. Importantly for this study, the follow-up survey took place during Malawi's lean season, allowing us to observe seasonal changes in household consumption. Our analysis sample consists of the 1,307 households for which we have repeat observations across the two survey waves.

This paper focuses on pre-specified secondary outcomes of the Maziko trial related to household food security. Food security *"exists when all people, at all times, have physical and economic access to sufficient safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life"* (Food and Agriculture Organization, 1996). The four pillars of food security are availability, access, utilization and stability. We focus on measures of food access, including economic access, diet quantity, and diet quality, and their stability across seasons. Access to food is measured using the household dietary diversity score (HDDS), the Household Food Insecurity Access Scale (HFIAS) and measures of household economic welfare including total expenditures per adult equivalent (AE) and food expenditures per AE. Diet quantity is measured by the value of food consumption and caloric availability per AE. Diet quality is measured using micronutrient availability per adult equivalent.

Table 1 presents baseline summary statistics and balance across the treatment arms. At baseline, the average household had just over 4 members, with one or no children below the age of 5. The average index woman was 25 years of age and poorly educated; two thirds of woman reported having no education. Household heads were 33 years of age on average, and most had received at least primary education. About 55% of household expenditures went towards food, and about half of all calories consumed came from households' own production. As Table 1 shows, household characteristics were balanced across the treatment arms.

3 Empirical strategy

Our primary specification regresses outcomes Y_{ict} for household i in CBCC cluster c at time t on binary variables for assignment to treatment for each treatment arm, district (randomization strata) fixed effects and baseline values of the outcomes when available, giving us estimates of the intent-to-treat (ITT) effects.

$$Y_{ict} = \beta_1 SBC_{ict} + \beta_2 LowCT_{ict} + \beta_3 HighCT_{ict} + \beta_4 Y_{ic,t-1} + \delta_c + \epsilon_{ict} \tag{1}$$

Standard errors are clustered at the CBCC cluster level. We also report the differences between each treatment arm. As the interventions received by households are additive, differences tells us the marginal benefit of additional elements of the intervention.

In addition to ITT effects, we use an instrumental variables (IV) approach to estimate the effect of treatment on the treated for households receiving the cash transfers. We use random assignment of treatment into the low or high cash arms as an IV for receipt of a cash transfer.

4 Main Results

4.1 Intervention uptake

4.2 Trends over time

Figures 1 to 3 illustrate changes between the post-harvest baseline survey and lean season follow-up survey in our main outcomes of interest. From Figure 1, we can see that total and food consumption and expenditures per adult equivalent increased across all treatment groups, but that this increase was greatest for households in the high cash arm. This large increase across all four outcomes reflects both the typical lean season dynamics described in Section 2, as well as a period of high inflation coinciding with the duration of this study. Year-on-year inflation in average consumer prices increased from 9.3% in 2021 to 20.8% in 2022 and 30.3% in 2023 (International Monetary Fund, 2024).

We see in Figure2 that households in the SoC (control), SBC and low cash arms experienced a significant reduction in caloric availability of $\sim$ 400 calories per adult equivalent per day over the course of this study. Households receiving the large cash transfer of ~MWK 43,000, on the other hand, were largely able to maintain their baseline caloric availability. The reduction in caloric availability is mirrored by a reduction in calories from maize and a steep decline in the share of calories from own production. This reduction in maize consumption is accompanied by an increase in dietary diversity, as shown in Figure 3.

Taken together, we see that food consumption and expenditures increased during the lean season, reflecting an increase in the price of foods and share of food consumption from market purchases versus own production compared to the post-harvest period.

4.3 Intent-to-treat effects

We report intent-to-treat effects for outcomes related to three dimensions of food security: food access, food quantity, and food quality. Tables 3,4 and 5 provide results on outcomes related to household food access. The value of food consumption in households assigned to the high cash arm was 16.5% higher than that of households in the control arm. Although expenditure was also higher in the high cash arm, this was driven by non-food expenditures. Households in the high cash reported experiencing significantly fewer episodes of food insecurity in the previous month, as measured by the HFIAS score. This was driven in large part by a reduction in the severity of food insecurity.

Table 6 shows the impact on daily household energy availability per adult equivalent. Households in the high cash arm consumed an estimated 250 more calories per adult equivalent each day, and were more likely to achieve minimum daily energy requirements. As shown in Table 7, this difference was driven by a large (but statistically insignificant) increase in calories from cereals, as well as increases in calories from tubers, vegetables, legumes and oils. Contrary to findings in other studies, households did not increase their consumption of animal source foods (Hidrobo et al., 2018). As Figure 2 shows, this difference in caloric intake between the high cash and other treatment arms does not represent an increase in caloric intake between the survey rounds. Rather, households in the high cash arm experienced a smaller reduction in caloric availability in the lean season. In contrast, households in the other treatment arms experienced a significant decline in energy availability.

Tables 8 to 12 present the impact of the interventions on measures of diet quality, namely dietary diversity and micronutrient availability. Households in the high cash arm had slightly higher dietary diversity than those in the other treatment arms, and had higher calcium, thiamin, niacin and folate availability. Women and children in households that received any sized cash transfer also had small but significant increases in dietary diversity.

5 Conclusion

In this paper, we examined the impact of combining nutrition-sensitive social behaviour change interventions with different sized maternal cash transfers on household food insecurity during the lean season in Malawi. We find that after one year, a large cash transfer of $\sim$ MWK 43,500 per month had consistent positive impacts on dimensions of household food security related to food access and food quantity, including food consumption, episodes of food insecurity, caloric intake. Small positive impacts on diet quality were also observed, including dietary diversity and intake of select micronutrients. No impact was observed of either the SBC intervention nor the small cash transfer of $\sim$ MWK 17,200 per month.

Table 1. Baseline balance table

Variable	(1) SoC	(2) SBC	(3) Low cash	(4) High cash	(1)-(2)	(1)-(3)	(1)-(4)	(2)-(3)	(2)-(4)	(3)-(4)	F-test P-value
N	353	290	354	308							
Household Size	4.201	4.093	4.121	4.016	0.058	0.042	0.103	-0.015	0.044	0.058	0.734
	[0.108]	[0.164]	[0.114]	[0.127]							
Number of children under 5	0.620	0.652	0.636	0.591	-0.049	-0.023	0.045	0.025	0.097	0.068	0.794
	[0.039]	[0.048]	[0.038]	[0.044]							
Head age	33.688	32.024	33.350	33.006	0.147	0.029	0.060	-0.120	-0.092	0.031	0.396
	[0.644]	[0.781]	[0.582]	[0.586]							
Head no education	0.065	0.024	0.056	0.049	0.194	0.036	0.071	-0.161	-0.130	0.035	0.093*
	[0.015]	[0.010]	[0.018]	[0.015]							
Head primary edu	0.623	0.700	0.647	0.672	-0.162	-0.049	-0.102	0.113	0.060	-0.053	0.267
	[0.028]	[0.029]	[0.030]	[0.029]							
Head secondary edu	0.280	0.262	0.277	0.266	0.041	0.008	0.032	-0.033	-0.009	0.024	0.962
	[0.027]	[0.030]	[0.029]	[0.026]							
Index woman age (years)	25.260	25.323	25.487	24.868	-0.009	-0.032	0.058	-0.023	0.067	0.091	0.754
	[0.362]	[0.503]	[0.406]	[0.423]							
Index woman pregnant	0.875	0.900	0.895	0.903	-0.078	-0.063	-0.086	0.015	-0.009	-0.024	0.746
	[0.020]	[0.018]	[0.016]	[0.018]							
Index woman no education	0.606	0.555	0.695	0.575	0.103	-0.186	0.064	-0.290	-0.039	0.250	0.012**
	[0.037]	[0.041]	[0.028]	[0.037]							
Index woman primary edu	0.091	0.138	0.076	0.091	-0.150	0.052	-0.001	0.202	0.148	-0.053	0.236
	[0.022]	[0.026]	[0.015]	[0.023]							
Index child age (months)	9.355	9.310	8.745	10.225	0.006	0.082	-0.108	0.086	-0.124	-0.211	0.856
	[1.221]	[1.215]	[0.953]	[1.418]							
Index child stunted (LAZ <-2)	0.244	0.308	0.294	0.357	-0.143	-0.113	-0.248	0.029	-0.104	-0.134	0.743
	[0.056]	[0.091]	[0.080]	[0.092]							
LN(Per-AE food expenditures)	8.413	8.424	8.452	8.459	-0.013	-0.048	-0.058	-0.034	-0.044	-0.008	0.954
	[0.075]	[0.077]	[0.070]	[0.053]							
LN(Per-AE food consumption)	9.221	9.220	9.190	9.203	0.001	0.048	0.029	0.046	0.027	-0.021	0.976
	[0.047]	[0.057]	[0.063]	[0.046]							
Food expenditure share	0.551	0.534	0.543	0.554	0.091	0.042	-0.020	-0.052	-0.112	-0.064	0.658
	[0.012]	[0.013]	[0.009]	[0.012]							
Calories/AE/day	2585.632	2622.454	2544.135	2497.061	-0.026	0.028	0.066	0.052	0.091	0.033	0.734
	[84.299]	[96.024]	[113.479]	[73.272]							
Share calories own production	0.523	0.540	0.516	0.505	-0.046	0.019	0.052	0.065	0.099	0.033	0.909
	[0.031]	[0.038]	[0.028]	[0.032]							
HH dietary diversity score	7.321	7.117	6.814	7.046	0.103	0.244	0.139	0.147	0.036	-0.113	0.243
	[0.164]	[0.170]	[0.192]	[0.161]							

Notes: This table compares household characteristics at baseline across treatment arms. Standard errors are reported in square brackets and are clustered at the CBCC cluster level. Differences columns are normalized differences. ***, **, and * indicate significance at the 1, 5, and 10 percent level.

Table 2. Program Exposure Table

Variable	(1) SoC Mean/SE	(2) SBC Mean/SE	(3) Low cash Mean/SE	(4) High cash Mean/SE	t-test p-value (1)-(2)	t-test p-value (1)-(3)	t-test p-value (1)-(4)	t-test p-value (2)-(3)	t-test p-value (2)-(4)	t-test p-value (3)-(4)
N	353	290	354	308						
Respondent is a promoter/cluster leader	0.102	0.132	0.102	0.127	0.198	0.907	0.567	0.237	0.903	0.596
	[0.014]	[0.019]	[0.016]	[0.041]						
Respondent belongs to a care group	0.170	0.388	0.392	0.450	0.000***	0.000***	0.000***	0.988	0.266	0.283
	[0.026]	[0.043]	[0.039]	[0.037]						
Received a home visit by a cluster leader	0.667	0.567	0.645	0.686	0.243	0.425	0.887	0.362	0.146	0.428
	[0.071]	[0.073]	[0.059]	[0.048]						
Participated in a cooking demonstration	0.195	0.279	0.294	0.224	0.078*	0.046**	0.494	0.773	0.292	0.178
	[0.032]	[0.038]	[0.039]	[0.035]						
Participated in compl feeding session	0.144	0.259	0.271	0.214	0.004***	0.000***	0.011**	0.735	0.311	0.111
	[0.021]	[0.036]	[0.030]	[0.024]						
Received seeds/vines/inputs in past 12mo	0.026	0.645	0.651	0.744	0.000***	0.000***	0.000***	0.916	0.266	0.253
	[0.017]	[0.076]	[0.070]	[0.058]						
Member of a VSLA	0.360	0.397	0.475	0.461	0.294	0.005***	0.045**	0.086*	0.262	0.743
	[0.039]	[0.044]	[0.050]	[0.055]						
Respondent is married	0.759	0.748	0.794	0.756	0.679	0.315	0.832	0.172	0.819	0.286
	[0.020]	[0.022]	[0.024]	[0.025]						
Husband participated in male engagement	0.037	0.111	0.139	0.124	0.009***	0.000***	0.008***	0.373	0.693	0.699
	[0.013]	[0.026]	[0.024]	[0.029]						
Registered in GD's CT program	0.003	0.000	0.556	0.672	0.315	0.000***	0.000***	0.000***	0.000***	0.018**
	[0.003]	[0.000]	[0.041]	[0.037]						
Cash received in your last transfer	77.054	0.000	9190.319	27735.679	0.315	0.000***	0.000***	0.000***	0.000***	0.000***
	[76.959]	[0.000]	[731.700]	[1521.750]						

Notes: This table compares household exposure to different program elements across treatment arms. Standard errors are reported in square brackets and are clustered at the CBCC cluster level. ***, **, and * indicate significance at the 1, 5, and 10 percent levels.

Table 3. Impact on Food Consumption

	LN(Per-AE HH Consumption)	LN(Per-AE Food Consumption)	All Food Consumption Share
	(1)	(2)	(3)
β_1: SBC only	0.037	0.017	-0.014
	(0.066)	(0.056)	(0.018)
β_2: SBC + Low Cash	0.040	0.030	-0.0073
	(0.062)	(0.059)	(0.017)
β_3: SBC + High Cash	0.17***	0.16***	-0.0060
	(0.060)	(0.056)	(0.016)
β_2 - β_1	0.003	0.013	0.007
	(0.062)	(0.057)	(0.018)
β_3 - β_1	0.133**	0.147***	0.008
	(0.061)	(0.053)	(0.018)
β_3 - β_2	0.130**	0.134**	0.001
	(0.055)	(0.056)	(0.017)
Control Mean	10.196	9.841	0.724
Control SD	1	1	0
N	1300	1300	1300
Baseline Control?	Y	Y	Y

Robust standard errors clustered at the CBCC cluster level in parentheses. *, **, and *** indicate statistical significance at the 10, 5, and 1 percent levels, respectively

Table 4. Impact on Expenditures

	LN(Per-AE HH Expenditures)	LN(Per-AE Non-Durable Expenditures)	LN(Per-AE Food Expenditures)	All Food Expenditure Share
	(1)	(2)	(3)	(4)
β_1: SBC only	0.055	0.11	0.029	-0.018
	(0.067)	(0.13)	(0.054)	(0.023)
β_2: SBC + Low Cash	-0.0043	0.075	-0.039	-0.024
	(0.068)	(0.12)	(0.058)	(0.018)
β_3: SBC + High Cash	0.13*	0.24**	0.087	-0.027
	(0.067)	(0.11)	(0.057)	(0.020)
β_2 - β_1	-0.059	-0.031	-0.068	-0.006
	(0.062)	(0.110)	(0.053)	(0.021)
β_3 - β_1	0.075	0.135	0.058	-0.009
	(0.060)	(0.109)	(0.052)	(0.023)
β_3 - β_2	0.134**	0.166*	0.125**	-0.003
	(0.061)	(0.096)	(0.055)	(0.018)
Control Mean	9.872	8.680	9.367	0.642
Control SD	1	1	1	0
N	1300	1300	1300	1300
Baseline Control?	Y	Y	Y	Y

Robust standard errors clustered at the CBCC cluster level in parentheses. *, **, and *** indicate statistical significance at the 10, 5, and 1 percent levels, respectively

Table 5. Impact on Household Food Insecurity

	HFIAS Score (0-27)	Food secure	Mildly food insecure	Moderately food insecure	Severely food insecure
	(1)	(2)	(3)	(4)	(5)
β_1: SBC only	0.20	-0.019	0.020	-0.014	0.014
	(0.85)	(0.018)	(0.013)	(0.039)	(0.052)
β_2: SBC + Low Cash	0.15	-0.0047	0.0095	-0.040	0.035
	(0.76)	(0.017)	(0.011)	(0.036)	(0.045)
β_3: SBC + High Cash	-2.12***	0.023	0.033**	0.044	-0.10*
	(0.71)	(0.024)	(0.014)	(0.042)	(0.053)
β_2 - β_1	-0.052	0.015	-0.010	-0.025	0.021
	(0.932)	(0.017)	(0.015)	(0.041)	(0.054)
β_3 - β_1	-2.323***	0.043*	0.014	0.058	-0.115*
	(0.881)	(0.024)	(0.018)	(0.047)	(0.060)
β_3 - β_2	-2.271***	0.028	0.024	0.084*	-0.136**
	(0.793)	(0.023)	(0.016)	(0.045)	(0.054)
Control Mean	14.102	0.054	0.011	0.153	0.781
Control SD	7	0	0	0	0
N	1314	1314	1314	1314	1314

Robust standard errors clustered at the CBCC cluster level in parentheses. *, **, and *** indicate statistical significance at the 10, 5, and 1 percent levels, respectively

Table 6. Impact on Caloric Availability

	Total cal/AE/day (1)	Min 2840 cal/AE/day (2)	Share cal own prod (3)
β_1: SBC only	2.77	-0.0068	-0.000090
	(117.4)	(0.038)	(0.022)
β_2: SBC + Low Cash	55.8	0.019	0.0098
	(108.8)	(0.035)	(0.022)
β_3: SBC + High Cash	226.0*	0.054	0.036*
	(116.6)	(0.038)	(0.021)
β_2 - β_1	53.052	0.026	0.010
	(120.795)	(0.040)	(0.025)
β_3 - β_1	223.271*	0.060	0.036
	(127.673)	(0.043)	(0.025)
β_3 - β_2	170.219	0.035	0.027
	(118.982)	(0.040)	(0.024)
Control Mean	2200.135	0.230	0.112
Control SD	1299	0	0
N	1300	1300	1300
Baseline Control?	Y	Y	Y

Robust standard errors clustered at the CBCC cluster level in parentheses. *, **, and *** indicate statistical significance at the 10, 5, and 1 percent levels, respectively

Table 7. Caloric Availability per AE by Food Group

	Cereals (1)	Tubers (2)	Veg (3)	Fruit (4)	Meat (5)	Eggs (6)	Fish (7)	Legumes (8)	Dairy (9)	Oils (10)	Sugars (11)	Misc (12)
β_1: SBC only	31.4	2.16	0.68	-4.50	-2.49	1.52	0.18	-7.26	0.18	-1.23	3.14	-0.68
	(112.5)	(8.74)	(1.73)	(9.81)	(3.19)	(1.37)	(4.33)	(33.2)	(0.33)	(7.57)	(6.42)	(0.51)
β_2: SBC + Low Cash	44.2	-5.85	0.30	5.23	-1.56	-0.068	-0.14	12.6	0.19	-2.48	-0.94	0.23
	(97.7)	(6.70)	(1.65)	(8.70)	(3.00)	(1.19)	(3.31)	(29.2)	(0.32)	(8.08)	(5.81)	(0.64)
β_3: SBC + High Cash	117.0	13.7	5.68***	-4.56	-2.01	1.54	-2.75	55.9*	-0.047	22.0**	9.16	0.00032
	(105.6)	(8.28)	(2.03)	(8.23)	(3.25)	(1.52)	(3.51)	(30.0)	(0.30)	(9.30)	(6.19)	(0.62)
β_2 - β_1	12.804	-8.010	-0.375	9.730	0.926	-1.592	-0.316	19.891	0.011	-1.249	-4.076	0.911
	(115.662)	(8.214)	(1.654)	(10.510)	(2.482)	(1.357)	(3.955)	(32.736)	(0.321)	(7.501)	(5.271)	(0.600)
β_3 - β_1	85.569	11.520	5.006**	-0.065	0.475	0.013	-2.929	63.206*	-0.231	23.230***	6.022	0.683
	(121.712)	(9.658)	(2.039)	(10.060)	(2.718)	(1.661)	(4.158)	(33.408)	(0.297)	(8.839)	(5.660)	(0.588)
β_3 - β_2	72.764	19.530**	5.381***	-9.795	-0.451	1.605	-2.614	43.315	-0.242	24.480***	10.098**	-0.228
	(106.541)	(7.752)	(1.982)	(9.002)	(2.569)	(1.518)	(3.077)	(29.458)	(0.299)	(9.277)	(4.969)	(0.706)
Control Mean	1586.284	24.367	27.693	83.025	15.828	7.137	35.480	315.241	0.689	67.953	43.180	2.425
Control SD	1211	60	20	77	35	15	44	325	4	78	68	7
N	1300	1300	1300	1300	1300	1300	1300	1300	1300	1300	1300	1300
Baseline Control?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

Robust standard errors clustered at the CBCC cluster level in parentheses. *, **, and *** indicate statistical significance at the 10, 5, and 1 percent levels, respectively

Table 8. Impact on Household Dietary Diversity

	HH Dietary Diversity Score	Cereals	Tubers	Veg	Fruits	Meat	Eggs	Fish	Pulses	Dairy	Oils	Sugar	Misc
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
β_1: SBC only	0.028	0.011	0.014	0.00036	-0.046	0.0036	0.032	-0.074*	0.026	-0.00055	-0.00027	0.026	0.0078
	(0.21)	(0.0097)	(0.057)	(0.011)	(0.039)	(0.044)	(0.039)	(0.043)	(0.032)	(0.019)	(0.038)	(0.047)	(0.0076)
β_2: SBC + Low Cash	0.16	0.014	-0.029	-0.00036	0.038	0.036	-0.013	-0.022	-0.017	-0.0059	-0.0022	0.085**	0.0053
	(0.19)	(0.0089)	(0.053)	(0.0095)	(0.027)	(0.041)	(0.037)	(0.040)	(0.029)	(0.019)	(0.039)	(0.042)	(0.0078)
β_3: SBC + High Cash	0.40**	0.014	0.10*	0.0075	-0.019	0.0088	0.039	-0.015	0.024	-0.0069	0.080**	0.12***	0.0046
	(0.20)	(0.0090)	(0.057)	(0.0083)	(0.033)	(0.044)	(0.045)	(0.040)	(0.031)	(0.018)	(0.035)	(0.043)	(0.0081)
β_2 - β_1	0.135	0.003	-0.043	-0.001	0.084**	0.033	-0.045	0.052	-0.043	-0.005	-0.002	0.059	-0.002
	(0.154)	(0.004)	(0.051)	(0.010)	(0.039)	(0.039)	(0.038)	(0.040)	(0.028)	(0.019)	(0.035)	(0.042)	(0.005)
β_3 - β_1	0.369**	0.003	0.090	0.007	0.027	0.005	0.007	0.059	-0.002	-0.006	0.081***	0.094**	-0.003
	(0.161)	(0.004)	(0.055)	(0.009)	(0.043)	(0.042)	(0.047)	(0.041)	(0.030)	(0.018)	(0.030)	(0.044)	(0.006)
β_3 - β_2	0.234	0.000	0.134***	0.008	-0.057*	-0.028	0.052	0.007	0.041	-0.001	0.083**	0.035	-0.001
	(0.146)	(0.001)	(0.051)	(0.008)	(0.032)	(0.040)	(0.045)	(0.037)	(0.026)	(0.017)	(0.032)	(0.037)	(0.006)
Control Mean	7.598	0.986	0.302	0.986	0.915	0.251	0.265	0.670	0.846	0.048	0.761	0.581	0.989
Control SD	2	0	0	0	0	0	0	0	0	0	0	0	0
N	1297	1297	1297	1297	1297	1297	1297	1297	1297	1297	1297	1297	1297
Baseline Control?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

Robust standard errors clustered at the CBCC cluster level in parentheses. *, **, and *** indicate statistical significance at the 10, 5, and 1 percent levels, respectively

Table 9. Impact on Women Dietary Diversity

	Women DDS	Grains	Pulses	Nuts	Dairy	Meat	Eggs	Dark leafy veg	VitA FV	Veg	Fruit
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
β_1: SBC only	0.062	-0.020**	0.097*	-0.011	0.0042	0.014	0.0025	0.046	-0.030	-0.042	0.0041
	(0.11)	(0.0088)	(0.051)	(0.031)	(0.0038)	(0.012)	(0.019)	(0.052)	(0.051)	(0.041)	(0.020)
β_2: SBC + Low Cash	0.31***	-0.016**	0.034	0.098***	0.0035	0.031**	-0.0072	0.062	0.073	0.028	0.011
	(0.098)	(0.0076)	(0.044)	(0.029)	(0.0031)	(0.013)	(0.019)	(0.048)	(0.045)	(0.025)	(0.020)
β_3: SBC + High Cash	0.17*	-0.0075	0.085*	0.038	0.0075	0.0032	0.034	0.077	-0.073	0.015	-0.0026
	(0.096)	(0.0065)	(0.046)	(0.030)	(0.0050)	(0.0099)	(0.022)	(0.053)	(0.053)	(0.027)	(0.019)
β_2 - β_1	0.251**	0.004	-0.063	0.109***	-0.001	0.018	-0.010	0.016	0.103**	0.070*	0.007
	(0.117)	(0.011)	(0.047)	(0.032)	(0.005)	(0.016)	(0.022)	(0.048)	(0.051)	(0.037)	(0.023)
β_3 - β_1	0.110	0.012	-0.012	0.049	0.003	-0.010	0.032	0.031	-0.043	0.057	-0.007
	(0.116)	(0.010)	(0.050)	(0.033)	(0.006)	(0.013)	(0.025)	(0.053)	(0.058)	(0.039)	(0.022)
β_3 - β_2	-0.141	0.008	0.051	-0.060*	0.004	-0.028**	0.042*	0.015	-0.145***	-0.013	-0.014
	(0.103)	(0.009)	(0.043)	(0.031)	(0.006)	(0.014)	(0.025)	(0.048)	(0.053)	(0.021)	(0.023)
Control Mean	3.498	0.997	0.303	0.186	0.000	0.012	0.050	0.285	0.743	0.876	0.046
Control SD	1	0	0	0	0	0	0	0	0	0	0
N	1198	1198	1198	1198	1198	1198	1198	1198	1198	1198	1198
Baseline Control?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

Robust standard errors clustered at the CBCC cluster level in parentheses. *, **, and *** indicate statistical significance at the 10, 5, and 1 percent levels, respectively

Table 10. Impact on Child Dietary Diversity

	6-23mo DDS	Breast Milk	Starches	Pulses	Dairy	Flesh foods	Eggs	VitA FV	Other FV
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
β_1: SBC only	0.0018	-0.0036	-0.031	0.084*	-0.014	-0.067	-0.017	0.0057	0.020
	(0.12)	(0.023)	(0.022)	(0.051)	(0.016)	(0.047)	(0.018)	(0.040)	(0.040)
β_2: SBC + Low Cash	0.18*	-0.0042	0.014	0.072	-0.0048	0.027	-0.0076	0.042	0.088**
	(0.098)	(0.025)	(0.014)	(0.054)	(0.016)	(0.046)	(0.020)	(0.032)	(0.038)
β_3: SBC + High Cash	0.24***	-0.0071	0.015	0.11**	0.012	0.0025	0.015	0.048	0.075*
	(0.085)	(0.029)	(0.015)	(0.052)	(0.017)	(0.043)	(0.022)	(0.032)	(0.040)
β_2 - β_1	0.175	-0.001	0.045**	-0.012	0.009	0.094**	0.010	0.037	0.068
	(0.121)	(0.025)	(0.022)	(0.053)	(0.016)	(0.044)	(0.021)	(0.036)	(0.046)
β_3 - β_1	0.241**	-0.003	0.046**	0.022	0.026	0.070*	0.032	0.043	0.055
	(0.109)	(0.029)	(0.023)	(0.051)	(0.017)	(0.040)	(0.023)	(0.036)	(0.048)
β_3 - β_2	0.066	-0.003	0.000	0.034	0.017	-0.025	0.022	0.006	-0.013
	(0.092)	(0.030)	(0.014)	(0.054)	(0.017)	(0.040)	(0.024)	(0.027)	(0.046)
Control Mean	3.725	0.920	0.958	0.394	0.035	0.301	0.055	0.848	0.100
Control SD	1	0	0	0	0	0	0	0	0
N	986	1066	1066	1066	1066	1066	1066	1066	1066

Robust standard errors clustered at the CBCC cluster level in parentheses. *, **, and *** indicate statistical significance at the 10, 5, and 1 percent levels, respectively

Table 11. Impact on Nutrient Availability

	Ca	Fe	Zn	Vit A	Thiamin	Riboflavin	Niacin	Folate	Vit B12	Vit C
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
β_1: SBC only	-1.90	-0.14	-0.011	-0.38	0.058	0.010	0.19	-4.69	0.0069	-6.59
	(16.9)	(1.31)	(0.87)	(21.5)	(0.11)	(0.038)	(1.04)	(22.6)	(0.24)	(23.7)
β_2: SBC + Low Cash	-2.09	0.022	0.50	-0.92	-0.042	0.017	0.46	4.65	-0.070	24.1
	(16.8)	(1.16)	(0.76)	(20.8)	(0.100)	(0.034)	(0.79)	(24.1)	(0.19)	(22.0)
β_3: SBC + High Cash	34.1*	1.05	0.53	34.3	0.33***	0.041	1.44*	57.7**	-0.18	7.61
	(18.1)	(1.30)	(0.80)	(21.8)	(0.11)	(0.035)	(0.76)	(24.8)	(0.21)	(23.7)
β_2 - β_1	-0.191	0.167	0.506	-0.542	-0.100	0.006	0.262	9.339	-0.077	30.658
	(16.324)	(1.328)	(0.937)	(22.120)	(0.110)	(0.040)	(1.081)	(22.812)	(0.191)	(25.558)
β_3 - β_1	35.990**	1.200	0.541	34.701	0.268**	0.030	1.244	62.379***	-0.183	14.202
	(18.140)	(1.451)	(0.969)	(23.386)	(0.119)	(0.040)	(1.048)	(23.746)	(0.203)	(26.911)
β_3 - β_2	36.180**	1.033	0.035	35.243	0.368***	0.024	0.982	53.040**	-0.106	-16.456
	(17.980)	(1.318)	(0.849)	(22.757)	(0.107)	(0.036)	(0.791)	(25.058)	(0.150)	(24.946)
Control Mean	333.029	23.183	10.482	315.498	1.065	0.686	12.628	389.835	1.853	150.308
Control SD	193	13	8	240	1	0	10	246	2	232
N	1300	1300	1300	1300	1300	1300	1300	1300	1300	1300
Baseline Control?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

Robust standard errors clustered at the CBCC cluster level in parentheses. *, **, and *** indicate statistical significance at the 10, 5, and 1 percent levels, respectively

Table 12. Impact on Minimum Micronutrient Availability

	Ca	Fe	Zn	Vit A	Thiamin	Riboflavin	Niacin	Folate	Vit B12	Vit C
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
β_1: SBC only	-0.0065	-0.012	0.0017	0.0044	0.0050	-0.000084	0.0018	0.0032	-0.0070	-0.0089
	(0.020)	(0.019)	(0.026)	(0.029)	(0.039)	(0.022)	(0.025)	(0.018)	(0.045)	(0.028)
β_2: SBC + Low Cash	-0.0022	0.013	0.025	0.00030	0.0027	0.014	0.028	0.014	0.0085	0.028
	(0.020)	(0.018)	(0.020)	(0.029)	(0.037)	(0.022)	(0.022)	(0.020)	(0.037)	(0.026)
β_3: SBC + High Cash	0.040*	0.0086	0.026	0.049*	0.088**	0.026	0.062***	0.032*	0.012	0.029
	(0.022)	(0.021)	(0.025)	(0.027)	(0.035)	(0.023)	(0.022)	(0.019)	(0.043)	(0.024)
β_2 - β_1	0.004	0.025	0.024	-0.004	-0.002	0.015	0.027	0.011	0.015	0.037
	(0.019)	(0.019)	(0.026)	(0.032)	(0.039)	(0.023)	(0.023)	(0.018)	(0.040)	(0.031)
β_3 - β_1	0.047**	0.021	0.025	0.045	0.083**	0.026	0.060**	0.029*	0.019	0.038
	(0.022)	(0.022)	(0.030)	(0.030)	(0.038)	(0.024)	(0.024)	(0.017)	(0.045)	(0.029)
β_3 - β_2	0.043*	-0.004	0.001	0.049	0.085**	0.011	0.034	0.018	0.003	0.001
	(0.022)	(0.020)	(0.026)	(0.030)	(0.035)	(0.023)	(0.021)	(0.019)	(0.037)	(0.027)
Control Mean	0.436	0.848	0.658	0.503	0.644	0.511	0.742	0.878	0.506	0.724
Control SD	0	0	0	0	0	0	0	0	0	0
N	1300	1300	1300	1300	1300	1300	1300	1300	1300	1300
Baseline Control?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

Robust standard errors clustered at the CBCC cluster level in parentheses. *, **, and *** indicate statistical significance at the 10, 5, and 1 percent levels, respectively

Table 13. LATE Impact

	HFIAS	Food Consump	Food Expend	Cal	Cal Own Prod	HDDS	W-DDS	Ch-DDS
Low Cash	-4.174***	0.095	0.017	-42.102	256.448**	0.922***	0.495***	0.505***
	(1.449)	(0.083)	(0.091)	(171.233)	(109.309)	(0.283)	(0.176)	(0.188)
High Cash	-6.499***	0.208***	0.163*	132.537	275.661***	1.182***	0.391**	0.618***
	(1.261)	(0.070)	(0.086)	(154.718)	(94.010)	(0.260)	(0.184)	(0.166)
High Cash - Low Cash	-2.325**	0.113*	0.145**	174.639	19.214	0.260	-0.103	0.112
	(0.905)	(0.061)	(0.073)	(125.427)	(80.596)	(0.179)	(0.132)	(0.111)
N	961	943	943	943	943	938	797	721
K-P F	37.005	38.332	38.334	38.467	38.270	38.545	35.849	35.119
SBC Mean	14.148	9.864	9.401	2213.216	262.931	7.561	3.586	3.749
SBC SD	(6.558)	(0.617)	(0.646)	(1336.895)	(479.586)	(1.868)	(1.162)	(1.004)

Robust standard errors clustered at the CBCC cluster level in parentheses. *, **, and *** indicate statistical significance at the 10, 5, and 1 percent levels, respectively

Figure 1. Expenditure and consumption over time

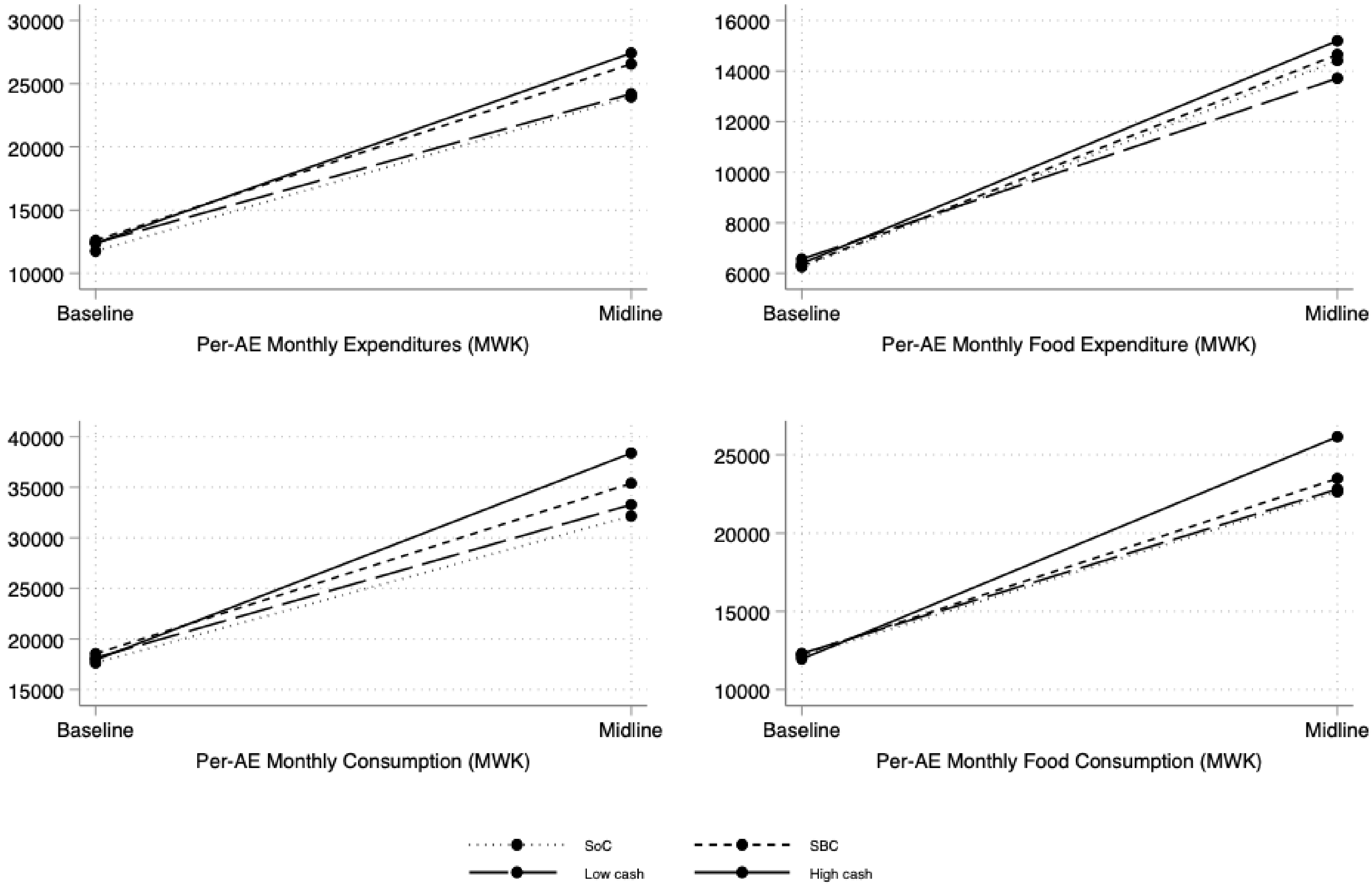


Figure 2. Caloric availability over time

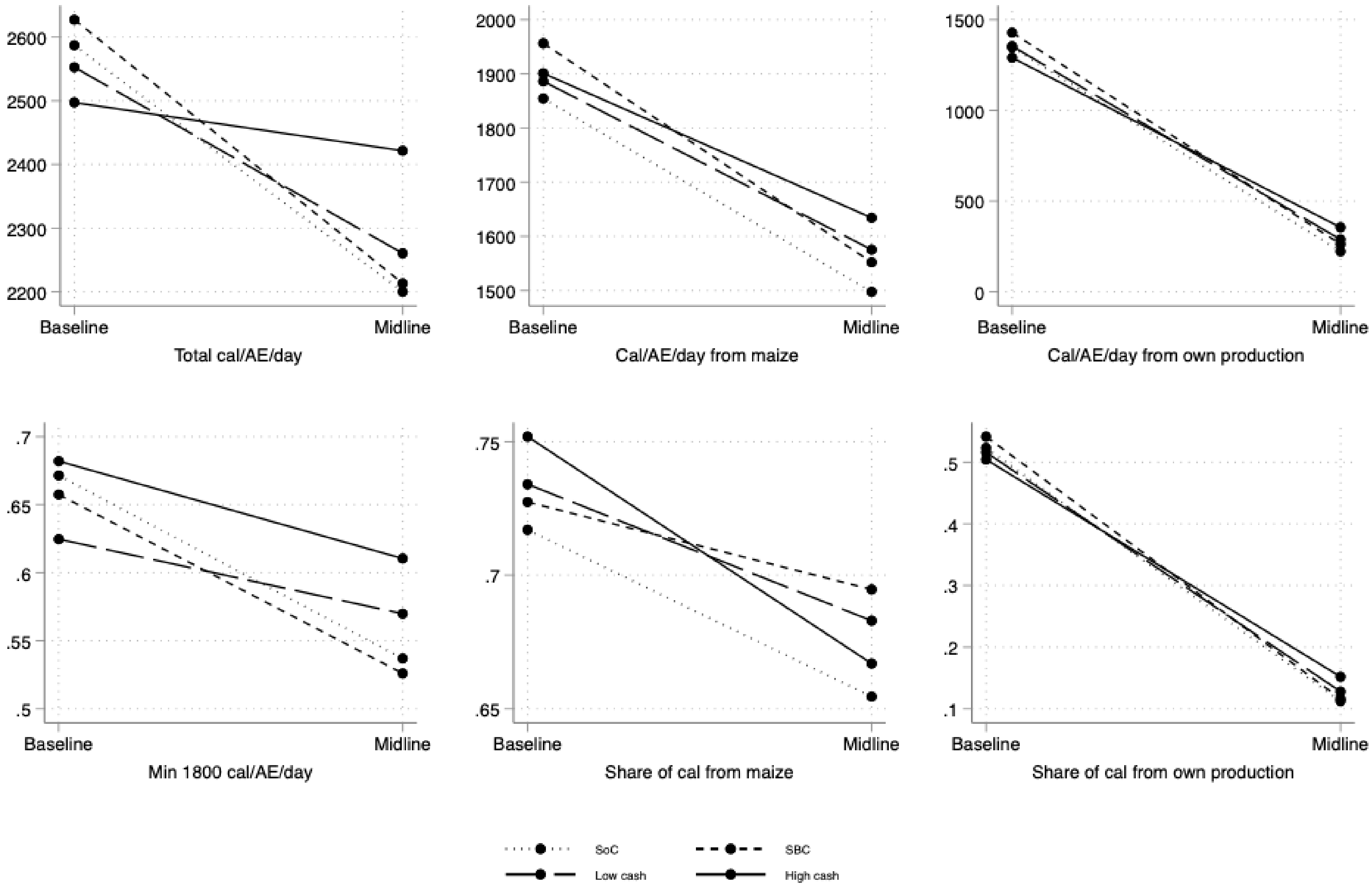
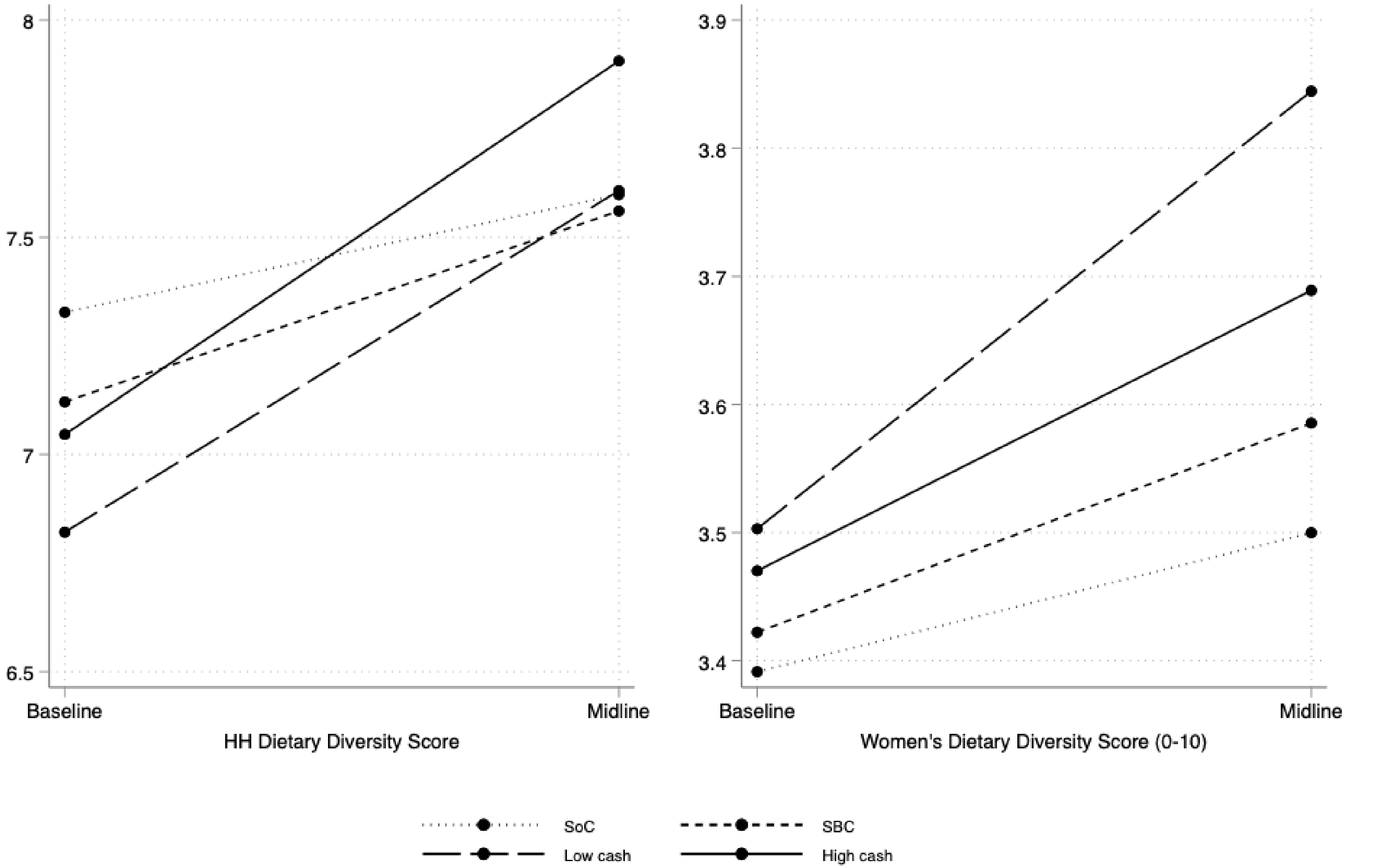


Figure 3. Dietary diversity over time



References

Ahern, M. B., Kennedy, G., Nico, G., Diabre, O., Chimaliro, F., Khonje, G., and Chanda, E. (2021). Women's dietary diversity changes seasonally in Malawi and Zambia.

Barrett, C. B. and Carter, M. R. (2013). The economics of poverty traps and persistent poverty: empirical and policy implications. *The Journal of Development Studies*, 49(7):976–990.

Bastagli, F., Hagen-Zanker, J., Harman, L., Barca, V., Sturge, G., and Schmidt, T. (2019). The impact of cash transfers: a review of the evidence from low-and middle-income countries. *Journal of Social Policy*, 48(3):569–594.

Baulch, B., Benson, T., Erman, A., Lifeyo, Y., and Mkweta, P. (2019). *Malawi's challenging employment landscape*, volume 27. Intl Food Policy Res Inst.

Brugh, K., Angeles, G., Mvula, P., Tsoka, M., and Handa, S. (2018). Impacts of the Malawi social cash transfer program on household food and nutrition security. *Food Policy*, 76:19–32.

Burchi, F., Scarlato, M., and d'Agostino, G. (2018). Addressing Food Insecurity in Sub-Saharan Africa: The Role of Cash Transfers. *Poverty & Public Policy*, 10(4):564–589.

Carneiro, P., Kraftman, L., Mason, G., Moore, L., Rasul, I., and Scott, M. (2021). The impacts of a multifaceted prenatal intervention on human capital accumulation in early life. *American Economic Review*, 111(8):2506–2549.

Davis, B., Handa, S., Hypher, N., Rossi, N. W., Winters, P., and Yablonski, J. (2016). *From evidence to action: the story of cash transfers and impact evaluation in sub Saharan Africa*. Oxford University Press.

de Janvry, A., Duquennois, C., and Sadoulet, E. (2022). Labor calendars and rural poverty: A case study for Malawi. *Food Policy*, 109:102255.

Ellis, F. and Manda, E. (2012). Seasonal Food Crises and Policy Responses: A Narrative Account of Three Food Security Crises in Malawi. *World Development*, 40(7):1407–1417.

Fiszbein, A., Kanbur, R., and Yemtsov, R. (2014). Social protection and poverty reduction: Global patterns and some targets. *World Development*, 61:167–177.

Food and Agriculture Organization (1996). *Rome Declaration on World Food Security and World Food Summit Plan of Action: World Food Summit 13-17 November 1996, Rome, Italy*. FAO.

Gelli, A., Margolies, A., Santacroce, M., Roschnik, N., Twalibu, A., Katundu, M., Moestue, H., Alderman, H., and Ruel, M. (2018). Using a community-based early childhood development center as a platform to promote production and consumption diversity increases children's dietary intake and reduces stunting in malawi: a cluster-randomized trial. *The Journal of nutrition*, 148(10):1587–1597.

Gilbert, C. L., Christiaensen, L., and Kaminski, J. (2017). Food price seasonality in Africa: Measurement and extent. *Food Policy*, 67:119–132.

Government of Malawi (2019). Multi-sector Maternal, Infant and Young Child Nutrition Strategy Government of Malawi 019-2023. Technical report, Ministry of Health, Department of Nutrition, HIV and AIDS.

Hidrobo, M., Hoddinott, J., Kumar, N., and Olivier, M. (2018). Social protection, food security, and asset formation. *World Development*, 101:88–103.

International Monetary Fund (2024). *World Economic Outlook— Steady but Slow: Resilience amid Divergence*. IMF, Washington, DC.

Levere, M., Acharya, G., and Bharadwaj, P. (2024). The role of information and cash transfers on early-childhood development: Short-and long-run evidence from nepal. *Economic Development and Cultural Change*, 72(3):1267–1293.

Maffioli, E., Tint Zaw, N., and Field, E. (2024). A Comparison Between Different Models of Delivering Maternal Cash Transfers in Myanmar. *Health Policy and Planning*, page czae048.

Manley, J., Alderman, H., and Gentilini, U. (2022). More evidence on cash transfers and child nutritional outcomes: a systematic review and meta-analysis. *BMJ Global Health*, 7(4):e008233.

Manley, J., Balarajan, Y., Malm, S., Harman, L., Owens, J., Murthy, S., Stewart, D., Winder-Rossi, N. E., and Khurshid, A. (2020). Cash transfers and child nutritional outcomes: a systematic review and meta-analysis. *BMJ global health*, 5(12):e003621.

Maziko Trial Team (2024). Impact evaluation of a maternal and child cash transfer intervention, integrated with nutrition, early childhood development, and agriculture messaging (maziko-ie): a study protocol for a cluster-randomised controlled trial. *Trials*, 25(1):46.

Schneider, K. R. (2022). Nationally representative estimates of the cost of adequate diets, nutrient level drivers, and policy options for households in rural malawi. *Food Policy*, 113:102275.

Tiwari, S., Daidone, S., Ruvalcaba, M. A., Prifti, E., Handa, S., Davis, B., Niang, O., Pellerano, L., Van Ufford, P. Q., and Seidenfeld, D. (2016). Impact of cash transfer programs on food security and nutrition in sub-saharan africa: A cross-country analysis. *Global Food Security*, 11:72–83.

Weaver, J., Sukhtankar, S., Niehaus, P., and Muralidharan, K. (2024). Cash transfers for child development: Experimental evidence from india. Technical report, National Bureau of Economic Research.

Appendix

Data Processing

Food items from the consumption and expenditure module were coded to match the closest corresponding food item in the Malawi Food Composition Table, where available, and the West African Food Composition Table otherwise. Reported consumption quantities were standardized by converting to grams or milliliters per adult equivalent per day, using non-standardized unit conversion factors from the Malawi Integrated Households Survey where applicable. Quantities were adjusted for edible portion and linked to the corresponding food composition table to obtain estimates of energy and micronutrient availability. Both total and per adult equivalent purchase and consumption quantities and quantities were screened(>3SD) and topcoded.

Tables

Table 14. Impact on Food Consumption

	LN(Per-AE HH Consumption)	LN(Per-AE Food Consumption)	All Food Consumption Share
	(1)	(2)	(3)
β_1: SBC only	0.017	-0.0078	-0.016
	(0.066)	(0.054)	(0.019)
β_2: SBC + Low Cash	0.059	0.049	-0.0065
	(0.059)	(0.055)	(0.017)
β_3: SBC + High Cash	0.16***	0.15***	-0.0078
	(0.059)	(0.052)	(0.017)
β_2 - β_1	0.042	0.057	0.009
	(0.061)	(0.054)	(0.019)
β_3 - β_1	0.145**	0.162***	0.008
	(0.061)	(0.052)	(0.019)
β_3 - β_2	0.104**	0.105**	-0.001
	(0.052)	(0.052)	(0.017)
Control Mean	10.155	9.796	0.721
Control SD	1	1	0
N	1235	1235	1235
Baseline Control?	Y	Y	Y

Robust standard errors clustered at the CBCC cluster level in parentheses. *, **, and *** indicate statistical significance at the 10, 5, and 1 percent levels, respectively

Table 15. Impact on Caloric Availability

	Total cal/AE/day	Min 2840 cal/AE/day	Share of kcal from own production (weekly recall)
	(1)	(2)	(3)
β_1: SBC only	-84.6	-0.026	-0.0028
	(85.8)	(0.036)	(0.022)
β_2: SBC + Low Cash	105.8	0.029	0.010
	(82.3)	(0.032)	(0.022)
β_3: SBC + High Cash	155.0*	0.037	0.039*
	(84.0)	(0.035)	(0.022)
β_2 - β_1	190.402**	0.055	0.013
	(88.982)	(0.037)	(0.025)
β_3 - β_1	239.512***	0.063	0.042
	(90.678)	(0.039)	(0.025)
β_3 - β_2	49.110	0.008	0.029
	(87.208)	(0.036)	(0.025)
Control Mean	2032.910	0.196	0.116
Control SD	1039	0	0
N	1235	1235	1235
Baseline Control?	Y	Y	Y

Robust standard errors clustered at the CBCC cluster level in parentheses. *, **, and *** indicate statistical significance at the 10, 5, and 1 percent levels, respectively

Table 16. Caloric Availability per AE by Food Group

	Cereals (1)	Tubers (2)	Veg (3)	Fruit (4)	Meat (5)	Eggs (6)	Fish (7)	Legumes (8)	Dairy (9)	Oils (10)	Sugars (11)	Misc (12)
β_1: SBC only	-35.7	2.58	-0.49	-6.16	-2.74	1.47	-0.41	-35.2	0.19	-4.14	2.75	-0.62
	(75.1)	(8.37)	(1.66)	(9.99)	(3.02)	(1.18)	(4.60)	(24.9)	(0.28)	(7.27)	(5.82)	(0.53)
β_2: SBC + Low Cash	83.3	-3.21	0.53	5.17	-1.25	0.42	-0.18	20.9	0.33	-1.68	2.63	0.32
	(70.6)	(6.73)	(1.54)	(8.87)	(2.72)	(1.14)	(3.22)	(27.4)	(0.29)	(8.02)	(5.42)	(0.66)
β_3: SBC + High Cash	67.9	17.5**	5.03***	-4.53	-2.15	2.10	-2.54	42.0	-0.038	22.0**	11.5*	0.063
	(74.4)	(8.63)	(1.90)	(8.35)	(3.08)	(1.50)	(3.54)	(26.1)	(0.25)	(9.17)	(6.04)	(0.65)
β_2 - β_1	118.990	-5.788	1.019	11.330	1.490	-1.056	0.233	56.086**	0.142	2.454	-0.117	0.938
	(77.479)	(7.937)	(1.650)	(10.730)	(2.479)	(1.263)	(4.211)	(25.761)	(0.326)	(6.949)	(4.898)	(0.634)
β_3 - β_1	103.610	14.891	5.525***	1.633	0.590	0.631	-2.128	77.197***	-0.226	26.096***	8.714	0.679
	(80.824)	(9.677)	(2.012)	(10.246)	(2.806)	(1.592)	(4.473)	(24.357)	(0.289)	(8.283)	(5.566)	(0.625)
β_3 - β_2	-15.380	20.679**	4.506**	-9.697	-0.900	1.687	-2.361	21.111	-0.368	23.641***	8.831*	-0.258
	(76.681)	(8.220)	(1.906)	(9.204)	(2.556)	(1.568)	(3.046)	(26.736)	(0.292)	(8.968)	(5.147)	(0.742)
Control Mean	1433.421	21.478	27.172	81.948	15.015	6.593	34.620	301.374	0.507	64.760	40.106	2.323
Control SD	939	55	20	77	34	14	43	303	3	77	65	7
N	1235	1235	1235	1235	1235	1235	1235	1235	1235	1235	1235	1235
Baseline Control?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

Robust standard errors clustered at the CBCC cluster level in parentheses. *, **, and *** indicate statistical significance at the 10, 5, and 1 percent levels, respectively

Table 17. Impact on Nutrient Availability

	Ca (1)	Fe (2)	Zn (3)	Vit A (4)	Thiamin (5)	Riboflavin (6)	Niacin (7)	Folate (8)	Vit B12 (9)	Vit C (10)
β_1: SBC only	-16.9	-1.06	-0.55	-5.14	-0.017	-0.019	-0.56	-28.0	-0.021	-17.6
	(14.2)	(1.02)	(0.53)	(21.4)	(0.093)	(0.028)	(0.59)	(18.6)	(0.25)	(15.0)
β_2: SBC + Low Cash	1.96	0.41	0.47	3.31	0.032	0.028	0.77	12.7	-0.063	13.5
	(15.3)	(0.98)	(0.55)	(19.3)	(0.091)	(0.027)	(0.63)	(22.8)	(0.19)	(16.9)
β_3: SBC + High Cash	23.1	0.16	-0.24	36.5*	0.36***	0.016	1.11*	45.7**	-0.16	-16.8
	(16.5)	(1.11)	(0.51)	(20.7)	(0.10)	(0.027)	(0.57)	(22.1)	(0.20)	(14.1)
β_2 - β_1	18.902	1.471	1.019*	8.455	0.049	0.046	1.332**	40.661**	-0.042	31.075**
	(14.437)	(1.043)	(0.580)	(23.370)	(0.097)	(0.029)	(0.649)	(20.363)	(0.203)	(14.883)
β_3 - β_1	40.047**	1.224	0.313	41.645*	0.373***	0.035	1.673***	73.685***	-0.135	0.850
	(16.118)	(1.178)	(0.549)	(24.652)	(0.107)	(0.029)	(0.601)	(19.740)	(0.218)	(11.497)
β_3 - β_2	21.144	-0.247	-0.706	33.191	0.324***	-0.011	0.341	33.024	-0.092	-30.225**
	(16.888)	(1.140)	(0.566)	(22.868)	(0.105)	(0.028)	(0.632)	(23.579)	(0.149)	(13.901)
Control Mean	322.620	21.958	9.483	305.516	0.979	0.642	11.443	374.511	1.805	128.964
Control SD	183	11	6	225	1	0	8	231	2	182
N	1235	1235	1235	1235	1235	1235	1235	1235	1235	1235
Baseline Control?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

Robust standard errors clustered at the CBCC cluster level in parentheses. *, **, and *** indicate statistical significance at the 10, 5, and 1 percent levels, respectively

Table 18. Impact on Minimum Micronutrient Availability

	Ca (1)	Fe (2)	Zn (3)	Vit A (4)	Thiamin (5)	Riboflavin (6)	Niacin (7)	Folate (8)	Vit B12 (9)	Vit C (10)
β_1: SBC only	-0.020	-0.018	-0.0077	-0.0035	-0.0023	-0.014	-0.0037	-0.0019	-0.0039	-0.013
	(0.018)	(0.020)	(0.025)	(0.031)	(0.039)	(0.021)	(0.025)	(0.019)	(0.047)	(0.028)
β_2: SBC + Low Cash	0.0013	0.015	0.030	-0.00078	0.010	0.020	0.033	0.016	0.013	0.028
	(0.019)	(0.018)	(0.020)	(0.029)	(0.037)	(0.019)	(0.021)	(0.020)	(0.037)	(0.026)
β_3: SBC + High Cash	0.028	0.0054	0.019	0.045	0.091**	0.014	0.059***	0.031	0.015	0.028
	(0.020)	(0.021)	(0.025)	(0.028)	(0.036)	(0.020)	(0.022)	(0.020)	(0.043)	(0.024)
β_2 - β_1	0.022	0.033*	0.038	0.003	0.013	0.033	0.036	0.018	0.017	0.042
	(0.018)	(0.019)	(0.025)	(0.033)	(0.039)	(0.021)	(0.023)	(0.018)	(0.042)	(0.032)
β_3 - β_1	0.048**	0.024	0.027	0.049	0.093**	0.027	0.063***	0.033*	0.019	0.041
	(0.020)	(0.023)	(0.029)	(0.032)	(0.039)	(0.022)	(0.024)	(0.018)	(0.048)	(0.030)
β_3 - β_2	0.026	-0.010	-0.011	0.046	0.081**	-0.006	0.027	0.016	0.002	-0.000
	(0.021)	(0.021)	(0.025)	(0.031)	(0.036)	(0.021)	(0.021)	(0.019)	(0.037)	(0.028)
Control Mean	0.425	0.842	0.642	0.496	0.634	0.490	0.730	0.874	0.495	0.714
Control SD	0	0	0	0	0	0	0	0	0	0
N	1235	1235	1235	1235	1235	1235	1235	1235	1235	1235
Baseline Control?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

Robust standard errors clustered at the CBCC cluster level in parentheses. *, **, and *** indicate statistical significance at the 10, 5, and 1 percent levels, respectively

Table 19. Impact on diet and FS using alternate treatment groups

	Total cal/AE/day	HH Dietary Diversity Score	Women's Dietary Diversity Score (0-10)	Dietary diversity score 6-23 months	HFIAS Score (0-27)
	(1)	(2)	(3)	(4)	(5)
β_1: SBC	2.77	0.028	0.096	0.025	-0.029
	(117.4)	(0.21)	(0.11)	(0.11)	(0.84)
β_2: Any Cash	53.1	0.13	0.23**	0.16	0.078
	(120.8)	(0.15)	(0.11)	(0.12)	(0.91)
β_3: High Cash	170.2	0.23	-0.14	0.066	-2.27***
	(119.0)	(0.15)	(0.10)	(0.092)	(0.79)
β_2 - β_1	50.279	0.107	0.137	0.137	0.108
	(211.903)	(0.309)	(0.203)	(0.202)	(1.577)
β_3 - β_1	167.447	0.206	-0.237	0.041	-2.242*
	(167.030)	(0.253)	(0.152)	(0.146)	(1.153)
β_3 - β_2	117.167	0.100	-0.374**	-0.097	-2.349
	(202.968)	(0.253)	(0.186)	(0.180)	(1.476)
Control Mean	2200.135	7.598	3.498	3.725	14.102
Control SD	1299	2	1	1	7
N	1300	1297	1198	986	1314
Baseline Control?	Y	Y	Y	N	N

Robust standard errors clustered at the CBCC cluster level in parentheses. *, **, and *** indicate statistical significance at the 10, 5, and 1 percent levels, respectively

Table 20. Impact on consumption and expenditure using alternate treatment groups

	LN(Per-AE HH Expenditures) (1)	LN(Per-AE Food Expenditures) (2)	LN(Per-AE Non-Durable Expenditures) (3)	LN(Per-AE HH Consumption) (4)	LN(Per-AE Food Consumption) (5)
β_1: SBC	0.055	0.029	0.11	0.037	0.017
	(0.067)	(0.054)	(0.13)	(0.066)	(0.056)
β_2: Any Cash	-0.059	-0.068	-0.031	0.0033	0.013
	(0.062)	(0.053)	(0.11)	(0.062)	(0.057)
β_3: High Cash	0.13**	0.13**	0.17*	0.13**	0.13**
	(0.061)	(0.055)	(0.096)	(0.055)	(0.056)
β_2 - β_1	-0.114	-0.096	-0.138	-0.034	-0.004
	(0.109)	(0.090)	(0.206)	(0.113)	(0.096)
β_3 - β_1	0.079	0.096	0.060	0.093	0.117
	(0.090)	(0.077)	(0.158)	(0.086)	(0.080)
β_3 - β_2	0.192*	0.193**	0.198	0.126	0.120
	(0.107)	(0.095)	(0.175)	(0.101)	(0.099)
Control Mean	9.872	9.367	8.680	10.196	9.841
Control SD	1	1	1	1	1
N	1300	1300	1300	1300	1300
Baseline Control?	Y	Y	Y	Y	Y

Robust standard errors clustered at the CBCC cluster level in parentheses. *, **, and *** indicate statistical significance at the 10, 5, and 1 percent levels, respectively