The Dynamic Effects of Cash Transfers: Evidence from Rural Liberia and Malawi*

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Abstract

We study the dynamic effects of large, unconditional cash transfers in rural Liberia and Malawi using bi-monthly phone surveys. We document improvements in food security until the end of surveying (about a year in Liberia and two years in Malawi), but find a short-lived effect on food expenditures and no effect on non-agricultural income at any point. Increased food security appears to have been generated by increased productive investment. After 18-25 months, we also document improvements in IPV, psychological well-being, and resilience, as well as investment and agricultural output. We find no evidence of effects on local prices or of spillovers to untreated households.

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Keywords: unconditional cash transfers, time-varying treatment effects, RCT, Liberia, Malawi

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1 Introduction

A substantial literature has documented the beneficial effects of cash transfers on various measures of well-being. However, while cash will tautologically increase the immediate consumption of any normal good, evidence on whether and how these effects persist is limited. This is particularly relevant for unconditional cash transfers (UCTs) paid out in a lump sum, because realizing sustained impacts from one-time infusions of cash requires productive investment, and in many contexts it is not obvious whether such productive investment opportunities exist for the average household. In their absence, households will tend to spend money on financing immediate consumption and program effects will tend to be temporary.

This paper measures the dynamic effects of a randomized cash transfer program in 300 villages each in Liberia and Malawi, two of the poorest countries in the world.[1] In the experiment, all households within half of the sampled villages received cash transfers, and those in the other half did not. The value of the transfer was large, averaging $500, equivalent to 86% of estimated *annual* household average expenditure in Liberia and 126% in Malawi. We measure outcomes via bi-monthly panel phone surveys with 20% of the household sample (spanning all sampled villages). These surveys continued for about 1 year after disbursement in Liberia and 2 years in Malawi. We supplement this information with an in-person endline with the entire sample about 18-25 months after the transfers were disbursed.

We calculate dynamic treatment effects for 4 pre-specified outcomes: food security, expenditures, income, and inter-personal transfers. These show meaningful dynamics. In both countries, we find lasting effects on food security until the end of data collection. This is despite the fact that effects on food expenditures are short-lived, and we observe no measurable effect on non-agricultural income in either country. Dynamics for non-food expenditures differ somewhat in the 2 countries: we find lasting effects in Liberia but not in Malawi. We find no effect on inter-personal transfers in either country, implying that the vast majority of the cash was spent within the beneficiary household.

[1] In 2016, the two countries were ranked 218th and 222nd (out of 226) in an IMF ranking of GDP per capita.

We also use the endline to examine effects on other pre-specified outcomes, specifically intimate partner violence (IPV), psychological well-being, and (self-reported) resilience. We find an 8 percentage point decline in IPV incidence over the past year in Liberia but no effect in Malawi (likely due in part to much higher baseline prevalence in Liberia). We also find a meaningful increase in psychological well-being (0.34 standard deviations in Liberia and 0.10 in Malawi) and resilience (0.09 standard deviations in Liberia and 0.12 in Malawi) in both countries. We also examine other secondary outcomes, and find a decline in casual labor income in both countries, an increase in school enrollment and education spending in Liberia (where school enrollment of primary-aged children is only 52% in our data), and increases in health investment and in spending in response to health shocks in Liberia.

Our results open questions as to the pathways by which food security was lastingly affected, given that neither income nor expenditures rose. We find suggestive evidence of increased investment in several forms of productive activities which may have led to greater home production, including greater animal ownership and agricultural output, as well as an increase in the number of crops planted, despite nil (Liberia) to modest (Malawi) impacts on measured inputs. We also find increased investment in self-enterprise, suggesting that perhaps small gains in income were realized (although the measured effect on profits is modest). Increased financial assets do not appear to be a pathway: most recipients withdraw the money immediately, and cash savings at endline increase by only $6 (base $18) in Liberia, and $3 (base $6) in Malawi, a tiny fraction of the UCT amount.

Lastly, we examine possible spillover effects for non-recipients. As mentioned above, very little of the transfer was shared: in Liberia, we find modest evidence of increased interpersonal transfers post-disbursement, but point estimates are only a few dollars; in Malawi, we observe no effect on transfers sent at any point. We observe similar, though slightly larger, effects on transfers received. We also find no effect on labor demand by beneficiaries. In Malawi and in the majority of the Liberian villages, we randomized the intensity of treatment across geographic clusters, and using this, we find minimal evidence of spillovers on all

primary outcomes, though confidence intervals are wide. We non-experimentally estimate price spillovers, comparing treated and comparison markets, and find little effect (which is not surprising since the treatment affected only a small percentage of the population).

Our results are related to a vast literature on cash transfers.[2] The most closely related papers are studies about the effect of *large* UCTs, i.e., Blattman et al. (2014), Haushofer and Shapiro (2016), Egger et al. (2019), McIntosh and Zeitlin (2021) and McIntosh and Zeitlin (2022). Relative to this literature, our contribution is in estimating dynamic effects. In this sense, our research is related to studies which examine the longer-term effects of UCTs, particularly Blattman et al. (2020) and Haushofer and Shapiro (2018). Methodologically, our study is differentiated by tracking outcomes at a higher frequency. Our specific results also differ from these prior settings, particularly in that we observe no effect on income even in the short-term, whereas Haushofer and Shapiro (2016) do find large effects on income, as does Blattman et al. (2014) (in fact, the program of study in that case was specifically designed to support businesses). Our study also differs from Haushofer and Shapiro (2018) in that our targeting was universal within villages, allowing us to abstract away from the confounding effects of within-village spillovers (whereas in Haushofer and Shapiro 2018, several treatment effects are smaller across-village than within-, suggesting possible negative spillovers).[3]

2 Experimental Design

2.1 Experimental context and design

The NGO GiveDirectly (henceforth, GD) implemented the cash transfer program in Liberia and Malawi in 2019-2021, aiming to enroll 150 villages each in the treatment and control arms in each country. Targeted counties and districts were identified by GD and the funding

[2]This research has largely focused on conditional cash transfers. See Kabeer and Waddington (2015) and Millán et al. (2019) for reviews, and Parker and Todd (2017) for an *Oportunidades*-specific review.

[3]Angelucci and De Giorgi (2009) recommend that transfers be targeted universally within a village to be able to disentangle treatment effects from inter-household spillovers, as these are likely bigger *within* a village.

partner, USAID, based on poverty levels, mobile phone coverage, and proximity to roads. Villages within each county/district were eligible if their population (measured via the most recent population census), was below a threshold size (100 households in Malawi and 125 households in Liberia).[4] All households in treatment villages were eligible for the transfer. Within each household, the transfer was made to a beneficiary chosen by the household. As the household beneficiary had to be home at the time of enrollment, the majority of them are women. Since beneficiary selection was endogenous, the household is our unit of analysis.

Amongst the 600 villages, we randomized treatment, stratifying by country and district/-traditional authority. Treatment villages were randomized into one of three amounts: $250, $500 or $750. Within each treatment village in Liberia, transfers were also randomized between being paid as lump sum or quarterly.[5] As village enrollment took several months, the start date of transfers varied across villages. There was also some variation in the roll-out of the transfers between countries. In Liberia, the project was implemented in two waves: a smaller "Wave 1" with 90 villages, in which transfers were disbursed from March 2019 to February 2020; and a larger "Wave 2" with 210 villages, in which transfers were disbursed from March 2020 to July 2021. The timing of transfers in Wave 2 was affected by COVID in 2020 because enrollment was paused during lockdowns. In Malawi, all 300 villages were enrolled in a single wave (though enrollment took several months) and transfers were disbursed from July 2019 to February 2020. Transfers were disbursed via mobile money; households could purchase a cell phone with a mobile-money-enabled SIM during enrollment from GD.

Households were identified in collaboration with GD, who visited every village in the sampling frame, and recorded every habitation structure with a GPS pin. This enabled verification of the villge population, as well as provided a sampling frame for the baseline survey, which was carried out independently of GD. For data collection, we sampled 10

[4]Since the transfers were universal, GD targeted smaller villages in order to cover enough villages while staying within its budget.

[5]For the lump sum sub-treatment, transfers were disbursed in 1-3 tranches. GD capped disbursements at $250 per tranche, making additional tranches in the following months. Thus, respondents receiving $250 received one transfer; those receiving $500 or $750 received 2 or 3 transfers over consecutive months.

pins from this list (with replacements), and attempted to interview those households (6,000 households across both countries). In some villages, we could enroll fewer households, leading to a final sample of 2,715 in Liberia and 2,944 in Malawi. Since IPV is a primary outcome, surveys targeted female heads of households.[6]

Two of the 10 households from every village were further sampled to answer a monthly phone survey designed to measure a pre-defined set of outcomes. Each phone survey respondent received a phone (worth $10-15). We called one household per village in even-numbered months, and the other in odd-numbered months. This results in a monthly village-level panel and a bi-monthly household-level panel. Because households were randomly selected, these respondents are representative of the approximately 32,000 households (or about 150,000 people) in these 600 villages. Figure A1 provides a timeline of activities.

2.2 Data

We use data from 4 primary sources. First, we conducted baseline surveys in November-December 2018 for Liberia Wave 1, November-December 2019 for Liberia Wave 2, and April-July 2019 for Malawi. The surveys took about 2-3 hours to administer, and included questions on demographics, agriculture, cash flows, food security, mobile money usage, shocks and resilience, and IPV (among other subjects).

Second, we conducted endline surveys in late 2020 for Liberia Wave 1 (18-20 months after disbursement), late 2021 for Liberia Wave 2 (18-22 months after disbursement) and April-July 2021 in Malawi (21-25 months after disbursement). These surveys were similar to the baselines in length and scope.[7]

Third, as discussed above, 20% of the sample was randomized into phone surveys, which included questions on food security, expenditures, income, labor supply, transfers, savings, and credit.[8] Each household was called every other month, with households within a village

[6]Male heads were interviewed only when the female was absent and unreachable.

[7]See Jeong et al. (2022) and Park et al. (2022) for analyses of cross-randomized survey experiments on survey length and interview modality of IPV, respectively, in these baseline and endline surveys.

[8]During COVID-19 lockdowns, we added questions aimed at measuring their impact. Aggarwal et al. (2020)

alternating months (so that each village has a data point for every month). The phone surveys were administered from July 2019 to August 2021 in Malawi, from February 2019 to September 2020 for Liberia Wave 1, and from January 2020 to October 2021 for Wave 2.

Fourth, we collected monthly prices from 80 markets in Liberia and 95 in Malawi over a two-year period, starting before the transfers began.[9] Figure A2 shows the location of study villages and markets. Market prices were collected from vendors enrolled by us for the study: 1,220 vendors in Liberia (Wave 1: 333, Wave 2: 887), and 1,378 in Malawi.[10]

Attrition for the endline and phone surveys is shown in Table A1 and Table A2, respectively. In both countries, our endline attrition was low and balanced across treatments: 96% of all households completed the endline in Liberia, and 94% in Malawi, and there is no evidence of differential attrition (Columns 1 and 2). In the phone survey, attrition is relatively low and balanced by treatment in Malawi. Over 95% of the sample participated in early rounds; though this percentage fell over time, we still successfully interviewed 80% or more after 2 years. However, attrition is substantially higher in Liberia, due in large part to the inferior phone network in the country. Also, in Wave 1, we noticed that households in the treatment group were more likely to switch to the SIM card provided by GD, thus making it more difficult to reach these respondents. We therefore drop Liberia Wave 1 from the phone survey analysis. In Wave 2, we took proactive steps to avoid this problem and managed to achieve balanced compliance, but is lower than Malawi: compliance peaks at 75% immediately after enrollment, but falls below 50% within 8 or 9 rounds (16-18 months).

2.3 Defining outcomes

Primary outcomes for this study were pre-defined in a pre-analysis plan (Aggarwal et al. 2021). Our analysis of dynamic treatment effects focuses on 4 outcomes: (1) a food security

documents the impact of COVID in these two countries.

[9] Twenty-three of the 80 markets in Liberia and 10 of the 95 in Malawi were in cash transfer areas, while the remaining markets were in non-treatment areas. We selected 1 treatment market per traditional authority in Malawi, and all markets in treatment areas in Liberia.

[10] Vendors were enrolled if they had access to a mobile phone, and sold the items on our list. We tried to enroll at least 2 vendors per market.

index (FSI), comprised of standardized scores of the Household Dietary Diversity Score (HDDS), measured over the past 24 hours, the Food Consumption Score (FCS), measured over the past 7 days, and the Household Hunger Scale (HHS), measured over the past month;[11] (2) food expenditures (past month); (3) non-food expenditures (past month), and (4) non-agricultural income (past month). Using data from the endline, we analyze other primary outcomes including IPV, psychological well-being, and self-reported resilience, as well as outcomes to examine pathways.

2.4 Summary statistics and randomization check

Table 1 presents summary statistics and a randomization balance check. Columns 1 and 4 show the means and standard deviations of the control group in Liberia and Malawi, respectively. Columns 2 and 5 show the p-values for a test of equality between pooled treatment and control, and Columns 3 and 6 report the p-values for an F-test of equality of means across the 3 sub-treatments ($250, $500, $750) and control. The underlying regressions control for strata fixed effects and cluster standard errors by village.

Because we targeted women for surveys, the sample skews female: 77% of the sample in Liberia and 94% in Malawi are women. Eighty-four percent are married in Liberia, and 67% in Malawi. The average age (about 40 years) is similar in the 2 countries. Education levels are low, averaging 2.9 years in Liberia and 4.8 years in Malawi. On average, households have 4.6-4.8 members. There are no significant differences across experimental arms.

Panel B shows primary outcomes as measured at baseline: food security,[12] food and non-food expenditures, assets, income, IPV, transfers, resilience to shocks, and agricultural input purchases. Overall, total monthly expenditures in the control group are $49 in Liberia and $33 in Malawi, with food expenditures being about 42% of the total. The total value of

[11] The PAP also includes a fourth measure, the Food Insecurity Experience Scale (FIES), which we didn't measure in the phone surveys because it has a one-year recall. The 4 measures of food security have been shown to be correlated with food consumption in prior work and are validated for use in diverse settings. See FAO (2013), Ballard et al. (2011), Cafiero et al. (2018) and USAID (2019) for more details.

[12] The baseline and endline FSI also includes FIES. A z-score is calculated using inverse covariance weighting (Anderson 2008).

durables, livestock, and financial assets is $100 in Liberia and $90 in Malawi. Approximately 48% of women in Liberia and 32% in Malawi reported having experienced some form of IPV. Again, the sample is balanced in these attributes across treatment and control. Overall, randomization appears successful; in any case, all regressions were pre-specified as ANCOVA and we control for baseline measures throughout.[13]

3 Results

3.1 Dynamic treatment effects

We estimate time-varying treatment effects using the phone survey data as follows:

$$Y_{ivst} = \sum_t \beta_t Cash_{vs} D_{tvs} + \gamma Y_{ivs0} + \phi_m + \lambda_s + \varepsilon_{ivst} \quad (1)$$

where Y_{ivst} is an outcome for individual i in village v and strata s at time t, which is defined as the number of months since cash transfers began (defined for each stratum, and thus taking on values for both treatment and control). $Cash_{vs}$ is a binary variable equal to 1 for villages assigned to any cash transfer, 0 otherwise; D_{tvs} is a binary variable indicating t number of months since transfers began; Y_{ivs0} is the baseline value of the outcome variable; and ϕ_m and λ_s are calendar month and strata fixed effects, respectively. We cluster standard errors by village, the level of randomization. We supplement results from this specification with a second set (shown in Appendix A) which pools surveys across all time periods.

Figure 1 plots the coefficient and confidence intervals from Equation (1) for the 4 main outcomes. The figures pool 2 months together so that the comparison across points in the graph is for the same set of respondents. In Malawi, we observe a spike in food security,

[13] As mentioned above, in Liberia we further randomized whether the cash was disbursed as a lump-sum or flow. This randomization was done "in the field" in collaboration with GD; IPA enumerators left chalk marks of different colors on the inside of respondents' doors. However, the match-rate of households between IPA and GD databases was only 87%. Since being matched is endogenous, we can perform the analysis only for the matched households. We check the balance between lump-sum and flow groups in Table E1. Wave 1 is imbalanced on 1 variable (food expenditure), significant at 5%; Wave 2 is imbalanced on two variables (household size and transfers received), significant at 10%.

food expenditures, and non-food expenditures immediately after disbursement, but no effect on non-agricultural income. For food security and expenditures, we observe clear evidence of time-varying treatment effects. For example, food security increased by over 0.5 standard deviations in the first six months (statistically significant at 1%) but then fell to approximately 0.2 standard deviations by the 8th month. These levels persist for the duration of the survey period (24-26 months after the initial transfer). For food and non-food expenditures, treatment effects are substantial initially, but then fall to being indistinguishable from zero within 10-12 months. Non-agricultural income shows little effect throughout.

The picture is slightly different for Liberia. While there is also a clear increase in food security immediately post transfer, the magnitude is smaller, 0.25-0.4 standard deviations. This effect persists for the duration of surveying.[14] Food expenditures show little evidence of an increase, and effects on non-food expenditure are also fairly modest and indistinguishable from zero. There is no strong evidence of effects on non-agricultural income in Liberia either, though the results are noisier.[15]

3.2 Treatment effects at endline

To corroborate the findings from the phone surveys, we estimate the impact at endline using a similar specification:

$$Y_{ivs} = \beta Cash_{vs} + \gamma Y_{ivs0} + \lambda_s + \varepsilon_{ivs} \tag{2}$$

where Y_{ivs} is the value of the outcome at endline. Standard errors are clustered by village.

Table 2 shows effects on our main outcomes, with Panel A for Liberia and Panel B for Malawi. In the first row we start by showing effects pooled across the different amounts. Consistent with the phone survey, we see significant improvements in food security. House-

[14] Figure 1 suggests that food security outcomes in the treatment group improved in the round *before* the first payment. Although not statistically significant, it is possible that effects manifest before the recorded date because of measurement error in the date of the first GD transfer, or because treatment households could have started spending in anticipation.

[15] Table A3 shows pooled effects across rounds. This shows effects on food security, non-food expenditures, and transfers sent in both countries, and additionally, on non-food expenditures, and savings in Malawi.

holds in treated villages had an FSI that was 0.31 standard deviations higher in Liberia and 0.12 standard deviations higher in Malawi, both statistically significant at 1 percent.[16] However, we see no evidence of an increase in food expenditures or non-agricultural income in either country (Columns 2-4). We do observe an increase in non-food expenditures in Liberia, and the effect is sizeable: a $5.9 increase on a $31.6 base. However, we find no such effect in Malawi. Overall, these results confirm the findings from the phone surveys, and validate them on a larger sample.[17]

Finally, while the average transfer amount was $500, villages were randomized into one of three cash transfer amounts. Table 2 also shows treatment effects by transfer size. Generally, for those outcomes which show pooled effects (Columns 1 and 3), effects tend (unsurprisingly) to be increasing in the transfer amount.

3.3 Effects on other outcomes

Table A4 shows other primary pre-specified outcomes, specifically IPV, psychological well-being, and self-reported resilience. In Liberia, we find an 8 percentage point reduction in IPV (base of 38%), a 0.34 standard deviation increase in psychological well-being, and a 0.09 standard deviation increase in resilience. In Malawi, we find no effect on IPV, but a 0.10 standard deviation increase in psychological well-being and a 0.12 standard deviation increase in resilience.[18]

In addition, we pre-specified sevaral secondary outcomes, which we present exhaustively in Appendix B. We discuss the most striking ones here. Table B1, shows a decrease in casual

[16] Table D1 shows clear evidence of improvements across index components: 3 of 4 measures (HDDS, HHS, and FIES) are statistically significant in Liberia, and 2 of 4 (HHS and FIES) in Malawi. The HHS and FIES focus on the quantity of food consumed (i.e. How many meals were skipped? How many days did the household go without food?), and cover a longer time period (a month and a year, respectively), whereas the HDDS and FCS measure the quality of consumption over the past day, and past week respectively. When pooled, both HDDS and FCS are in the expected direction.

[17] In Table E3, we also show results for these main outcomes for the lump and flow randomization (see footnote 13 for details on this sub-treatment). We find no differences in outcomes by payment frequency.

[18] For IPV, we cross-randomized audio computer-assisted self-interviewing (ACASI) and conventional, face-to-face interviewing (FTFI). Our evidence suggests that a significant portion of the sample are making mistakes in the ACASI module (Park et al. 2022), thus this analysis is restricted to the FTFI sample.

labor in both countries (a 10 percentage point increase on a 32% base in Liberia, and a 4 percentage point decrease on a 43% base in Malawi). While we are unable to track where this time went (we did not measure other types of labor), this result is similar to Fink et al. (2020), where credit reduces casual labor in favor of on-farm labor, and Aggarwal et al. (forthcoming), where savings accounts given to entrepreneurs reduce labor supply in the primary business and increase agricultural labor. Both results are consistent with casual or employment labor being used as a way to generate cash for day-to-day expenses, and for financial interventions to reduce the need for such cash.

Table B2 shows effects on school enrollment and school investment. We find sizeable effects in Liberia, where enrollment increased by 10 percentage points, education expenditure by about 38%; and school attendance improved. In Malawi, we find no such effects, presumably because school enrollment is dramatically higher than Liberia (only 52% of school-aged children in Liberia were enrolled at endline, compared to 94% in Malawi).

There is some evidence of increased health investment in Liberia, specifically the proportion of people sleeping under a bednet increased (Table B3). Households in Liberia take more days off per illness (perhaps because they can afford to forego the income), and spend more to treat it (Table B4). Finally, child anthropometrics (Table B5, measured in Malawi only), social capital (Table B6) and public goods investment (Table B7) remain unimpacted.

3.4 Pathways

We find that improvements in food security persist for up to 2 years post-disbursement, although expenditures converge to the control group within 6 months and we observe no evidence of an increase in income at any point. These results imply that households must increase productive investment in some fashion. In this section, we investigate what those channels are. The main results are shown in Table 3.

We find increases in financial and non-financial assets, with larger effects on non-financial assets. Cash savings increase by about $6 in Liberia and $3 in Malawi, which are large

effects relative to the control mean but still are small absolute sums. By contrast, we see that durable goods increase by about $41 in Liberia and $18 in Malawi, equivalent to about 76% and 29% increases compared to the control group. We also find an increase in animal assets, though only significant in Malawi (an increase of $11 on a base of $49, i.e. 22%).[19]

Another potential channel is an increase in agricultural output, which we show in Columns 5-7. In both countries, we see large increases in the value of harvest (Column 7). We see no effect on intermediate inputs in Liberia (Column 5), but we do see a $2.7 increase in Malawi ($16.7 base). We also observe increases in farm tools in both countries. However, the effects on output seem large relative to these relatively modest effects on investment. To explore this further, we turn to Table A6, which shows evidence that households switched crops, particularly to grow more legumes, and were slightly more likely to plant a staple crop. Table A7 shows an increase in the harvest output and value of staple crops (Columns 1-2) as well as in value of non-staple (Column 3) and all crops (Column 4). In Liberia, most of the increase in the value of output comes via staple crops, while in Malawi the increases are comparable between staple and non-staple crops.

Columns 8-9 show business investment. We observe a $4 increase in business capital in Liberia, on a small base of $6.5; and no effect in Malawi. We also see a positive, but insignificant, change in revenue. While we previously showed no effect on non-agricultural income, including from business, it is possible that income is imperfectly measured, for example, because businesses were operated primarily by men. While we asked about total household income, perhaps male income was under-reported by female respondents.

Another possible channel is that households used the cash to purchase large quantities of storable commodities, such as maize or oil, and then used these over the two-year period. At endline, we measured self-reports and uses of large cash transfers (only available for Malawi). Table A8 shows that most of the received transfers were cashed out. Table A9 tabulates spends. Nearly half were spent on home repair or construction, and about $33 on food.

[19] In Table A5, we show disaggregated results for the number and value of animals (by type), and find effects for goats and chickens in both countries.

Given that the monthly food expenditure of the control group in Malawi is $10 (Table 2), this does not seem likely to explain the persistent improvements in food security for 2 years.

3.5 Spillover effects

Prior work has shown spillover effects of cash transfers on non-beneficiaries, either through direct sharing (Angelucci and De Giorgi 2009) or via general equilibrium effects (Egger et al. 2019 and Filmer et al. forthcoming). In this section, we test for spillovers in our setting.

First, we present data on transfers and labor demand, reported by beneficiaries themselves in Figure A4 (phone survey) and Table A10 (endline). There is no evidence of an increase in transfers, even immediately post-disbursement.[20] There is no evidence of increased labor demand either: in Liberia, households are slightly more likely to hire casual labor, but the quantity of labor employed is small and insignificant.

Second, in Malawi and in Liberia Wave 2, we randomized the intensity of treatment, assigning clusters of villages to high-intensity, low-intensity, or pure control.[21] Using this design, we estimate spillovers as follows:

$$Y_{ivcs} = \beta Treat_c + \delta Cash_{vs} + \gamma Y_{ivs0} + \lambda_s + \varepsilon_{ivcs} \tag{3}$$

where the added subscript c indicates cluster, and errors are clustered by cluster. $Treat_c$ is an indicator for being a control household in a treated cluster.[22]

Results are presented in Table 4. In Columns 1-2, we see no evidence of increase in transfers. The point estimates on both transfers received and sent are negative (and significant

[20] In fact, we find some weak evidence of increases in the amount of transfers *received*.

[21] In Malawi, we used an existing administrative unit "group village." Out of 104 group villages in our study sample, 49 were assigned to high-intensity (in which about 3/4 of villages were treated), 23 to low-intensity (in which about half of villages were treated), and 32 to pure control (in which no villages were treated). In Liberia, there is no comparable administrative unit, so we identified geographical clusters of villages using average distances between housing structures. While it was not possible to stratify the sample in this way for Wave 1, we were able to do this for Wave 2. We identified 70 village clusters, assigning 34 to high-intensity (in which about 80% of villages were treated), 22 to low-intensity (in which about a third were treated), and 14 to pure control (in which no villages were treated).

[22] High- and low-intensity clusters are pooled for this analysis, since sample sizes in each are small and there are no statistically significant differences in outcomes.

at 10%) in Malawi, and negative but insignificant in Liberia. Columns 3-6 show the 4 main outcomes; none shows statistically significant effects. However, because of the small number of clusters and the fact that this analysis does not include Liberia Wave 1, the confidence intervals include fairly substantial values (for example, the lower bound on food security is -0.25 SDs in Liberia and -0.10 standard deviations in Malawi; there is a similar pattern for most variables). Columns 7-8 follow our earlier analysis and show IPV and psychological well-being. We see weak evidence of effects. In particular, psychological well-being is 0.16 standard deviations higher in Liberia, and the coefficient on IPV is negative and borderline significant. We interpret these results as most likely due to statistical noise.

In sum, we find little evidence of spillovers, which comes in contrast to other work: Angelucci and De Giorgi (2009) find that *Oportunidades* cash transfers increased consumption of the control households, which the authors attribute to sharing. One possible explanation for this contrast is due to program design: since *Oportunidades* had within-village targeting, the pressures to share may have been stronger. Similarly, Haushofer and Shapiro (2018), another study that uses within-village randomization, finds that non-beneficiaries in treatment villages lower their consumption, likely because they sell off productive assets. The transfers that we evaluate, on the other hand, were universal within village.

3.6 Prices

Prior research has shown conflicting results on the effect of cash transfers on prices, with some showing minimal inflationary effects (i.e. Cunha et al. 2018, Aker et al. 2016 and Egger et al. 2019) and another study showing larger price increases (Filmer et al. forthcoming). Our study was designed to minimize price effects: randomization was spread out over a wide enough geographic area such that a small proportion of the overall population in any market catchment area was treated. In Liberia, we estimate that no more than 13% of the population was treated in any market catchment area; in Malawi, it was about 7%.

As discussed earlier, we set up a data-collection protocol to identify causal price changes.

Starting just before cash disbursal, we collected monthly data on prices (in 23 treatment and 57 comparison markets in Liberia, and 10 treatment and 85 comparison in Malawi) for a representative basket of food items based on each country's most recent LSMS.[23] From each market, we enrolled 2 vendors per item for surveying, calling them once a month throughout the study.[24] We classify control markets as being "nearby" or "distant", based on the median distance to the nearest treatment market.[25]

In Appendix C, we plot price changes relative to the pre-transfer period for (a) staple grains and vegetables ("select items"), and (b) staple grains. We find no evidence of increased prices due to the cash transfers. For Liberia, Figure C1 and Figure C2 show the simple average change in weighted prices after the transfer, relative to the pre-transfer period, for each wave separately. Overall, prices remain fairly stable throughout the entire period, and follow similar patterns in treatment, nearby, and distant markets. The situation is similar for Malawi, in that price changes, while substantial, are not differential by treatment status.

4 Conclusion

We use high-frequency panel data to measure the evolution and persistence of the effect of UCTs, focusing specifically on food security, expenditures, and income. We find lasting effects of transfers on food security (up to 1 year in Liberia and 2 years in Malawi), though we find fleeting effects on expenditures and no effect on non-agricultural income. We present suggestive evidence that investment in productive capital may be a likely pathway to generate these effects.

Our results confirm that the measurement of treatment effects of interventions such as cash will vary over time. While the size of estimated effects attenuates substantially after a

[23] These items are cassava, cassava flour, imported rice, okra, onion, palm oil, and salt for Liberia; beans, groundnut, maize flour, maize kernel, onion, salt, sugar, sweet potato, tomato, and unpacked rice for Malawi. Altogether, these accounted for about 80% of the food expenditure in each country at baseline.

[24] Vendors received airtime credit (worth \$0.50-\$1 per call) for answering the survey. In the survey, we asked about all items on the list that the vendor sold herself, as well as prices of items she did not sell. We use these "indirect" prices only in cases where the direct price is entirely missing for that market-month pair.

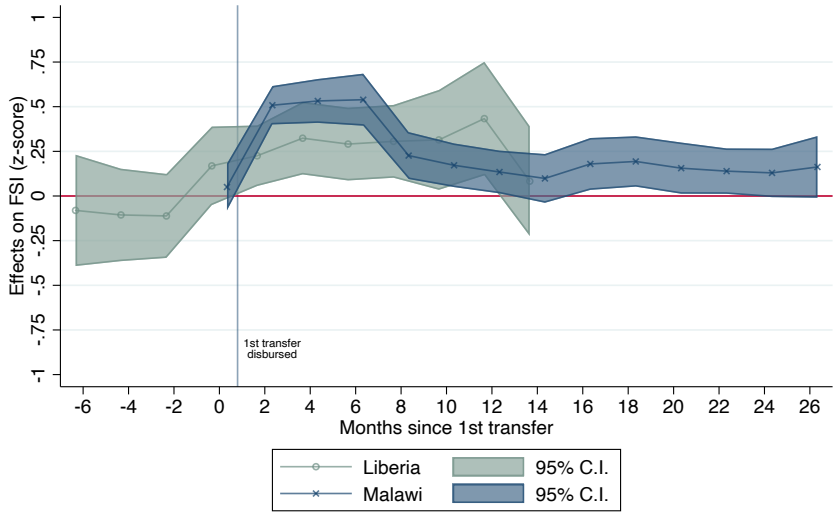
[25] The median distance to the nearest treated market is 48 km in both countries.

few months, our results suggest that (in Malawi at least) effects on food security are similar and stable from 8 months on, suggesting that the somewhat arbitrary timing of many endlines around a year from disbursement may actually meaningfully capture lasting food security.[26] An open question for future work is what the effects become in the next period of time, and whether they may very well go to null at a future date.

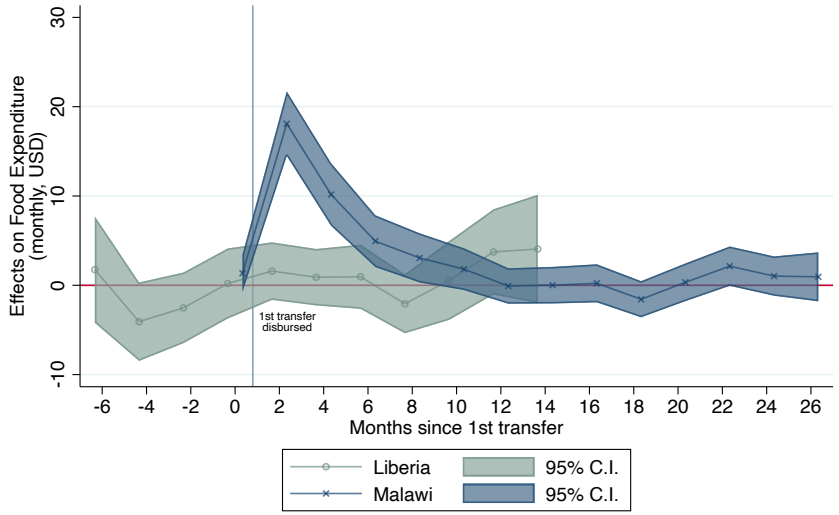
[26]For example, the endlines in Haushofer and Shapiro (2016) and McIntosh and Zeitlin (2021) were 9 and 13 months after the final transfers respectively. The first endline in Blattman et al. (2014) was at 2 years, a timeline similar to ours.

Figure 1: Effects of Cash on Food Security, Expenditures and Income Over Time

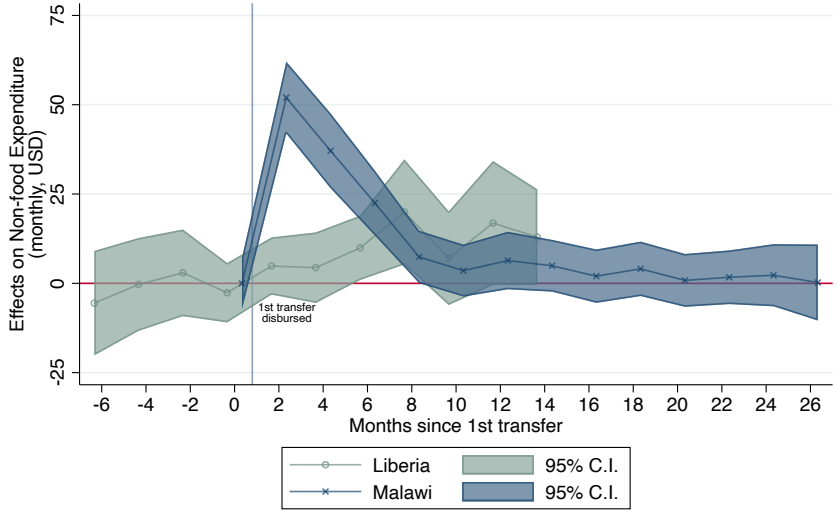
(a) Food Security Index[a]



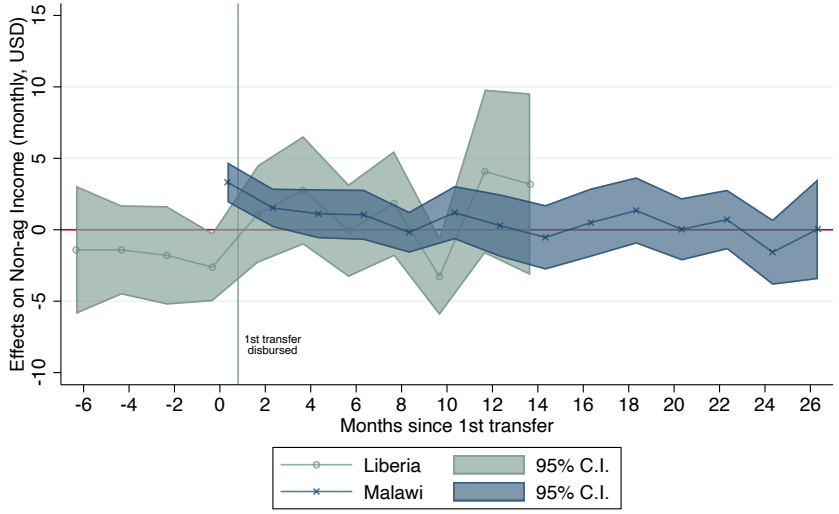
(b) Food Expenditures



(c) Non-food Expenditures



(d) Non-agricultural Income



Note: Regressions include baseline measurement of outcome and strata fixed effects. Standard errors clustered at village level. First transfer for each treatment household was made across July-October 2019 for Malawi and March-September 2020 for Liberia (Wave 2). Sample includes 596 households in Malawi and 358 in Liberia (Wave 2).
[a]Outcome variable is Food Security Index (FSI), a re-standardized z-score of HDDS, FCS, and HHS (negatively weighted) per Anderson (2008).

Table 1: Baseline Summary Statistics and Experimental Balance

	(1)	(2)	(3)	(4)	(5)	(6)
	Liberia			Malawi		
	Control Mean [SD]	p-value: pooled treatment = control	p-value: equality over 4 arms	Control Mean [SD]	p-value: pooled treatment = control	p-value: equality over 4 arms
Panel A. Demographics						
=1 if female	0.77	0.630	0.899	0.94	0.695	0.487
=1 if currently married or has partner	0.84	0.188	0.101	0.67	0.263	0.689
Age	39.14	0.998	0.995	40.45	0.607	0.879
	[13.92]			[15.08]		
Years of education	2.90	0.673	0.460	4.75	0.430	0.778
	[3.76]			[3.41]		
Number of household members	4.58	0.618	0.706	4.76	0.448	0.734
	[2.21]			[2.09]		
Panel B. Primary outcomes measured at baseline						
Food security index (z-score)	-0.00	0.992	0.002	0.00	0.445	0.833
	[1.00]			[1.00]		
Food expenditure (past month)	20.52	0.827	0.650	13.96	0.677	0.869
	[16.71]			[14.81]		
Non-food expenditure (past month)	28.04	0.307	0.730	19.18	0.800	0.569
	[28.56]			[21.66]		
Net value of durables, livestock, financial assets	101.94	0.796	0.936	89.74	0.334	0.796
	[207.58]			[187.75]		
Non-agricultural income (past month)	6.61	0.229	0.607	5.50	0.732	0.111
	[15.55]			[14.20]		
=1 if any IPV (past year)	0.48	0.929	0.224	0.32	0.921	0.726
Transfers received (USD, past month)	0.33	0.728	0.841	0.14	0.061	0.079
	[0.97]			[0.38]		
Transfers sent (USD, past month)	0.98	0.728	0.841	0.41	0.061	0.079
	[2.92]			[1.15]		
Resilience to shocks (z-score)	-0.00	0.135	0.414	0.00	0.431	0.767
	[1.00]			[1.00]		
Agricultural input purchase (USD, past year)	4.35	0.597	0.928	18.18	0.644	0.667
	[13.18]			[23.25]		
Observations		2,715			2,944	

Note: Columns 1 and 4 present the mean for the control groups; Columns 2 and 5 report the p-values for testing difference between the pooled cash treatment and control groups; Columns 3 and 6 report the p-values for testing difference across individual treatment arms by cash amounts (i.e. 250, 500, or 750 dollars) and the control group. Standard deviations are in square brackets in Columns 1 and 4 and standard error clustered at village level in parentheses in Columns 2,3,5 and 6. Monetary outcomes are in USD and winsorized at the 99th percentile. ***, **, and * represent significance at 1%, 5%, and 10%, respectively.

Table 2: Treatment Effects at Endline (18-24 months post-disbursement)

	(1) Food Security Index[a] (past year)	(2) Food Expenditures (past month)	(3) Non-food Expenditures (past month)	(4) Non-agricultural Income[b] (past month)
Panel A. Liberia				
Pooled cash treatment:				
Cash	0.31***	0.68	5.91***	1.54
	(0.04)	(0.89)	(1.58)	(1.33)
Individual treatments by cash amount:				
Cash 250	0.19***	-1.13	2.64	2.57
	(0.06)	(1.17)	(2.67)	(2.55)
Cash 500	0.28***	1.87	7.20***	1.98
	(0.06)	(1.37)	(2.23)	(1.58)
Cash 750	0.47***	1.31	7.90***	0.07
	(0.06)	(1.11)	(1.99)	(1.89)
Control mean	0.00	26.91	31.63	8.15
Control SD	1.00	21.46	37.38	27.30
p-value (all three equal)	0.000	0.092	0.205	0.606
Observations	2,595	2,595	2,595	2,595
Panel B. Malawi				
Pooled cash treatment:				
Cash	0.12***	0.45	0.56	0.90
	(0.04)	(0.47)	(0.56)	(0.82)
Individual treatments by cash amount:				
Cash 250	0.06	0.40	0.09	2.39*
	(0.05)	(0.60)	(0.76)	(1.36)
Cash 500	0.12**	-0.09	0.53	-0.71
	(0.05)	(0.65)	(0.78)	(0.96)
Cash 750	0.17***	1.04	1.07	1.01
	(0.06)	(0.75)	(0.88)	(1.13)
Control mean	0.00	9.56	12.29	9.38
Control SD	1.00	10.81	14.63	20.43
p-value (all three equal)	0.268	0.429	0.642	0.082
Observations	2,784	2,784	2,784	2,784
Panel C. Pooled				
Pooled cash treatment:				
Cash	0.21***	0.56	3.17***	1.17
	(0.03)	(0.49)	(0.83)	(0.77)
Individual treatments by cash amount				
Cash 250	0.13***	-0.32	1.36	2.36*
	(0.04)	(0.65)	(1.35)	(1.42)
Cash 500	0.21***	0.85	3.79***	0.49
	(0.04)	(0.75)	(1.16)	(0.90)
Cash 750	0.30***	1.17*	4.39***	0.65
	(0.04)	(0.66)	(1.10)	(1.10)
Control mean	0.00	17.98	21.68	8.78
Control SD	1.00	18.94	29.69	24.02
p-value (all three equal)	0.002	0.134	0.144	0.469
Observations	5,379	5,379	5,379	5,379

Note: The endline was conducted about 18-22 months after first transfers were received in Liberia and 21-25 months in Malawi. Regressions include baseline measurement, strata fixed effects, and indicator for market access treatment. Monetary outcomes are in USD and Winsorized at the 99th percentile. Standard errors clustered at the village level in parentheses. ***, **, and * represent significance at 1%, 5%, and 10%, respectively.

[a] Food Security Index is standardized z-score of HDDS, FCS, HHS (negatively weighted), and FIES (negatively weighted), using inverse covariance weighting (Anderson 2008) relative to the control mean and SD in each country.

Table 3: Pathways

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Asset values				Agriculture (past season)			Self-own Business (past month)	
	Savings	Debt	Durables	Livestock	Input purchase	Value of farm tools	Harvest value of all crops	Value of capital	Revenue
Panel A. Liberia									
Pooled cash treatment:									
Cash	6.29**	-0.20	40.78***	3.93	-0.17	2.34***	83.86***	4.07***	2.32
	(2.72)	(0.87)	(7.92)	(3.44)	(1.21)	(0.71)	(28.63)	(1.38)	(1.42)
Individual treatments by cash amount:									
Cash 250	4.52	-0.67	31.33***	3.65	-2.66**	1.24	107.49**	5.58***	2.00
	(3.59)	(1.14)	(11.48)	(4.43)	(1.29)	(0.91)	(48.20)	(2.12)	(1.92)
Cash 500	9.76**	0.23	52.13***	3.70	0.60	2.65**	65.50	4.38**	4.00*
	(4.65)	(1.34)	(13.73)	(4.79)	(1.41)	(1.08)	(39.93)	(2.03)	(2.35)
Cash 750	4.58	-0.18	38.85***	4.44	1.54	3.14***	78.63*	2.23	0.95
	(3.47)	(1.19)	(11.81)	(5.05)	(1.93)	(1.12)	(41.76)	(1.54)	(1.68)
Control mean	18.68	5.25	54.13	38.11	4.81	11.47	266.01	6.46	7.03
Control SD	64.44	19.82	154.30	92.96	21.67	13.78	590.66	32.68	31.04
p-value (all three equal)	0.558	0.835	0.473	0.989	0.007	0.285	0.766	0.264	0.466
Observations	2,595	2,595	2,595	2,595	2,595	2,595	2,595	2,595	2,595
Panel B. Malawi									
Pooled cash treatment:									
Cash	3.08**	-0.16	17.94***	11.12**	2.73***	0.76*	24.69***	-0.92	-0.10
	(1.30)	(0.87)	(4.87)	(4.68)	(0.71)	(0.45)	(8.73)	(0.70)	(0.51)
Individual treatments by cash amount:									
Cash 250	1.97*	0.25	8.31	-2.17	1.74*	-0.09	29.68**	-1.30	0.25
	(1.05)	(1.08)	(6.22)	(5.52)	(0.97)	(0.62)	(12.03)	(0.86)	(0.74)
Cash 500	0.54	-1.62	11.49**	18.52***	2.91***	0.98*	9.56	-1.37	-0.55
	(0.88)	(1.05)	(5.68)	(6.50)	(0.96)	(0.56)	(11.82)	(0.94)	(0.70)
Cash 750	6.88*	0.92	34.67***	17.23**	3.56***	1.42*	35.28**	-0.05	0.01
	(3.53)	(1.33)	(7.91)	(7.64)	(1.11)	(0.74)	(14.04)	(1.05)	(0.75)
Control mean	6.28	7.47	63.39	48.59	16.65	9.51	111.23	5.02	3.71
Control SD	16.42	19.66	142.10	120.52	17.65	10.17	172.81	20.93	15.09
p-value (all three equal)	0.137	0.125	0.008	0.006	0.354	0.163	0.220	0.467	0.644
Observations	2,784	2,784	2,784	2,784	2,784	2,784	2,784	2,784	2,784
Panel C. Pooled									
Pooled cash treatment:									
Cash	4.63***	-0.14	29.05***	8.35***	1.31*	1.53***	53.97***	1.52*	1.03
	(1.48)	(0.62)	(4.64)	(2.99)	(0.70)	(0.42)	(14.71)	(0.77)	(0.74)
Individual treatments by cash amount									
Cash 250	3.19*	-0.15	19.43***	1.37	-0.37	0.56	66.45***	2.02*	0.97
	(1.81)	(0.78)	(6.42)	(3.58)	(0.81)	(0.54)	(24.17)	(1.14)	(1.00)
Cash 500	4.95**	-0.74	31.10***	12.41***	1.80**	1.79***	36.75*	1.42	1.52
	(2.33)	(0.86)	(7.45)	(4.23)	(0.86)	(0.60)	(20.41)	(1.10)	(1.21)
Cash 750	5.78**	0.48	36.79***	11.32**	2.54**	2.26***	58.85***	1.10	0.57
	(2.49)	(0.90)	(7.06)	(4.75)	(1.11)	(0.67)	(21.45)	(0.94)	(0.91)
Control mean	12.30	6.39	58.90	43.51	10.90	10.46	186.37	5.72	5.32
Control SD	46.82	19.77	148.19	108.13	20.57	12.10	436.62	27.28	24.23
p-value (all three equal)	0.606	0.519	0.126	0.032	0.008	0.057	0.541	0.757	0.765
Observations	5,379	5,379	5,379	5,379	5,379	5,379	5,379	5,379	5,379

Note: All outcomes are in USD and Winsorized at the 99th percentile. The endline was conducted about 18-22 months after first transfers were received in Liberia and 21-25 months in Malawi. Regressions include baseline measurement, strata fixed effects, and indicator for market access treatment. Standard errors clustered at the village level in parentheses. ***, **, and * represent significance at 1%, 5%, and 10%, respectively.

Table 4: Spillover Effects

	(1) Transfers Sent (past month)	(2) Transfers Received (past month)	(3) Food Security[a] (past year)	(4) Food Expend (past month)	(5) Non-food Expend (past month)	(6) Non-ag Income (past month)	(7) Any IPV[b] (past year)	(8) Psycho Well-being (past 2 weeks)
Panel A. Liberia								
Treat cluster	-1.16	-1.72	-0.08	-0.46	-2.88	-0.15	-0.08	0.16
	(0.80)	(1.06)	(0.08)	(1.88)	(2.50)	(2.74)	(0.05)	(0.10)
Cash village	-0.12	-0.04	0.33***	0.28	8.47***	2.66	-0.06	0.29***
	(0.46)	(0.63)	(0.06)	(1.20)	(2.30)	(2.90)	(0.04)	(0.05)
Pure control mean	3.31	4.04	0.03	29.61	34.80	8.09	0.40	-0.03
Pure control SD	16.90	19.55	0.98	22.03	37.36	19.79	0.49	1.04
Observations	1,867	1,867	1,867	1,867	1,867	1,867	860	1,867
Panel B. Malawi								
Treat cluster	-0.02	-0.44*	0.02	1.05	0.17	-0.24	0.01	0.06
	(0.08)	(0.24)	(0.07)	(0.66)	(0.82)	(1.06)	(0.02)	(0.06)
Cash village	0.02	0.37*	0.11**	-0.04	0.48	1.01	0.00	0.07
	(0.07)	(0.20)	(0.05)	(0.53)	(0.86)	(0.90)	(0.02)	(0.05)
Pure control mean	0.46	1.22	-0.01	9.08	12.08	9.59	0.19	-0.04
Pure control SD	1.96	4.89	0.99	9.80	14.40	21.56	0.39	1.03
Observations	2,784	2,784	2,784	2,784	2,784	2,784	1,829	2,784
Panel C. Pooled								
Treat cluster	-0.45	-0.93**	-0.03	0.47	-1.16	-0.21	-0.01	0.09
	(0.31)	(0.46)	(0.05)	(0.83)	(1.16)	(1.28)	(0.02)	(0.06)
Cash village	-0.05	0.20	0.20***	0.09	3.81***	1.61	-0.02	0.16***
	(0.20)	(0.29)	(0.04)	(0.59)	(1.21)	(1.33)	(0.02)	(0.04)
Pure control mean	1.49	2.25	0.01	16.55	20.34	9.04	0.26	-0.04
Pure control SD	10.39	12.48	0.98	18.30	27.54	20.94	0.44	1.03
Observations	4,651	4,651	4,651	4,651	4,651	4,651	2,689	4,651

Note: The endline was conducted about 18-22 months after first transfers were received in Liberia and 21-25 months in Malawi. Regressions include baseline measurement, strata fixed effects, and indicator for market access treatment. Monetary outcomes are in USD and Winsorized at the 99th percentile. Standard errors clustered at the village level in parentheses. ***, **, and * represent significance at 1%, 5%, and 10%, respectively.
[a] Food Security Index is standardized z-score of HDDS, FCS, HHS (negatively weighted), and FIES (negatively weighted), using inverse covariance weighting (Anderson 2008) relative to the control mean and SD in each country.
[b] Includes only women and those for whom IPV was measured in face-to-face interviewing.

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Appendix A

Figure A1: Timeline of Cash Transfer Disbursements and Survey Activities

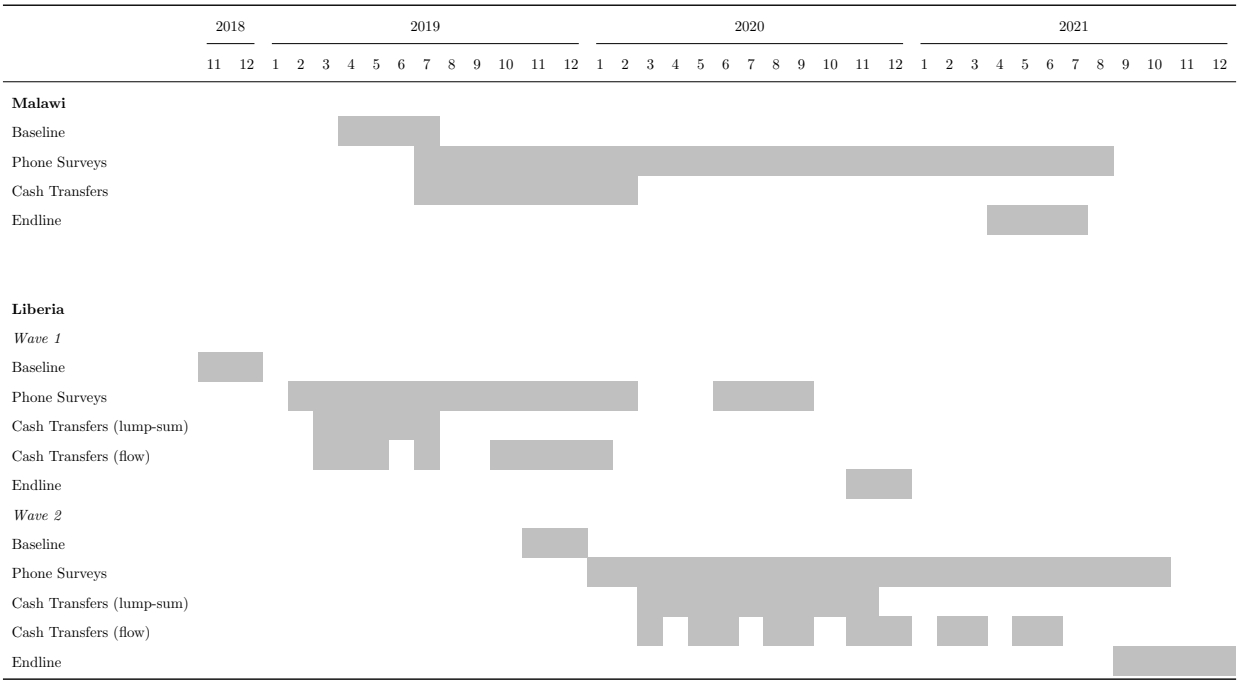
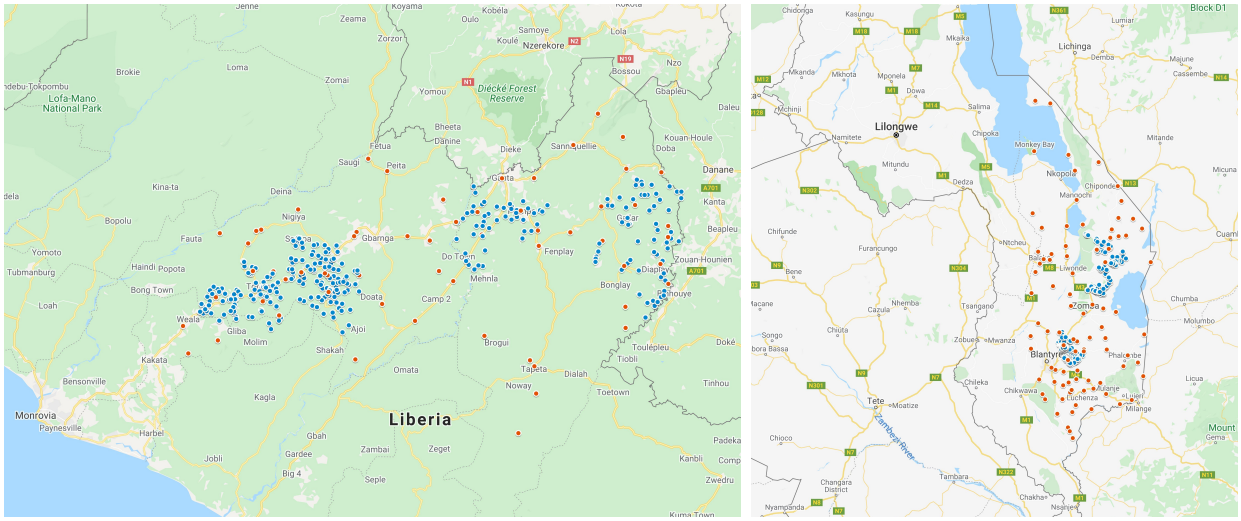


Figure A2: Map of Study Villages and Markets in Liberia and Malawi

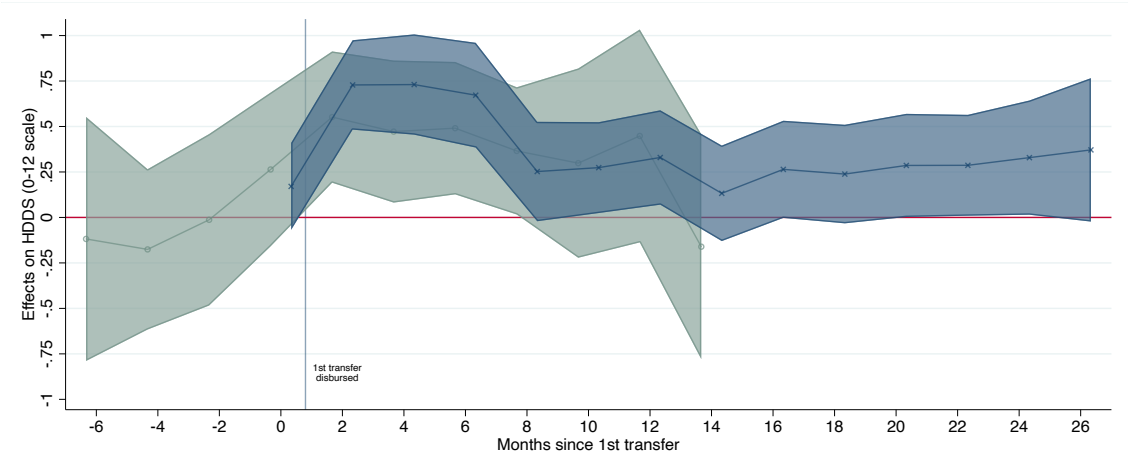
(a) Liberia (b) Malawi



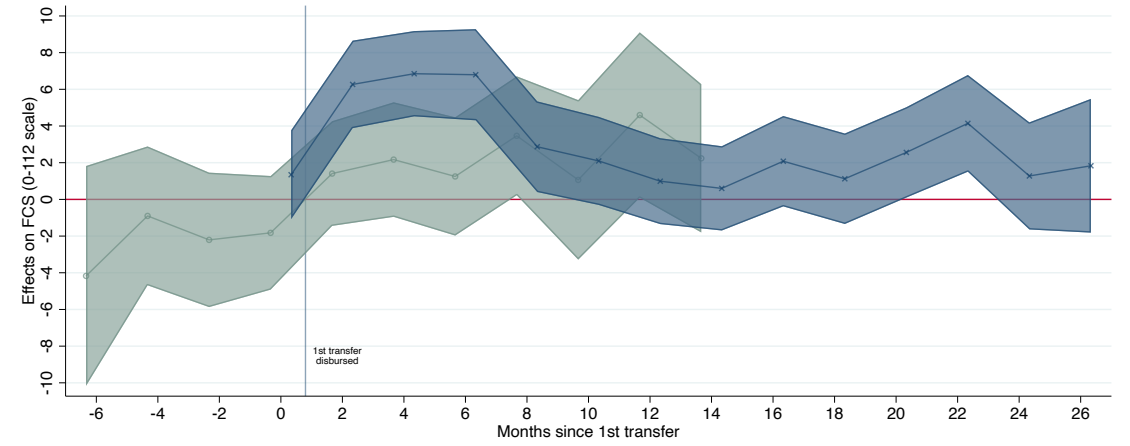
Note: Blue dots refer to villages, and orange dots markets. For Liberia, there are 300 villages and 80 markets. For Malawi, there are 300 villages and 95 markets.

Figure A3: Effects on Individual Components of Food Security Index (HDDS, FCS, and HHS)

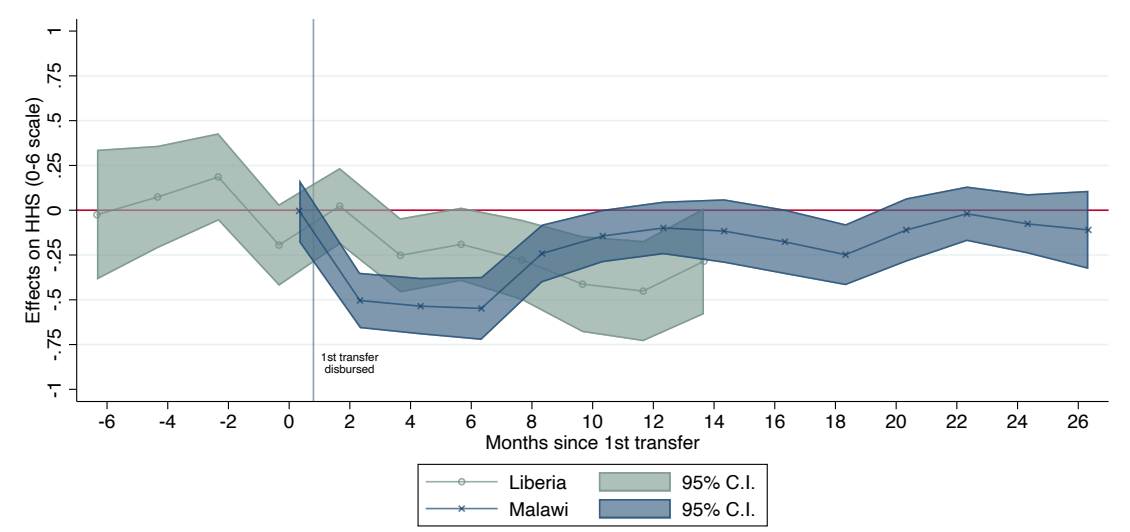
(a) Household Dietary Diversity Score (baseline control mean = 5.7, 5.4)



(b) Food Consumption Score (baseline control mean = 48.0, 46.3)



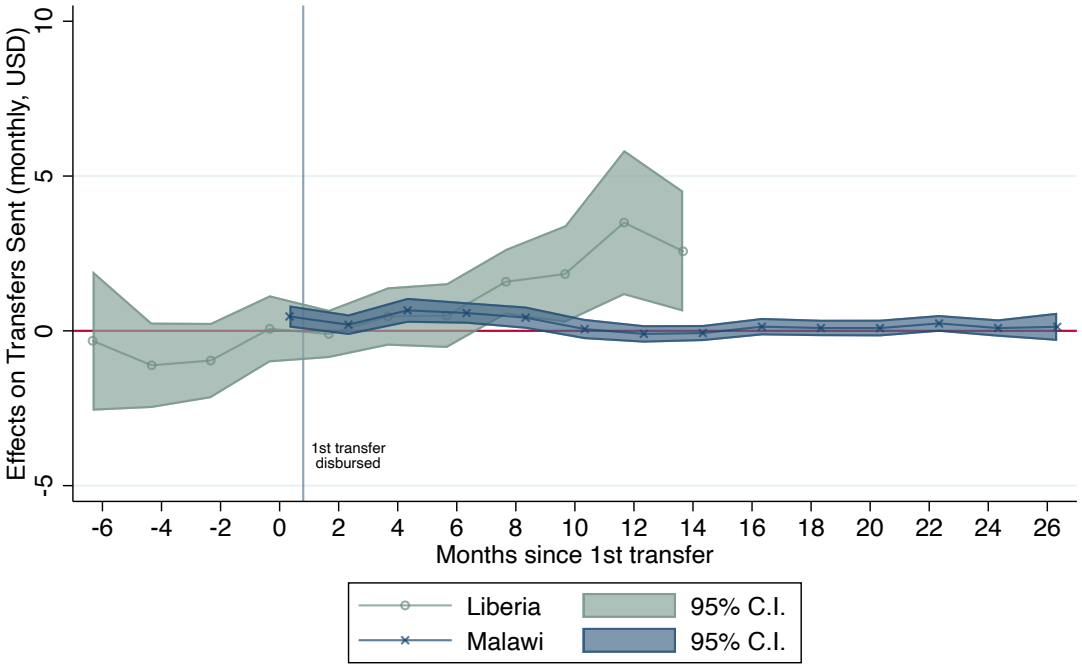
(c) Household Hunger Scale (baseline control mean = 1.2, 1.2)



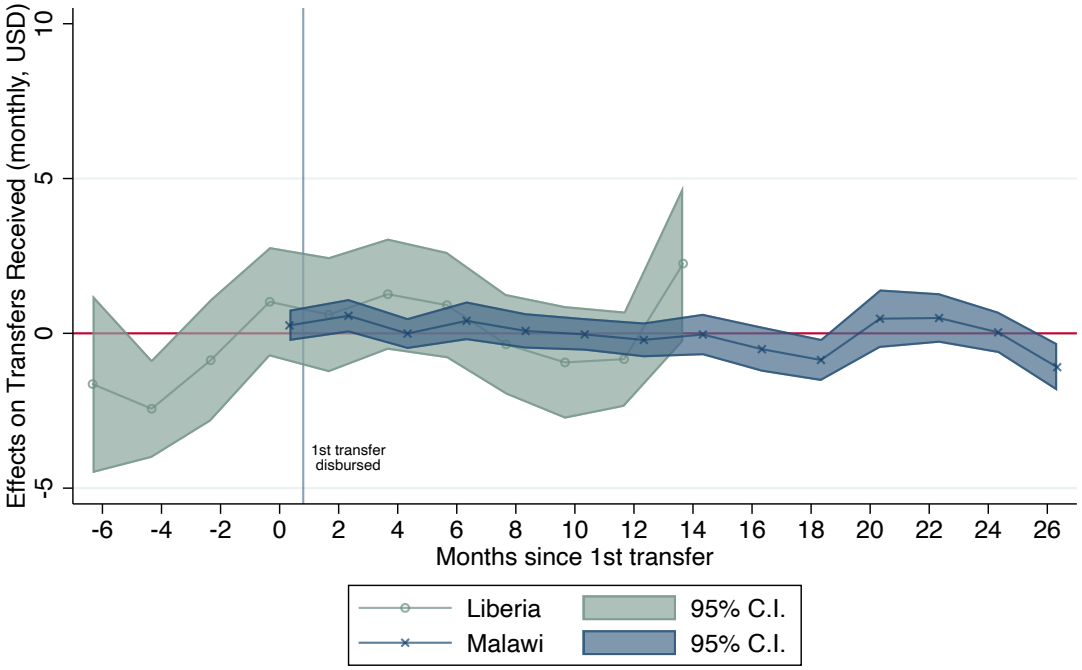
Note: Regressions include baseline measurement of outcome and strata fixed effects. Standard errors clustered at village level. First transfer for each treatment household was made across July-October 2019 for Malawi and March-September 2020 for Liberia (Wave 2). Sample includes 596 households in Malawi and 358 in Liberia (Wave 2).

Figure A4: Transfers

(a) Transfers Sent



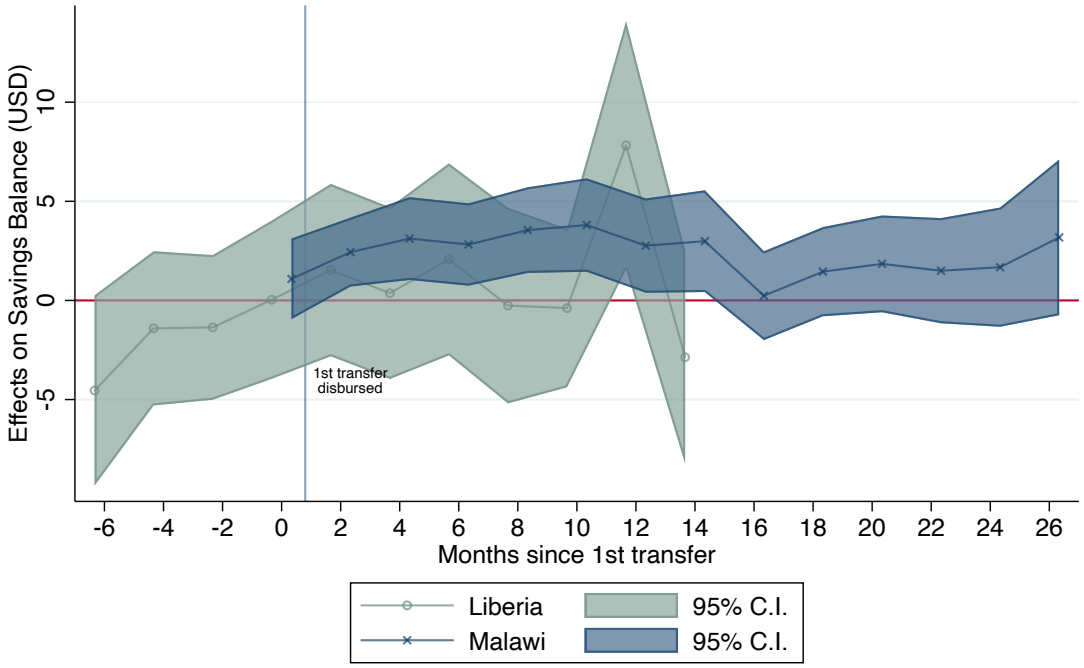
(b) Transfers Received



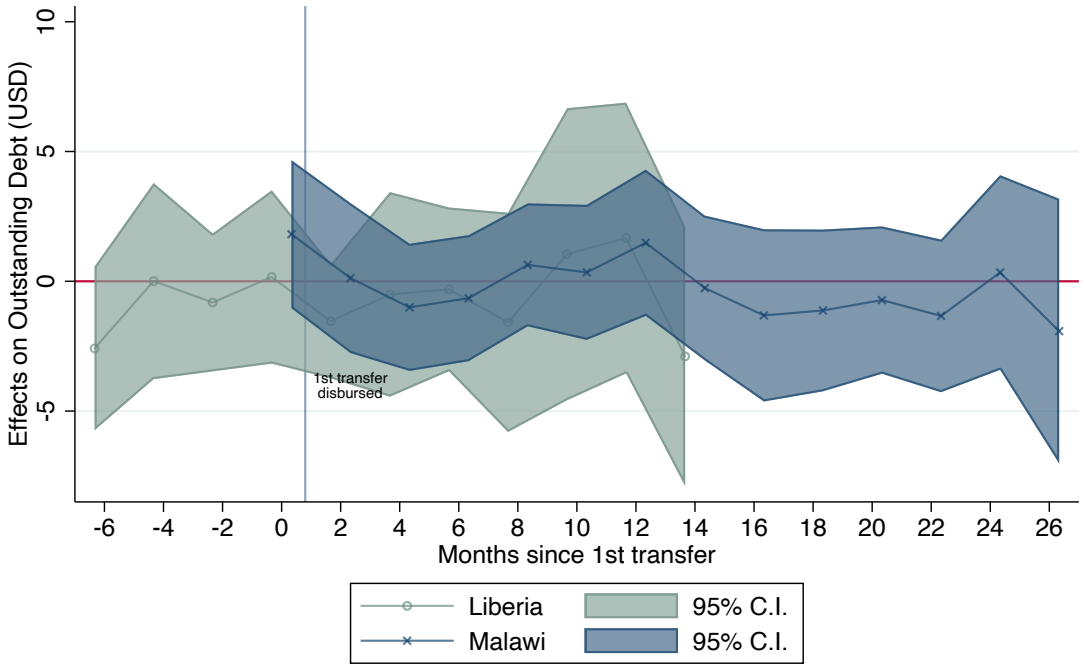
Note: Data comes from phone surveys, and transfers are measured ovr the past month. Regressions include baseline measurement of outcome and strata fixed effects. Standard errors clustered at village level. First transfer for each treatment household was made across July-October 2019 for Malawi and March-September 2020 for Liberia (Wave 2). Sample includes 596 households in Malawi and 358 in Liberia (Wave 2).

Figure A5: Savings and Debt

(a) Savings Balance

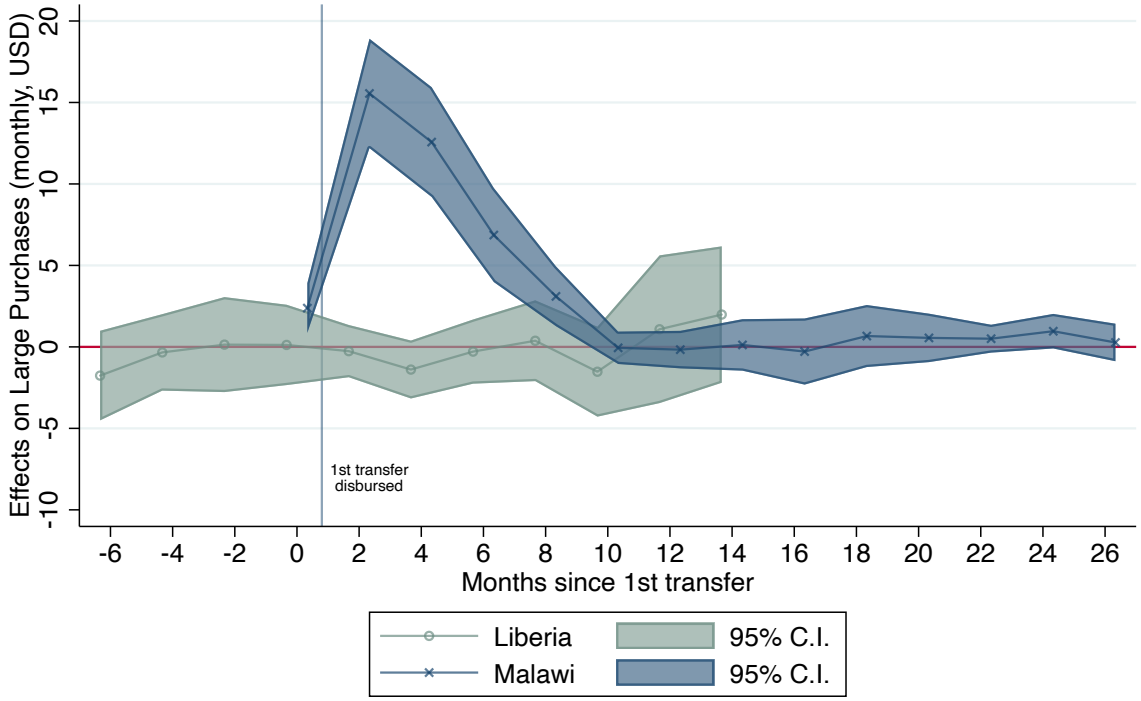


(b) Debt Amount



Note: Regressions include baseline measurement of outcome and strata fixed effects. Standard errors clustered at village level. First transfer for each treatment household was made across July-October 2019 for Malawi and March-September 2020 for Liberia (Wave 2). Sample includes 596 households in Malawi and 358 in Liberia (Wave 2).

Figure A6: Large Purchases



Note: Regressions include baseline measurement of outcome and strata fixed effects. Standard errors clustered at village level. First transfer for each treatment household was made across July-October 2019 for Malawi and March-September 2020 for Liberia (Wave 2). Sample includes 596 households in Malawi and 358 in Liberia (Wave 2).

Table A1: Attrition in Endline Survey

	(1)	(2)	(3)	(4)
	=1 if completed endline survey		=1 if completed IPV survey at endline[a]	
	Liberia	Malawi	Liberia	Malawi
Cash	-0.00	0.01	0.02	0.04*
	(0.01)	(0.01)	(0.02)	(0.02)
Control mean	0.96	0.94	0.69	0.66
Overall mean	0.96	0.95	0.70	0.68
Observations	2,715	2,944	2,595	2,784

Note: Regressions include strata fixed effects. Standard errors clustered at village level in parentheses.
[a] Sample restricted to female respondents.

Table A2: Attrition in Phone Surveys

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
	=1 if completed survey in following survey round													=1 if	% of
	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	11th	12th	13th	$\geq$ 1R	rounds
Panel A. Malawi															
Cash	0.01	-0.03	-0.03	0.01	-0.03	-0.02	-0.04*	-0.03	-0.02	0.04	-0.00	-0.00	-0.00		-0.01
	(0.01)	(0.02)	(0.03)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)		(0.02)
Control mean	0.97	0.95	0.87	0.91	0.93	0.95	0.96	0.94	0.89	0.84	0.86	0.80	0.62	1.00	0.88
Overall mean	0.97	0.94	0.85	0.91	0.92	0.93	0.94	0.93	0.87	0.86	0.86	0.80	0.61	1.00	0.88
Observations	596	596	596	596	596	596	596	596	596	596	596	596	596	596	596
Panel B. Liberia (Wave 2)															
Cash	-0.01	-0.01	-0.03	-0.05	-0.04	0.02	-0.03	-0.07	0.02					-0.06*	-0.02
	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)					(0.04)	(0.04)
Control mean	0.75	0.68	0.70	0.71	0.64	0.60	0.55	0.48	0.45					0.90	0.62
Overall mean	0.74	0.68	0.69	0.69	0.62	0.62	0.54	0.44	0.46					0.87	0.61
Observations	416	416	416	416	416	416	416	416	416					416	416

Note: Each survey round is two months, where half of the sample is called in the even month and the other in the odd month. Regressions include strata fixed effects. Standard errors clustered at village level in parentheses.

Table A3: Pooled treatment effects (phone surveys)

	(1) Food Security[a] (past year)	(2) Food Expend (past month)	(3) Non-food Expend (past month)	(4) Non-ag Income[b] (past month)	(5) Transfers Sent (past month)	(6) Transfers Received (past month)	(7) Savings Balance	(8) Outstanding Loan
Panel A. Liberia								
Pooled cash treatment:								
Cash	0.17***	0.59	7.33***	-0.05	0.57**	0.16	0.45	-0.00
	(0.05)	(0.95)	(2.66)	(0.80)	(0.28)	(0.47)	(0.63)	(0.74)
Individual treatments by cash amount:								
Cash 250	0.04	-0.52	0.71	-0.48	-0.09	-0.58	-0.70	-0.49
	(0.07)	(1.46)	(3.83)	(1.03)	(0.32)	(0.59)	(0.73)	(0.91)
Cash 500	0.29***	1.24	8.35**	1.62	0.72*	0.43	1.68*	0.04
	(0.08)	(1.19)	(3.51)	(1.08)	(0.43)	(0.71)	(0.97)	(1.12)
Cash 750	0.18**	0.96	12.66***	-1.52	1.05**	0.59	0.17	0.43
	(0.07)	(1.49)	(4.16)	(1.13)	(0.47)	(0.62)	(0.87)	(1.04)
Control mean	0.28	21.76	33.46	8.74	2.54	4.64	4.14	4.50
Control SD	0.87	16.99	37.62	14.19	5.35	8.53	13.82	15.61
No. of respondents	497	497	497	497	497	497	497	497
Observations	2,925	2,925	2,925	2,925	2,925	2,925	2,925	2,925
Panel B. Malawi								
Pooled cash treatment:								
Cash	0.23***	2.98***	9.86***	0.27	0.19**	-0.03	2.15***	-0.91
	(0.04)	(0.70)	(1.54)	(0.65)	(0.08)	(0.20)	(0.82)	(0.86)
Individual treatments by cash amount:								
Cash 250	0.15***	2.59**	8.03***	1.42	0.09	-0.08	1.36	0.28
	(0.05)	(1.05)	(2.31)	(1.05)	(0.11)	(0.22)	(1.36)	(1.35)
Cash 500	0.26***	1.76*	8.94***	-1.00	0.06	0.10	1.87*	-1.63
	(0.07)	(0.92)	(2.37)	(0.76)	(0.10)	(0.36)	(1.01)	(1.16)
Cash 750	0.28***	4.65***	12.72***	0.38	0.42***	-0.10	3.26***	-1.39
	(0.06)	(0.95)	(2.02)	(0.96)	(0.14)	(0.22)	(1.25)	(1.11)
Control mean	0.07	15.15	26.35	9.39	0.51	1.13	7.04	10.23
Control SD	0.91	13.69	32.45	12.99	1.87	4.34	13.71	18.98
No. of respondents	596	596	596	596	596	596	596	596
Observations	6,781	6,784	6,784	6,784	6,784	6,784	6,784	6,784
Panel C. Pooled								
Pooled cash treatment:								
Cash	0.21***	2.25***	9.15***	0.17	0.30***	0.03	1.55**	-0.63
	(0.03)	(0.57)	(1.34)	(0.51)	(0.10)	(0.20)	(0.63)	(0.64)
Individual treatments by cash amount								
Cash 250	0.12***	1.51*	5.57***	0.88	0.04	-0.23	0.95	0.11
	(0.04)	(0.87)	(2.00)	(0.81)	(0.12)	(0.23)	(1.01)	(1.00)
Cash 500	0.28***	1.62**	9.07***	-0.17	0.27*	0.23	1.51*	-1.14
	(0.05)	(0.74)	(1.97)	(0.64)	(0.15)	(0.34)	(0.85)	(0.88)
Cash 750	0.25***	3.69***	12.94***	-0.19	0.60***	0.09	2.22**	-0.84
	(0.05)	(0.81)	(1.89)	(0.76)	(0.17)	(0.24)	(0.96)	(0.85)
Control mean	0.14	17.18	28.54	9.19	1.13	2.21	6.15	8.46
Control SD	0.90	15.10	34.28	13.38	3.48	6.17	13.80	18.20
No. of respondents	1,093	1,093	1,093	1,093	1,093	1,093	1,093	1,093
Observations	9,706	9,709	9,709	9,709	9,709	9,709	9,709	9,709

Note: Regressions include baseline measurement, strata fixed effects, and indicator for market access treatment. Monetary outcomes are in USD and Winsorized at the 99th percentile. Standard errors clustered at the village level in parentheses. ***, **, and * represent significance at 1%, 5%, and 10%, respectively.

Table A4: Effects of Cash Transfers on IPV, Psychological Well-Being, and Self-reported Resilience

	(1) Any IPV[a] (past year)	(2) Psychological Well-being (past 2 weeks)	(3) Resilience (past year)
Panel A. Liberia			
Pooled cash treatment:			
Cash	-0.08***	0.34***	0.09**
	(0.03)	(0.04)	(0.04)
Individual treatments by cash amount:			
Cash 250	-0.05	0.28***	0.14***
	(0.04)	(0.06)	(0.05)
Cash 500	-0.10***	0.36***	0.07
	(0.04)	(0.06)	(0.05)
Cash 750	-0.08**	0.37***	0.06
	(0.04)	(0.05)	(0.06)
Control mean	0.38	-0.00	0.00
Control SD	0.49	1.00	1.00
p-value (all three equal)	0.560	0.402	0.403
Observations	1,229	2,595	2,595
Panel B. Malawi			
Pooled cash treatment:			
Cash	0.01	0.10**	0.12***
	(0.01)	(0.04)	(0.04)
Individual treatments by cash amount:			
Cash 250	0.01	0.04	0.10*
	(0.02)	(0.06)	(0.06)
Cash 500	0.01	0.11*	0.11**
	(0.02)	(0.06)	(0.05)
Cash 750	-0.01	0.16**	0.15***
	(0.02)	(0.06)	(0.04)
Control mean	0.18	0.00	0.00
Control SD	0.39	1.00	1.00
p-value (all three equal)	0.599	0.277	0.674
Observations	1,829	2,784	2,784
Panel C. Pooled			
Pooled cash treatment:			
Cash	-0.03**	0.21***	0.11***
	(0.01)	(0.03)	(0.03)
Individual treatments by cash amount			
Cash 250	-0.01	0.16***	0.12***
	(0.02)	(0.04)	(0.04)
Cash 500	-0.03*	0.23***	0.09**
	(0.02)	(0.04)	(0.04)
Cash 750	-0.03*	0.26***	0.10***
	(0.02)	(0.04)	(0.04)
Control mean	0.27	0.00	0.00
Control SD	0.44	1.00	1.00
p-value (all three equal)	0.575	0.117	0.848
Observations	3,058	5,379	5,379

Note: The endline was conducted about 18-22 months after first transfers were received in Liberia and 21-25 months in Malawi. Regressions include baseline measurement, strata fixed effects, and indicator for market access treatment. Monetary outcomes are in USD and Winsorized at the 99th percentile. Standard errors clustered at the village level in parentheses. ***, **, and * represent significance at 1%, 5%, and 10%, respectively.

[a] Includes only women and those for whom IPV was measured in face-to-face interviewing.

Table A5: Disaggregated treatment effects on livestock holdings

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Goats		Chickens		Pigs		Cattle		Total value of livestock (USD)
	Herd size	Value (USD)	Herd size	Value (USD)	Herd size	Value (USD)	Herd size	Value (USD)	
Panel A. Liberia									
Pooled cash treatment:									
Cash	0.07**	3.04*	0.48**	2.06**	0.00	-0.67			3.93
	(0.03)	(1.74)	(0.19)	(0.80)	(0.03)	(1.58)			(3.44)
Individual treatments by cash amount:									
Cash 250	0.05	2.45	0.57*	2.37**	-0.02	-1.15			3.65
	(0.05)	(2.71)	(0.29)	(1.13)	(0.04)	(2.10)			(4.43)
Cash 500	0.05	2.92	0.61**	2.43**	0.02	-0.24			3.70
	(0.05)	(2.65)	(0.26)	(1.16)	(0.04)	(1.99)			(4.79)
Cash 750	0.10**	3.74	0.26	1.37	-0.00	-0.62			4.44
	(0.05)	(2.41)	(0.28)	(1.18)	(0.05)	(2.25)			(5.05)
Control mean	0.20	9.73	3.15	10.92	0.16	8.06	0.00	0.00	38.11
Control SD	0.81	43.76	4.62	19.12	0.79	43.25	0.00	0.00	92.96
p-value (all three equal)	0.692	0.922	0.528	0.723	0.708	0.926			0.989
Observations	2,595	2,595	2,595	2,595	2,595	2,595	2,595	2,595	2,595
Panel B. Malawi									
Pooled cash treatment:									
Cash	0.22***	7.05***	0.48***	3.00***	0.00	0.17	-0.00	0.58	11.12**
	(0.05)	(1.82)	(0.17)	(0.97)	(0.02)	(0.99)	(0.01)	(2.04)	(4.68)
Individual treatments by cash amount:									
Cash 250	0.07	1.86	0.08	0.54	-0.03	-1.57	-0.01	-0.20	-2.17
	(0.07)	(2.22)	(0.19)	(1.10)	(0.02)	(1.24)	(0.01)	(2.39)	(5.52)
Cash 500	0.29***	9.36***	0.63***	3.96***	0.03	1.75	-0.00	0.19	18.52***
	(0.08)	(3.07)	(0.23)	(1.37)	(0.03)	(1.59)	(0.01)	(2.49)	(6.50)
Cash 750	0.30***	10.03***	0.73**	4.56***	-0.00	0.33	0.00	1.78	17.23**
	(0.08)	(2.87)	(0.30)	(1.73)	(0.02)	(1.50)	(0.01)	(3.25)	(7.64)
Control mean	0.57	17.68	2.45	10.36	0.09	4.50	0.03	6.64	48.59
Control SD	1.35	46.64	4.19	20.83	0.49	28.20	0.24	49.86	120.52
p-value (all three equal)	0.013	0.019	0.025	0.025	0.151	0.170	0.724	0.838	0.006
Observations	2,784	2,784	2,784	2,784	2,784	2,784	2,784	2,784	2,784
Panel C. Pooled									
Pooled cash treatment:									
Cash	0.14***	5.15***	0.48***	2.58***	0.01	0.01	-0.00	0.29	8.35***
	(0.03)	(1.29)	(0.13)	(0.63)	(0.02)	(0.96)	(0.00)	(1.05)	(2.99)
Individual treatments by cash amount									
Cash 250	0.06	2.31	0.32*	1.44*	-0.02	-1.11	-0.00	-0.11	1.37
	(0.04)	(1.71)	(0.17)	(0.80)	(0.02)	(1.24)	(0.01)	(1.25)	(3.58)
Cash 500	0.17***	6.31***	0.62***	3.22***	0.04	1.22	-0.00	0.09	12.41***
	(0.05)	(2.13)	(0.17)	(0.91)	(0.03)	(1.35)	(0.01)	(1.29)	(4.23)
Cash 750	0.20***	6.88***	0.51**	3.08***	0.00	-0.07	0.00	0.92	11.32**
	(0.05)	(1.96)	(0.21)	(1.07)	(0.03)	(1.37)	(0.01)	(1.67)	(4.75)
Control mean	0.39	13.82	2.79	10.63	0.12	6.22	0.02	3.42	43.51
Control SD	1.14	45.43	4.42	20.01	0.66	36.33	0.18	35.92	108.13
p-value (all three equal)	0.022	0.102	0.352	0.179	0.182	0.322	0.728	0.837	0.032
Observations	5,379	5,379	5,379	5,379	5,379	5,379	5,379	5,379	5,379

Note: Regressions include baseline measurement, strata fixed effects, and indicator for market access treatment. Standard errors clustered at the village level in parentheses. Monetary outcomes are in USD and Winsorized at the 99th percentile. ***, **, and * represent significance at 1%, 5%, and 10%, respectively.

Table A6: Crop Choice

	(1) =1 if planted or harvested staple crop	(2) Number of crops planted/harvested in the following: Non-staple cereals[b]	(3) Legumes[c]	(4) Fruit/ Vegetables[d]	(5) Other crops[e]	(6) All crops pooled
Panel A. Liberia						
Pooled cash treatment:						
Cash	0.04*	0.05*	0.02*	0.06	0.02*	0.20**
	(0.02)	(0.03)	(0.01)	(0.05)	(0.01)	(0.08)
Individual treatments by cash amount:						
Cash 250	0.04	0.02	0.03**	-0.05	0.04*	0.08
	(0.03)	(0.04)	(0.01)	(0.08)	(0.02)	(0.12)
Cash 500	0.05*	0.02	0.01	0.21***	0.02	0.31***
	(0.03)	(0.03)	(0.01)	(0.08)	(0.02)	(0.11)
Cash 750	0.04	0.11***	0.01	0.04	0.02	0.21*
	(0.03)	(0.04)	(0.01)	(0.07)	(0.02)	(0.11)
Control mean	0.55	0.47	0.03	0.71	0.05	1.83
Control SD	0.50	0.60	0.18	1.15	0.22	1.69
p-value (all three equal)	0.966	0.124	0.197	0.031	0.614	0.250
Observations	2,595	2,595	2,595	2,595	2,595	2,595
Panel B. Malawi						
Pooled cash treatment:						
Cash	0.01**	0.02	0.07**	0.01	0.00	0.11***
	(0.01)	(0.02)	(0.03)	(0.01)	(0.00)	(0.04)
Individual treatments by cash amount:						
Cash 250	0.01	-0.04	0.10*	0.02	-0.00	0.09
	(0.01)	(0.03)	(0.05)	(0.01)	(0.00)	(0.06)
Cash 500	0.01*	0.02	0.02	-0.00	0.01	0.06
	(0.01)	(0.03)	(0.05)	(0.01)	(0.01)	(0.06)
Cash 750	0.02***	0.07**	0.08*	0.00	0.00	0.18***
	(0.01)	(0.03)	(0.04)	(0.01)	(0.00)	(0.06)
Control mean	0.97	0.37	0.86	0.03	0.00	2.23
Control SD	0.18	0.56	0.78	0.19	0.04	1.02
p-value (all three equal)	0.439	0.032	0.367	0.368	0.310	0.273
Observations	2,784	2,784	2,784	2,784	2,784	2,784
Panel C. Pooled						
Pooled cash treatment:						
Cash	0.03***	0.03*	0.04**	0.03	0.01**	0.15***
	(0.01)	(0.02)	(0.02)	(0.03)	(0.01)	(0.04)
Individual treatments by cash amount						
Cash 250	0.03	-0.01	0.06**	-0.02	0.02*	0.08
	(0.02)	(0.03)	(0.03)	(0.04)	(0.01)	(0.07)
Cash 500	0.03**	0.02	0.01	0.10**	0.01	0.18***
	(0.01)	(0.02)	(0.03)	(0.04)	(0.01)	(0.06)
Cash 750	0.03**	0.09***	0.05*	0.02	0.01	0.20***
	(0.01)	(0.03)	(0.02)	(0.04)	(0.01)	(0.06)
Control mean	0.77	0.42	0.46	0.36	0.02	2.03
Control SD	0.42	0.58	0.71	0.88	0.16	1.40
p-value (all three equal)	0.926	0.010	0.254	0.061	0.741	0.350
Observations	5,379	5,379	5,379	5,379	5,379	5,379

Note: The endline was conducted about 18-22 months after first transfers were received in Liberia and 21-25 months in Malawi. Regressions include baseline measurement, strata fixed effects, and indicator for market access treatment. Standard errors clustered at the village level in parentheses. ***, **, and * represent significance at 1%, 5%, and 10%, respectively.

[a] Rice in Liberia; maize in Malawi.

[b] Cassava, corn/maize in Liberia; rice, cassava in Malawi.

Table A7: Agricultural Output

	(1)	(2)	(3)	(4)
	Staple crop:[a]			
	Amount harvested (kg)	Value of harvest (USD)	Total value of non-staple crops harvested (USD)	Total value of all crops harvested (USD)
Panel A. Liberia				
Pooled cash treatment:				
Cash	118.69***	78.15***	5.46	83.86***
	(35.32)	(23.25)	(15.71)	(28.63)
Individual treatments by cash amount:				
Cash 250	156.87***	103.28***	4.34	107.49**
	(60.32)	(39.72)	(21.56)	(48.20)
Cash 500	77.87	51.27	14.78	65.50
	(50.14)	(33.01)	(22.30)	(39.93)
Cash 750	121.50**	80.00**	-2.83	78.63*
	(50.69)	(33.37)	(24.02)	(41.76)
Control mean	249.03	163.96	102.05	266.01
Control SD	667.74	439.64	358.03	590.66
p-value (all three equal)	0.544	0.544	0.829	0.766
Observations	2,595	2,595	2,595	2,595
Panel B. Malawi				
Pooled cash treatment:				
Cash	41.45***	11.85***	13.03**	24.69***
	(15.34)	(4.39)	(6.40)	(8.73)
Individual treatments by cash amount:				
Cash 250	38.05*	10.88*	18.70**	29.68**
	(20.11)	(5.75)	(9.03)	(12.03)
Cash 500	25.04	7.16	2.32	9.56
	(20.39)	(5.83)	(7.96)	(11.82)
Cash 750	62.05**	17.74**	18.28*	35.28**
	(24.04)	(6.87)	(10.79)	(14.04)
Control mean	219.54	62.76	48.47	111.23
Control SD	325.07	92.93	122.64	172.81
p-value (all three equal)	0.401	0.401	0.213	0.220
Observations	2,784	2,784	2,784	2,784
Panel C. Pooled				
Pooled cash treatment:				
Cash	78.90***	44.02***	9.26	53.97***
	(19.06)	(11.63)	(8.31)	(14.71)
Individual treatments by cash amount				
Cash 250	94.41***	55.13***	11.84	66.45***
	(31.15)	(19.52)	(11.32)	(24.17)
Cash 500	51.30*	28.93*	8.06	36.75*
	(26.77)	(16.28)	(11.53)	(20.41)
Cash 750	91.30***	48.12***	7.84	58.85***
	(27.44)	(16.63)	(12.97)	(21.45)
Control mean	233.86	111.89	74.48	186.37
Control SD	520.51	317.47	265.81	436.62
p-value (all three equal)	0.400	0.479	0.952	0.541
Observations	5,379	5,379	5,379	5,379

Note: Sample restricted to households engaged in harvesting or planting at least one crop in the past season. The endline was conducted about 18-22 months after first transfers were received in Liberia and 21-25 months in Malawi. Regressions include baseline measurement, strata fixed effects, and indicator for market access treatment. Standard errors clustered at the village level in parentheses. ***, **, and * represent significance at 1%, 5%, and 10%, respectively.

[a] Staple crop is rice in Liberia and maize in Malawi.

Table A8: Self-reported transfer size, withdrawal, and transaction costs

	(1) =1 if received any $50+ transfers	(2) Total received amount (USD)	(3) Total cashout amount (USD)	(4) Total transport cost (USD)	(5) Total withdrawal fee (USD)
Pooled cash treatment:					
Cash	0.66***	295.80***	273.61***	3.82***	10.25***
	(0.02)	(15.06)	(14.13)	(0.30)	(0.59)
Individual treatments by cash amount:					
Cash 250	0.63***	139.40***	127.26***	1.59***	5.03***
	(0.03)	(8.13)	(7.73)	(0.15)	(0.34)
Cash 500	0.65***	289.71***	269.55***	3.85***	9.31***
	(0.03)	(14.24)	(13.57)	(0.34)	(0.59)
Cash 750	0.69***	464.83***	430.06***	6.11***	16.66***
	(0.03)	(24.55)	(22.84)	(0.65)	(1.06)
Control mean	0.02	1.31	1.00	0.00	0.04
Control SD	0.13	12.51	11.52	0.09	1.17
p-value (all three equal)	0.348	0.000	0.000	0.000	0.000
Observations	2,784	2,784	2,784	2,784	2,784

Note: Regressions include strata fixed effects, and indicator for market access treatment. Standard errors clustered at the village level in parentheses. Winsorized at the 99th percentile. Monetary values in USD.

Table A9: Self-reported usage of cash transfers

	(1) Aggregate cash amount specified for following reason	(2)
	Mean	SD
Food	32.79	37.39
Nondurables	11.58	46.95
Clothes	9.77	20.27
Education	6.41	21.15
Home repair/construction	106.03	102.70
Contributions	0.38	4.97
Health preventatives	4.67	19.86
Durables	20.26	53.25
Farming inputs	24.05	58.31
Total	215.95	145.34
Observations	968	

Note: Data is available for Malawi only. Observations restricted to households who reported any large cash transfers in 2019-2021.

Table A10: Transfers and Labor Demand

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Transfers		Hiring casual laborers for:					
			Own farm			Self-owned business		
	Sent (USD)	Received (USD)	=1 if any	hours	payments (USD)	=1 if any	hours	payments (USD)
Panel A. Liberia								
Pooled cash treatment:								
Cash	-0.45	-0.34	0.03**	0.88	0.25	0.03	0.08	0.05
	(0.38)	(0.47)	(0.01)	(0.76)	(0.33)	(0.02)	(0.21)	(0.15)
Individual treatments by cash amount:								
Cash 250	-0.93**	-0.57	0.00	0.80	0.27	0.04	0.46	0.32
	(0.45)	(0.55)	(0.02)	(1.47)	(0.65)	(0.04)	(0.53)	(0.29)
Cash 500	-0.23	-0.40	0.06***	0.92	0.25	0.02	-0.12	-0.08
	(0.47)	(0.58)	(0.02)	(0.78)	(0.35)	(0.03)	(0.14)	(0.14)
Cash 750	-0.20	-0.05	0.02	0.94	0.24	0.03	-0.11	-0.09
	(0.47)	(0.67)	(0.02)	(0.98)	(0.35)	(0.03)	(0.15)	(0.14)
Control mean	2.00	2.63	0.08	2.87	1.15	0.03	0.18	0.16
Control SD	11.29	14.26	0.26	16.63	7.63	0.18	4.27	4.73
p-value (all three equal)	0.174	0.739	0.034	0.996	0.998	0.925	0.498	0.311
Observations	2,595	2,595	2,595	2,595	2,595	383	2,595	2,595
Panel B. Malawi								
Pooled cash treatment:								
Cash	0.01	0.17	0.01	-0.13	0.24	-0.00	0.53	0.10
	(0.06)	(0.19)	(0.01)	(0.36)	(0.19)	(0.01)	(0.42)	(0.08)
Individual treatments by cash amount:								
Cash 250	0.03	0.06	-0.00	-0.64**	-0.01	0.00	0.37	0.08
	(0.08)	(0.26)	(0.01)	(0.32)	(0.21)	(0.01)	(0.38)	(0.08)
Cash 500	-0.08	0.10	0.00	0.14	0.31	-0.01	-0.02	-0.01
	(0.07)	(0.27)	(0.01)	(0.60)	(0.33)	(0.01)	(0.10)	(0.02)
Cash 750	0.08	0.34	0.02	0.12	0.42	0.00	1.29	0.25
	(0.09)	(0.28)	(0.01)	(0.46)	(0.30)	(0.02)	(1.22)	(0.22)
Control mean	0.42	1.01	0.04	1.03	0.46	0.01	0.01	0.00
Control SD	1.84	4.31	0.19	10.00	3.46	0.12	0.20	0.14
p-value (all three equal)	0.124	0.682	0.396	0.066	0.364	0.296	0.352	0.306
Observations	2,784	2,784	2,784	2,784	2,784	411	2,784	2,784
Panel C. Pooled								
Pooled cash treatment:								
Cash	-0.23	-0.09	0.02**	0.36	0.24	0.01	0.31	0.08
	(0.19)	(0.25)	(0.01)	(0.42)	(0.19)	(0.01)	(0.24)	(0.08)
Individual treatments by cash amount								
Cash 250	-0.44*	-0.25	0.00	0.06	0.12	0.02	0.41	0.19
	(0.22)	(0.29)	(0.01)	(0.73)	(0.33)	(0.02)	(0.32)	(0.14)
Cash 500	-0.17	-0.15	0.03**	0.51	0.27	0.00	-0.07	-0.04
	(0.23)	(0.31)	(0.01)	(0.49)	(0.24)	(0.02)	(0.08)	(0.07)
Cash 750	-0.06	0.15	0.02*	0.53	0.33	0.02	0.61	0.08
	(0.23)	(0.36)	(0.01)	(0.54)	(0.23)	(0.02)	(0.64)	(0.13)
Control mean	1.19	1.80	0.06	1.93	0.79	0.02	0.09	0.08
Control SD	8.01	10.44	0.23	13.66	5.88	0.15	2.98	3.30
p-value (all three equal)	0.210	0.556	0.073	0.816	0.844	0.781	0.186	0.139
Observations	5,379	5,379	5,379	5,379	5,379	794	5,379	5,379

Note: Regressions include strata fixed effects, and indicator for market access treatment. Standard errors clustered at the village level in parentheses. Winsorized at the 99th percentile. Monetary values in USD.

Appendix B. Effects on Secondary Outcomes (Endline)

Table B1: Labor Supply

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	For female and/or male household heads (past month):							
	Own farm		Casual labor		Own business		Other job	
	=1 if any	Number of hours	=1 if any	Number of hours	=1 if any	Number of hours	=1 if any	Number of hours
Panel A. Liberia								
Pooled cash treatment:								
Cash	-0.02	-2.29	-0.10***	-6.38***	0.02	-0.47	0.02	1.05*
	(0.02)	(3.05)	(0.02)	(1.56)	(0.02)	(1.56)	(0.01)	(0.62)
Individual treatments by cash amount:								
Cash 250	-0.02	-5.02	-0.10***	-5.08**	0.01	-0.43	0.01	0.76
	(0.03)	(3.84)	(0.03)	(2.22)	(0.02)	(2.06)	(0.01)	(0.88)
Cash 500	0.01	-3.14	-0.10***	-7.12***	0.02	-1.00	0.02	1.68*
	(0.03)	(3.51)	(0.02)	(1.82)	(0.02)	(2.05)	(0.01)	(1.00)
Cash 750	-0.05*	1.30	-0.10***	-6.93***	0.03	0.01	0.01	0.71
	(0.03)	(4.67)	(0.02)	(1.79)	(0.02)	(2.03)	(0.02)	(0.93)
Control mean	0.69	43.50	0.32	16.98	0.14	9.09	0.06	1.98
Control SD	0.46	70.13	0.47	39.93	0.35	38.66	0.24	14.84
p-value (all three equal)	0.208	0.446	0.993	0.624	0.786	0.905	0.795	0.688
Observations	2,595	2,595	2,595	2,595	2,595	2,595	2,595	2,595
Panel B. Malawi								
Pooled cash treatment:								
Cash	0.02	0.80	-0.04*	-1.38	-0.02	-0.34	0.01	-0.17
	(0.02)	(0.75)	(0.02)	(1.90)	(0.02)	(1.16)	(0.01)	(1.01)
Individual treatments by cash amount:								
Cash 250	0.00	-0.73	-0.01	0.27	-0.01	1.05	0.03*	0.96
	(0.03)	(0.87)	(0.03)	(2.57)	(0.02)	(1.79)	(0.01)	(1.36)
Cash 500	0.03	1.72	-0.07***	-2.10	-0.03	-0.82	0.01	-0.36
	(0.03)	(1.18)	(0.02)	(2.52)	(0.02)	(1.47)	(0.01)	(1.49)
Cash 750	0.04	1.42	-0.03	-2.34	-0.01	-1.28	-0.01	-1.14
	(0.03)	(1.19)	(0.03)	(2.63)	(0.02)	(1.48)	(0.01)	(1.21)
Control mean	0.59	9.85	0.43	21.90	0.22	6.21	0.06	3.69
Control SD	0.49	19.48	0.49	47.52	0.42	29.29	0.25	25.84
p-value (all three equal)	0.551	0.089	0.207	0.636	0.657	0.479	0.120	0.359
Observations	2,784	2,784	2,784	2,784	2,784	2,784	2,784	2,784
Panel C. Pooled								
Pooled cash treatment:								
Cash	0.00	-0.71	-0.07***	-3.72***	-0.00	-0.40	0.01	0.42
	(0.01)	(1.53)	(0.01)	(1.24)	(0.01)	(0.96)	(0.01)	(0.60)
Individual treatments by cash amount								
Cash 250	-0.01	-2.80	-0.06***	-2.22	-0.00	0.35	0.02**	0.88
	(0.02)	(1.90)	(0.02)	(1.73)	(0.01)	(1.36)	(0.01)	(0.82)
Cash 500	0.02	-0.64	-0.08***	-4.49***	-0.01	-0.91	0.01	0.63
	(0.02)	(1.81)	(0.02)	(1.58)	(0.02)	(1.24)	(0.01)	(0.91)
Cash 750	-0.01	1.34	-0.07***	-4.47***	0.01	-0.65	-0.00	-0.25
	(0.02)	(2.34)	(0.02)	(1.61)	(0.02)	(1.25)	(0.01)	(0.77)
Control mean	0.64	26.18	0.37	19.51	0.18	7.61	0.06	2.86
Control SD	0.48	53.52	0.48	44.06	0.39	34.19	0.25	21.24
p-value (all three equal)	0.423	0.228	0.396	0.407	0.771	0.686	0.260	0.462
Observations	5,379	5,379	5,379	5,379	5,379	5,379	5,379	5,379

Note: Regressions include baseline measurement, strata fixed effects, and indicator for market access treatment. Standard errors clustered at the village level in parentheses. Nonbinary outcomes are Winsorized at the 99th percentile.

Table B2: Education

	(1) Proportion of children enrolled	(2) Education expenditure (past 6 months)	(3) Missed school days (past year) for any reason	(4) Missed school days (past year) due to lack of money	(5) Proportion of school days attended (past week)
Panel A. Liberia					
Pooled cash treatment:					
Cash	0.10***	8.92***	-3.59*	-1.43**	0.07**
	(0.02)	(2.36)	(1.94)	(0.60)	(0.03)
Individual treatments by cash amount:					
Cash 250	0.05	7.66*	-6.22***	-2.17***	0.07*
	(0.03)	(3.89)	(2.22)	(0.67)	(0.04)
Cash 500	0.11***	11.57***	-1.94	-1.18	0.07**
	(0.03)	(3.49)	(2.48)	(0.75)	(0.04)
Cash 750	0.13***	7.38**	-2.83	-0.99	0.06*
	(0.03)	(3.22)	(2.89)	(0.93)	(0.03)
Control mean	0.52	24.71	12.24	3.43	0.89
Control SD	0.45	48.16	43.64	14.12	0.28
p-value (all three equal)	0.104	0.578	0.192	0.272	0.933
Observations	1,871	1,871	1,876	1,876	245
Panel B. Malawi					
Pooled cash treatment:					
Cash	-0.01	-0.41	-0.76	-0.30*	0.01
	(0.01)	(0.93)	(0.57)	(0.16)	(0.01)
Individual treatments by cash amount:					
Cash 250	-0.02	-0.36	-0.38	-0.06	0.03**
	(0.01)	(1.54)	(0.90)	(0.23)	(0.01)
Cash 500	-0.01	-1.35	-1.15	-0.43**	-0.01
	(0.01)	(1.03)	(0.74)	(0.17)	(0.02)
Cash 750	-0.01	0.48	-0.75	-0.40**	0.02
	(0.01)	(1.21)	(0.75)	(0.17)	(0.01)
Control mean	0.93	10.78	7.28	0.99	0.91
Control SD	0.20	22.66	13.11	4.14	0.22
p-value (all three equal)	0.819	0.342	0.740	0.234	0.069
Observations	2,158	2,158	2,158	2,158	1,757
Panel C. Pooled					
Pooled cash treatment:					
Cash	0.04***	3.93***	-2.09**	-0.82***	0.02*
	(0.01)	(1.23)	(0.96)	(0.29)	(0.01)
Individual treatments by cash amount					
Cash 250	0.01	3.25	-3.04***	-1.02***	0.03***
	(0.02)	(1.98)	(1.15)	(0.34)	(0.01)
Cash 500	0.05***	4.78***	-1.54	-0.79**	-0.00
	(0.02)	(1.77)	(1.22)	(0.36)	(0.01)
Cash 750	0.06***	3.74**	-1.73	-0.67	0.02*
	(0.02)	(1.64)	(1.41)	(0.45)	(0.01)
Control mean	0.74	17.33	9.61	2.14	0.90
Control SD	0.40	37.55	31.50	10.21	0.23
p-value (all three equal)	0.094	0.801	0.454	0.689	0.110
Observations	4,029	4,029	4,034	4,034	2,002

Note: Sample restricted to households with any school-aged children (age 6-18). Regressions include baseline measurement, strata fixed effects, and indicator for market access treatment. Standard errors clustered at the village level in parentheses. Nonbinary outcomes are Winsorized at the 99th percentile.

Table B3: Health Investment

	(1)	(2)	(3)	(4)
	Proportion of household members:			Average proportion of under-5 children with recommended vaccinations[b]
	sought preventative care (past 3 months)	slept under bednet (yesterday)	with any vaccinations (under 18)[a]	
Panel A. Liberia				
Pooled cash treatment:				
Cash	0.00	0.05***	0.01	-0.01
	(0.00)	(0.02)	(0.01)	(0.02)
Individual treatments by cash amount:				
Cash 250	0.01*	0.04	0.01	-0.03
	(0.01)	(0.02)	(0.01)	(0.03)
Cash 500	0.00	0.05**	0.02	-0.00
	(0.00)	(0.02)	(0.02)	(0.03)
Cash 750	-0.00	0.06***	-0.01	0.02
	(0.00)	(0.02)	(0.01)	(0.03)
Control mean	0.03	0.72	0.12	0.79
Control SD	0.08	0.42	0.24	0.28
p-value (all three equal)	0.203	0.575	0.255	0.336
Observations	2,595	2,595	2,228	643
Panel B. Malawi				
Pooled cash treatment:				
Cash	-0.01	0.00	-0.00	-0.01
	(0.00)	(0.02)	(0.01)	(0.01)
Individual treatments by cash amount:				
Cash 250	0.00	-0.03	-0.00	-0.02
	(0.01)	(0.02)	(0.01)	(0.02)
Cash 500	-0.01***	0.02	-0.02	0.01
	(0.01)	(0.02)	(0.01)	(0.01)
Cash 750	-0.00	0.01	0.01	-0.01
	(0.01)	(0.03)	(0.01)	(0.02)
Control mean	0.05	0.71	0.18	0.91
Control SD	0.12	0.40	0.28	0.18
p-value (all three equal)	0.050	0.179	0.147	0.140
Observations	2,784	2,784	2,516	966
Panel C. Pooled				
Pooled cash treatment:				
Cash	-0.00	0.02**	0.00	-0.01
	(0.00)	(0.01)	(0.01)	(0.01)
Individual treatments by cash amount				
Cash 250	0.01	0.00	0.00	-0.03
	(0.00)	(0.02)	(0.01)	(0.02)
Cash 500	-0.01	0.04**	-0.00	0.01
	(0.00)	(0.02)	(0.01)	(0.01)
Cash 750	-0.00	0.03**	0.00	0.00
	(0.00)	(0.02)	(0.01)	(0.02)
Control mean	0.04	0.71	0.15	0.86
Control SD	0.11	0.41	0.27	0.23
p-value (all three equal)	0.059	0.131	0.925	0.187
Observations	5,379	5,379	4,744	1,609

Note: Regressions include baseline measurement, strata fixed effects, and indicator for market access treatment. Standard errors clustered at the village level in parentheses.

[a] Sample restricted to households with any member under 18.

[b] Sample restricted to households with any child under 5.

Table B4: Health Resilience

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
		If any HH member sick in the past month:					
	Number of illnesses per member (past month)	Proportion of sick members			Number of missed		Expenses on treatment
		treated at all	delayed treatment	not fully treat	work days	school days	
Panel A. Liberia							
Pooled cash treatment:							
Cash	-0.01		-0.02	-0.01	4.02*	0.12	7.52**
	(0.01)		(0.02)	(0.02)	(2.43)	(0.14)	(2.98)
Individual treatments by cash amount:							
Cash 250	-0.01		0.00	-0.01	5.25*	0.13	10.00*
	(0.01)		(0.03)	(0.03)	(3.18)	(0.24)	(5.41)
Cash 500	0.01		-0.02	-0.02	3.88	0.36	6.37
	(0.01)		(0.03)	(0.02)	(4.09)	(0.24)	(4.56)
Cash 750	-0.02*		-0.05*	-0.01	2.78	-0.19	6.16
	(0.01)		(0.03)	(0.03)	(3.11)	(0.13)	(4.08)
Control mean	0.10		0.10	0.91	11.85	0.29	14.73
Control SD	0.20		0.29	0.27	25.38	1.41	32.45
p-value (all three equal)	0.175		0.409	0.990	0.813	0.098	0.820
Observations	2,595		704	704	704	704	704
Panel B. Malawi							
Pooled cash treatment:							
Cash	-0.01	-0.00	-0.00	0.00	-5.64	0.27	0.09
	(0.01)	(0.02)	(0.00)	(0.01)	(5.75)	(0.62)	(0.20)
Individual treatments by cash amount:							
Cash 250	-0.00	0.01	-0.00	-0.00	-11.55*	-0.15	-0.14
	(0.02)	(0.02)	(0.01)	(0.01)	(6.55)	(0.79)	(0.29)
Cash 500	-0.01	-0.02	0.00	0.02*	-1.29	0.49	0.28
	(0.02)	(0.02)	(0.01)	(0.01)	(8.26)	(0.82)	(0.30)
Cash 750	-0.00	0.00	-0.01	-0.01	-3.87	0.48	0.13
	(0.01)	(0.02)	(0.01)	(0.01)	(7.92)	(0.98)	(0.26)
Control mean	0.22	0.87	0.01	0.96	28.55	6.61	1.81
Control SD	0.27	0.30	0.11	0.16	111.63	11.71	3.30
p-value (all three equal)	0.876	0.673	0.403	0.104	0.423	0.750	0.512
Observations	2,784	1,495	1,495	1,495	1,495	1,495	1,495
Panel C. Pooled							
Pooled cash treatment:							
Cash	-0.01	-0.00	-0.01	-0.00	-2.30	0.22	2.55**
	(0.01)	(0.02)	(0.01)	(0.01)	(4.00)	(0.43)	(1.00)
Individual treatments by cash amount							
Cash 250	-0.01	0.01	-0.00	-0.01	-6.50	-0.07	2.94*
	(0.01)	(0.02)	(0.01)	(0.01)	(4.71)	(0.55)	(1.72)
Cash 500	-0.00	-0.02	-0.00	0.01	0.89	0.46	2.46
	(0.01)	(0.02)	(0.01)	(0.01)	(5.74)	(0.55)	(1.57)
Cash 750	-0.01	0.00	-0.02*	-0.01	-1.31	0.28	2.23*
	(0.01)	(0.02)	(0.01)	(0.01)	(5.64)	(0.70)	(1.19)
Control mean	0.16	0.87	0.04	0.94	22.87	4.46	6.20
Control SD	0.25	0.30	0.19	0.21	92.20	10.00	20.06
p-value (all three equal)	0.684	0.673	0.344	0.394	0.437	0.710	0.934
Observations	5,379	1,495	2,199	2,199	2,199	2,199	2,199

Note: Regressions include baseline measurement, strata fixed effects, and indicator for market access treatment. Standard errors clustered at the village level in parentheses.

Table B5: Child Anthropometrics (Malawi only)

	(1) Height for age	(2) Weight for age	(3) MUAC for age
Pooled cash treatment:			
Cash	0.09	-0.00	0.02
	(0.09)	(0.06)	(0.06)
Individual treatments by cash amount:			
Cash 250	0.02	0.03	0.09
	(0.11)	(0.09)	(0.08)
Cash 500	0.09	-0.08	-0.09
	(0.15)	(0.07)	(0.08)
Cash 750	0.17	0.03	0.05
	(0.14)	(0.09)	(0.08)
Control mean	-1.63	-0.52	-0.30
Control SD	1.54	1.04	0.99
p-value (all three equal)	0.660	0.384	0.110
Observations	1,488	1,488	1,479

Note: Sample to restricted to children under 5. All measures are standardized z-scores using means and standard deviations from *WHO Child Growth Standards*. Regressions include strata fixed effects, and indicator for market access treatment. Standard errors clustered at the village level in parentheses. ***, **, and * represent significance at 1%, 5%, and 10%, respectively.

Table B6: Social Capital

	(1)	(2)	(3)	(4)
	During difficult times,[a]			
	=1 if your household could depend on:		=1 if the following could depend on your household:	
	relatives	non-relatives	relatives	non-relatives
Panel A. Liberia				
Pooled cash treatment:				
Cash	0.03	0.03	0.03	0.04
	(0.02)	(0.02)	(0.02)	(0.02)
Individual treatments by cash amount:				
Cash 250	0.01	0.03	0.01	0.04
	(0.03)	(0.03)	(0.03)	(0.03)
Cash 500	0.02	-0.00	0.03	0.01
	(0.03)	(0.03)	(0.03)	(0.03)
Cash 750	0.07**	0.05*	0.06*	0.06*
	(0.03)	(0.03)	(0.03)	(0.03)
Control mean	0.60	0.36	0.64	0.45
Control SD	0.49	0.48	0.48	0.50
p-value (all three equal)	0.185	0.362	0.498	0.432
Observations	2,594	2,590	2,592	2,588
Panel B. Malawi				
Pooled cash treatment:				
Cash	0.00	0.02	0.04*	0.01
	(0.02)	(0.02)	(0.02)	(0.02)
Individual treatments by cash amount:				
Cash 250	0.03	0.03	0.06**	0.02
	(0.03)	(0.03)	(0.03)	(0.02)
Cash 500	-0.03	0.01	0.02	0.02
	(0.03)	(0.03)	(0.03)	(0.03)
Cash 750	0.01	0.03	0.03	-0.02
	(0.03)	(0.02)	(0.03)	(0.03)
Control mean	0.52	0.28	0.58	0.36
Control SD	0.50	0.45	0.49	0.48
p-value (all three equal)	0.196	0.756	0.397	0.377
Observations	2,783	2,777	2,781	2,764
Panel C. Pooled				
Pooled cash treatment:				
Cash	0.02	0.02*	0.04**	0.02
	(0.01)	(0.01)	(0.01)	(0.02)
Individual treatments by cash amount				
Cash 250	0.02	0.03	0.04*	0.03
	(0.02)	(0.02)	(0.02)	(0.02)
Cash 500	-0.01	0.00	0.03	0.01
	(0.02)	(0.02)	(0.02)	(0.02)
Cash 750	0.04*	0.04**	0.04*	0.02
	(0.02)	(0.02)	(0.02)	(0.02)
Control mean	0.56	0.32	0.61	0.40
Control SD	0.50	0.47	0.49	0.49
p-value (all three equal)	0.208	0.293	0.837	0.799
Observations	5,377	5,367	5,373	5,352

Note: Regressions include baseline measurement, strata fixed effects, and indicator for market access treatment. Standard errors clustered at the village level in parentheses.

[a] Assistance includes financial or food support. Examples of difficult times include: loss of a family member, loss of income, hunger, drought, flood, conflict or similar events.

Table B7: Public Goods Contributions

	(1)	(2)	(3)
	For community service activities (past 12 months);[a]		
	Number of labor hours contributed	Cash contributions	Value of in-kind contributions
Panel A. Liberia			
Pooled cash treatment:			
Cash	1.25	0.02	0.03
	(1.09)	(0.02)	(0.03)
Individual treatments by cash amount:			
Cash 250	1.83	-0.01	0.00
	(1.69)	(0.02)	(0.04)
Cash 500	2.75	0.05*	0.06
	(1.78)	(0.03)	(0.04)
Cash 750	-0.84	0.03	0.03
	(1.17)	(0.03)	(0.04)
Control mean	6.59	0.10	0.14
Control SD	20.56	0.44	0.70
p-value (all three equal)	0.095	0.198	0.467
Observations	2,595	2,595	2,595
Panel B. Malawi			
Pooled cash treatment:			
Cash	0.19	0.00	-0.00
	(0.52)	(0.00)	(0.00)
Individual treatments by cash amount:			
Cash 250	0.30	-0.00	-0.00
	(0.68)	(0.00)	(0.00)
Cash 500	-0.18	0.00	-0.00
	(0.74)	(0.00)	(0.00)
Cash 750	0.45	0.00	-0.00
	(0.76)	(0.00)	(0.00)
Control mean	2.89	0.01	0.00
Control SD	12.67	0.07	0.03
p-value (all three equal)	0.770	0.156	0.756
Observations	2,784	2,784	2,784
Panel C. Pooled			
Pooled cash treatment:			
Cash	0.70	0.01	0.02
	(0.60)	(0.01)	(0.01)
Individual treatments by cash amount			
Cash 250	1.04	-0.00	0.00
	(0.89)	(0.01)	(0.02)
Cash 500	1.21	0.03*	0.03
	(0.95)	(0.01)	(0.02)
Cash 750	-0.16	0.01	0.02
	(0.70)	(0.02)	(0.02)
Control mean	4.68	0.05	0.07
Control SD	17.06	0.31	0.49
p-value (all three equal)	0.291	0.115	0.462
Observations	5,379	5,379	5,379

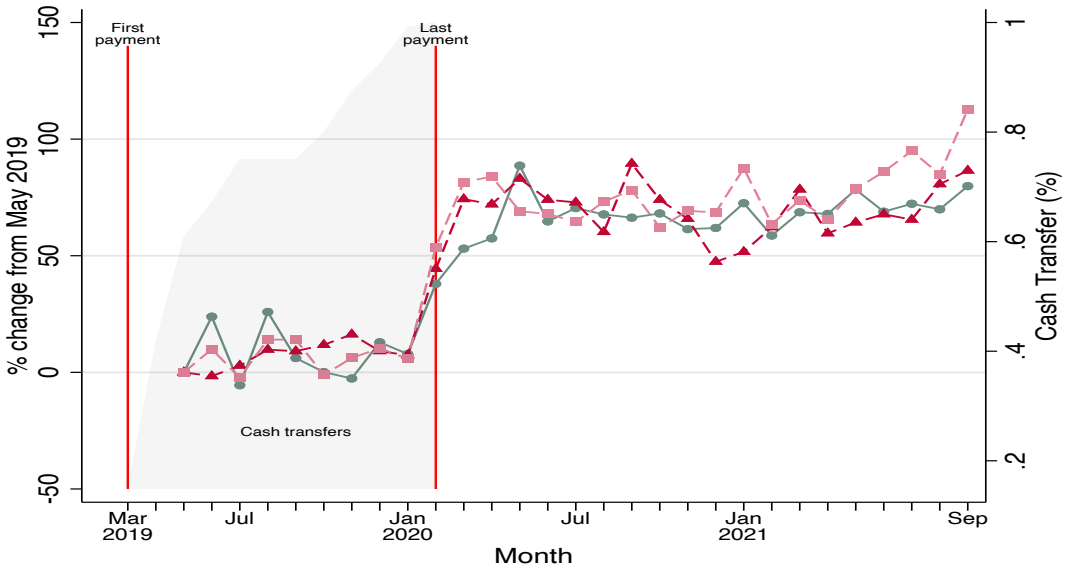
Note: Regressions include strata fixed effects, and indicator for market access treatment. Standard errors clustered at the village level in parentheses. Winsorized at the 99th percentile. Monetary values in USD.

[a] Cleaning/maintaining or repairing/building of: road/neighbourhood/bridge; schools; clean water/bathing, washing, sanitary facilities; irrigation canal/weir; house of worship/cemetery; village/neighbourhood facilities (meeting hall, office, gate, sports field); poor people dwellings; health facility.

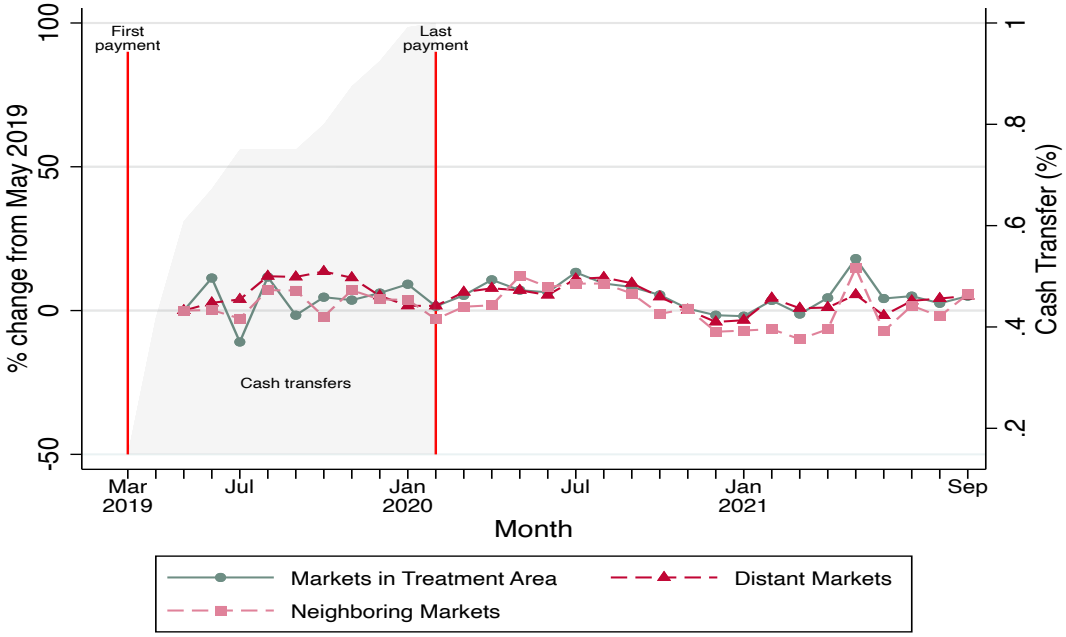
Appendix C. Prices

Figure C1: Liberia Wave 1: Average Change in Prices of Select Items Relative to Pre-Treatment Level

a. Select Items



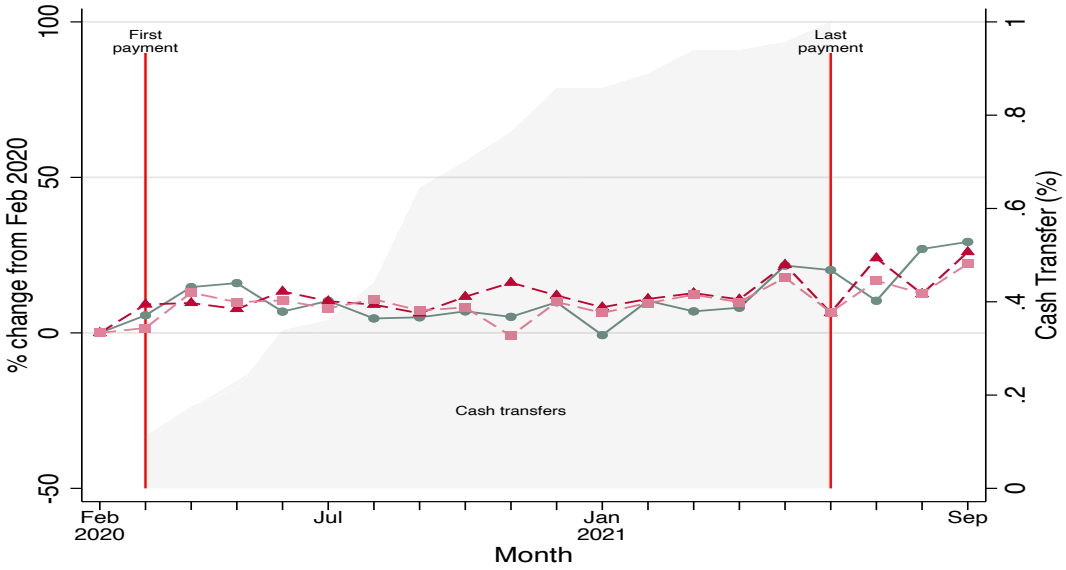
b. Staples



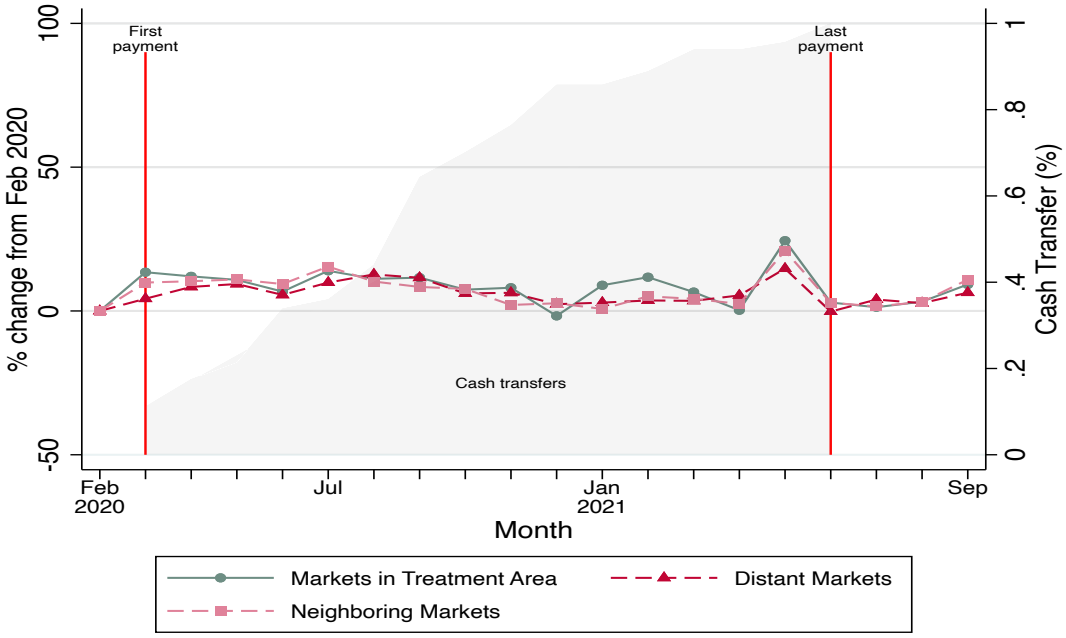
Note: The figure shows average change in prices relative to prices in May 2019 for Liberia Wave 1. First transfer to treatment households was made across March-May 2019 for Liberia Wave 1.There are 30 markets surveyed in Liberia Wave 1: 11 markets in treatment area, 7 in areas close to the treatment area, and 12 in distant areas. The sub-figure (a) shows the expenditure share weighted price of select items. The list of selected items for Liberia includes: cassava, cassava flour, dried fish, fresh fish, chicken, imported rice, okra, onion, palm oil, and salt. The list of items in staples include: cassava, cassava flour, and imported rice.

Figure C2: Liberia Wave 2: Average Change in Prices of Select Items Relative to Pre-Treatment Level

a. Select Items



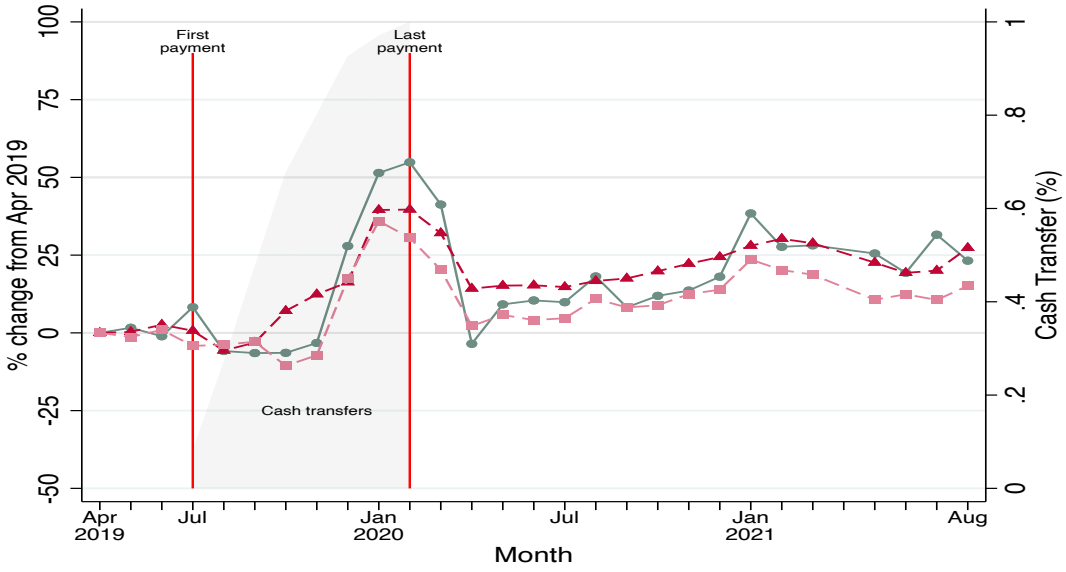
b. Staples



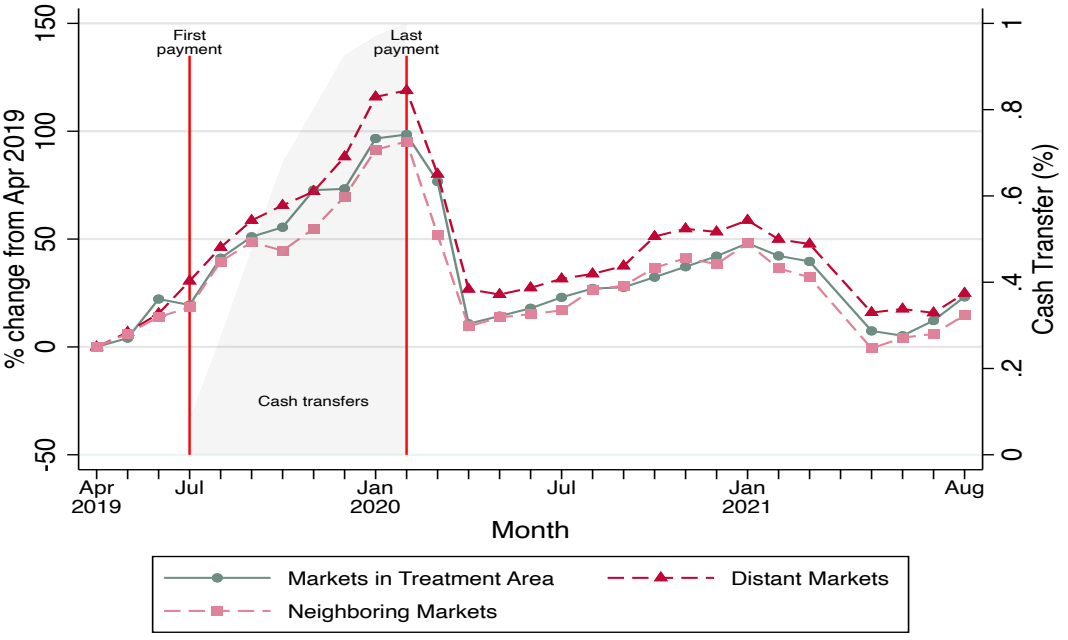
Note: The figure shows average change in prices relative to pre-treatment prices in February 2020 for Liberia Wave 2. First transfer to treatment households was made across March-September 2020 for Liberia Wave 2. There are 50 markets surveyed in Wave 2: 11 markets in treatment area, 22 in areas close to the treated area, and 17 in distant areas. The list of selected items for Liberia includes: cassava, cassava flour, dried fish, fresh fish, chicken, imported rice, okra, onion, palm oil, and salt. The list of items in staples include: cassava, cassava flour, and imported rice.

Figure C3: Malawi: Average Change in Prices of Select Items Relative to Pre-Treatment Level

a. Select Items



b. Staples



Note: The figure shows average change in prices relative to prices in April 2019. First transfer to treatment households was made across July-October 2019. There are 95 markets surveyed in Malawi: 10 markets in treatment area, 42 in areas close to the treated area, and 43 in distant areas. The list of selected items for Malawi includes: beans, chicken, dried fish, eggs, groundnut, maize flour, maize kernel, onion, salt, sugar, sweet potato, tomato, and unpacked rice. The list of items in staples include: beans, maize flour, maize kernel, and sweet potato.

Appendix D: Disaggregated Primary outcomes

Table D1: Food Security Index

	(1) HDDS[a] (yesterday)	(2) FCS[b] (past week)	(3) HHS[c] (past month)	(4) FIES[d] (past year)
Panel A. Liberia				
Pooled cash treatment:				
Cash	0.31***	-0.41	-0.28***	-0.73***
	(0.08)	(2.94)	(0.06)	(0.10)
Individual treatments by cash amount:				
Cash 250	0.21*	1.82	-0.12	-0.54***
	(0.11)	(1.26)	(0.08)	(0.13)
Cash 500	0.18*	-5.86	-0.30***	-0.71***
	(0.11)	(7.79)	(0.07)	(0.14)
Cash 750	0.55***	2.84**	-0.43***	-0.95***
	(0.09)	(1.39)	(0.08)	(0.16)
Control mean	5.36	47.32	1.34	6.50
Control SD	1.97	17.20	1.29	2.03
p-value (all three equal)	0.001	0.341	0.004	0.094
Observations	2,595	2,595	2,595	2,595
Panel B. Malawi				
Pooled cash treatment:				
Cash	0.03	0.65	-0.16***	-0.37***
	(0.07)	(0.59)	(0.04)	(0.11)
Individual treatments by cash amount:				
Cash 250	-0.02	0.24	-0.13**	-0.18
	(0.09)	(0.70)	(0.06)	(0.14)
Cash 500	0.06	0.36	-0.18***	-0.42***
	(0.10)	(0.78)	(0.06)	(0.15)
Cash 750	0.07	1.37	-0.17***	-0.51***
	(0.11)	(1.00)	(0.07)	(0.17)
Control mean	5.44	45.60	0.95	6.07
Control SD	1.80	14.62	1.28	2.75
p-value (all three equal)	0.674	0.555	0.737	0.189
Observations	2,784	2,784	2,784	2,784
Panel C. Pooled				
Pooled cash treatment:				
Cash	0.17***	0.14	-0.22***	-0.55***
	(0.06)	(1.45)	(0.04)	(0.08)
Individual treatments by cash amount				
Cash 250	0.10	0.98	-0.12**	-0.36***
	(0.07)	(0.71)	(0.05)	(0.10)
Cash 500	0.12*	-2.66	-0.24***	-0.59***
	(0.07)	(3.84)	(0.05)	(0.11)
Cash 750	0.30***	2.16***	-0.29***	-0.72***
	(0.07)	(0.82)	(0.05)	(0.12)
Control mean	5.40	46.43	1.14	6.28
Control SD	1.89	15.94	1.30	2.44
p-value (all three equal)	0.046	0.217	0.017	0.026
Observations	5,379	5,379	5,379	5,379

Note: In Columns 1, 2 and 5, higher values indicate improved food security; in Columns 3 and 4, lower values do. Regressions include baseline measurement, strata fixed effects, and indicator for market access treatment. Standard errors clustered at the village level in parentheses. ***, **, and * represent significance at 1%, 5%, and 10%, respectively.

[a] Household Dietary Diversity Score (HDDS) ranges from 0 to 12 (FAO 2013).

[b] Food Consumption Score (FCS) is a weighted sum of the number of days (WFP 2008).

[c] Household Hunger Scale (HHS) ranges from 0 (less severe) to 6 (more severe) (Ballard et al. 2011).

[d] Food Insecurity Experience Scale (FIES) ranges from 0 (less insecure) to 8 (more insecure) (Cafiero et al. 2018).

Table D2: Expenditure Categories

	(1) Food	(2) Nondurables	(3) Clothes	(4) Education	(5) Health	(6) Alcohol/ Tobacco	(7) Home repair	(8) Religious contribute	(9) Family events	(10) Nonmedical emergency
Panel A. Liberia										
Pooled cash treatment:										
Cash	0.68	0.75	1.72***	1.25***	1.41	-0.00	0.57**	0.34**	0.12	-0.05
	(0.89)	(0.60)	(0.45)	(0.31)	(0.96)	(0.05)	(0.26)	(0.15)	(0.33)	(0.12)
Individual treatments by cash amount:										
Cash 250	-1.13	-0.90	0.76	1.00**	1.78	0.01	0.23	0.32	-0.28	-0.01
	(1.17)	(0.74)	(0.58)	(0.49)	(1.79)	(0.07)	(0.33)	(0.20)	(0.46)	(0.20)
Cash 500	1.87	1.06	1.78***	1.69***	1.84	-0.10*	0.39	0.37	0.39	-0.14
	(1.37)	(0.81)	(0.58)	(0.48)	(1.51)	(0.05)	(0.35)	(0.24)	(0.48)	(0.14)
Cash 750	1.31	2.07**	2.64***	1.06**	0.60	0.08	1.09**	0.33	0.24	-0.01
	(1.11)	(0.94)	(0.68)	(0.41)	(1.11)	(0.07)	(0.42)	(0.22)	(0.45)	(0.16)
Control mean	26.91	11.40	5.58	3.14	4.94	0.29	1.12	1.27	3.44	0.45
Control SD	21.46	14.37	11.32	7.16	19.24	1.14	5.92	3.31	8.41	3.10
p-value (all three equal)	0.092	0.010	0.041	0.461	0.713	0.046	0.184	0.986	0.468	0.741
Observations	2,595	2,595	2,595	2,595	2,595	2,595	2,595	2,595	2,595	2,595
Panel B. Malawi										
Pooled cash treatment:										
Cash	0.45	0.14	0.16	-0.00	0.05	-0.00	0.17	0.01	-0.02	-0.01
	(0.47)	(0.27)	(0.22)	(0.13)	(0.11)	(0.01)	(0.16)	(0.06)	(0.08)	(0.03)
Individual treatments by cash amount:										
Cash 250	0.40	-0.03	-0.03	-0.01	-0.04	-0.01	0.10	-0.04	0.03	-0.04
	(0.60)	(0.37)	(0.31)	(0.20)	(0.17)	(0.01)	(0.20)	(0.09)	(0.11)	(0.04)
Cash 500	-0.09	-0.06	0.27	-0.12	0.12	0.00	0.24	0.05	-0.04	-0.01
	(0.65)	(0.35)	(0.32)	(0.14)	(0.17)	(0.01)	(0.22)	(0.09)	(0.12)	(0.05)
Cash 750	1.04	0.51	0.24	0.13	0.06	0.00	0.16	0.02	-0.07	0.02
	(0.75)	(0.43)	(0.34)	(0.17)	(0.15)	(0.01)	(0.23)	(0.09)	(0.10)	(0.05)
Control mean	9.56	4.96	2.18	1.47	1.09	0.05	0.94	1.01	0.45	0.13
Control SD	10.81	7.31	5.53	3.52	2.64	0.28	3.56	1.63	1.80	0.93
p-value (all three equal)	0.429	0.446	0.719	0.375	0.741	0.776	0.868	0.697	0.701	0.520
Observations	2,784	2,784	2,784	2,784	2,784	2,784	2,784	2,784	2,784	2,784
Panel C. Pooled										
Pooled cash treatment:										
Cash	0.56	0.43	0.92***	0.60***	0.71	-0.00	0.36**	0.17**	0.05	-0.03
	(0.49)	(0.33)	(0.25)	(0.17)	(0.47)	(0.02)	(0.15)	(0.08)	(0.16)	(0.06)
Individual treatments by cash amount										
Cash 250	-0.32	-0.44	0.36	0.46*	0.83	-0.00	0.16	0.13	-0.12	-0.03
	(0.65)	(0.41)	(0.32)	(0.26)	(0.87)	(0.04)	(0.19)	(0.11)	(0.23)	(0.10)
Cash 500	0.85	0.47	1.00***	0.76***	0.96	-0.04*	0.31	0.20	0.17	-0.07
	(0.75)	(0.43)	(0.33)	(0.25)	(0.73)	(0.03)	(0.20)	(0.13)	(0.24)	(0.07)
Cash 750	1.17*	1.28**	1.41***	0.58***	0.32	0.04	0.61**	0.17	0.08	0.01
	(0.66)	(0.51)	(0.38)	(0.22)	(0.54)	(0.04)	(0.24)	(0.12)	(0.23)	(0.08)
Control mean	17.98	8.09	3.83	2.28	2.96	0.16	1.03	1.13	1.90	0.29
Control SD	18.94	11.75	8.99	5.65	13.67	0.83	4.85	2.59	6.19	2.26
p-value (all three equal)	0.134	0.008	0.041	0.644	0.712	0.073	0.250	0.897	0.585	0.671
Observations	5,379	5,379	5,379	5,379	5,379	5,379	5,379	5,379	5,379	5,379

Note: Regressions include baseline measurement, strata fixed effects, and indicator for market access treatment. Standard errors clustered at the village level in parentheses. Monetary outcomes are in USD and Winsorized at the 99th percentile. ***, **, and * represent significance at 1%, 5%, and 10%, respectively.

Table D3: Non-Agricultural Income

	(1)	(2)	(3)	(4)	(5)	(6)
	Casual labor		Self employment		Other income source	
	Self	Spouse	Self	Spouse	Self	Spouse
Panel A. Liberia						
Pooled cash treatment:						
Cash	-0.64**	-0.22	3.26*	1.39	0.51	0.85*
	(0.29)	(0.29)	(1.71)	(1.06)	(0.37)	(0.46)
Individual treatments by cash amount:						
Cash 250	-0.58	-0.05	5.93*	0.69	0.93*	0.23
	(0.39)	(0.49)	(3.48)	(1.07)	(0.54)	(0.54)
Cash 500	-0.95***	-0.08	3.34	3.36	-0.06	1.74**
	(0.31)	(0.47)	(2.37)	(2.56)	(0.65)	(0.87)
Cash 750	-0.38	-0.53	0.50	0.10	0.66	0.56
	(0.46)	(0.35)	(1.71)	(0.80)	(0.55)	(0.79)
Control mean	2.17	1.40	6.39	1.23	0.89	0.86
Control SD	7.01	5.66	36.52	14.71	7.42	7.67
p-value (all three equal)	0.369	0.600	0.226	0.411	0.449	0.317
Observations	2,595	2,595	2,595	2,595	2,595	2,595
Panel B. Malawi						
Pooled cash treatment:						
Cash	-0.38	0.46	-0.13	-0.05	0.22	0.38
	(0.24)	(0.39)	(0.74)	(0.55)	(0.22)	(0.46)
Individual treatments by cash amount:						
Cash 250	0.02	0.00	0.50	-0.49	0.07	2.04**
	(0.35)	(0.54)	(1.04)	(0.32)	(0.25)	(0.88)
Cash 500	-0.55*	0.76	-0.58	-0.62**	0.03	-0.26
	(0.33)	(0.54)	(1.06)	(0.31)	(0.17)	(0.60)
Cash 750	-0.62**	0.61	-0.33	1.01	0.58	-0.69*
	(0.28)	(0.55)	(1.07)	(1.45)	(0.53)	(0.41)
Control mean	2.66	2.68	4.21	0.57	0.25	1.43
Control SD	5.97	9.20	21.48	10.39	4.42	10.92
p-value (all three equal)	0.202	0.492	0.681	0.428	0.596	0.008
Observations	2,784	2,784	2,784	2,784	2,784	2,784
Panel C. Pooled						
Pooled cash treatment:						
Cash	-0.50***	0.13	1.48	0.65	0.38*	0.61*
	(0.19)	(0.24)	(0.93)	(0.59)	(0.21)	(0.33)
Individual treatments by cash amount						
Cash 250	-0.26	-0.03	2.93*	0.09	0.52*	1.18**
	(0.26)	(0.37)	(1.77)	(0.54)	(0.31)	(0.54)
Cash 500	-0.75***	0.35	1.20	1.28	0.01	0.70
	(0.23)	(0.36)	(1.27)	(1.25)	(0.32)	(0.53)
Cash 750	-0.50*	0.06	0.29	0.57	0.62	-0.08
	(0.27)	(0.33)	(1.01)	(0.84)	(0.38)	(0.44)
Control mean	2.42	2.06	5.27	0.89	0.56	1.16
Control SD	6.50	7.72	29.76	12.67	6.07	9.49
p-value (all three equal)	0.223	0.679	0.361	0.620	0.314	0.131
Observations	5,379	5,379	5,379	5,379	5,379	5,379

Note: Regressions include baseline measurement, strata fixed effects, and indicator for market access treatment. Standard errors clustered at the village level in parentheses. Monetary outcomes are in USD and Winsorized at the 99th percentile. ***, **, and * represent significance at 1%, 5%, and 10%, respectively.

Table D4: Effects on Specific Categories of Intimate Partner Violence

	(1) Controlling Behavior	(2) Emotional IPV	(3) Physical IPV	(4) Sexual IPV
Panel A. Liberia				
Pooled cash treatment:				
Cash	-0.03	-0.09***	-0.03	-0.04***
	(0.03)	(0.03)	(0.02)	(0.01)
Individual treatments by cash amount:				
Cash 250	-0.05	-0.07*	-0.02	-0.05***
	(0.04)	(0.04)	(0.03)	(0.02)
Cash 500	0.00	-0.09**	-0.06**	-0.04**
	(0.04)	(0.04)	(0.03)	(0.02)
Cash 750	-0.06	-0.11***	-0.02	-0.04**
	(0.04)	(0.04)	(0.03)	(0.02)
Control mean	0.55	0.34	0.23	0.10
Control SD	0.50	0.48	0.42	0.31
p-value (all three equal)	0.477	0.671	0.333	0.922
Observations	1,229	1,229	1,229	1,229
Panel B. Malawi				
Pooled cash treatment:				
Cash	0.00	0.01	0.01	0.01
	(0.02)	(0.01)	(0.01)	(0.01)
Individual treatments by cash amount:				
Cash 250	0.03	0.02	0.01	0.02
	(0.02)	(0.02)	(0.01)	(0.01)
Cash 500	0.01	-0.00	0.02	0.01
	(0.03)	(0.02)	(0.01)	(0.01)
Cash 750	-0.03	0.00	-0.00	-0.01
	(0.03)	(0.02)	(0.01)	(0.01)
Control mean	0.31	0.14	0.08	0.07
Control SD	0.46	0.35	0.27	0.26
p-value (all three equal)	0.120	0.669	0.463	0.148
Observations	1,829	1,829	1,829	1,829
Panel C. Pooled				
Pooled cash treatment:				
Cash	-0.01	-0.03**	-0.01	-0.01
	(0.02)	(0.01)	(0.01)	(0.01)
Individual treatments by cash amount				
Cash 250	-0.00	-0.02	-0.00	-0.01
	(0.02)	(0.02)	(0.01)	(0.01)
Cash 500	0.01	-0.04**	-0.02	-0.01
	(0.02)	(0.02)	(0.01)	(0.01)
Cash 750	-0.04*	-0.04**	-0.01	-0.02**
	(0.02)	(0.02)	(0.01)	(0.01)
Control mean	0.42	0.23	0.14	0.08
Control SD	0.49	0.42	0.35	0.28
p-value (all three equal)	0.177	0.513	0.740	0.377
Observations	3,058	3,058	3,058	3,058

Note: Regressions include whether IPV was measured in ACASI or FTFI as well as baseline measurement, strata fixed effects, and indicator for market access treatment. Standard errors clustered at the village level in parentheses.

Table D5: Effects on Types of Interpersonal Transfers

	(1)	(2)	(3)	(4)
	Transfers Sent		Transfers Received	
	Spouse	Non-spouse	Spouse	Non-spouse
Panel A. Liberia				
Pooled cash treatment:				
Cash	0.67	-0.45	2.91***	-0.34
	(0.55)	(0.38)	(0.78)	(0.47)
Individual treatments by cash amount:				
Cash 250	0.85	-0.93**	2.46**	-0.57
	(0.80)	(0.45)	(1.05)	(0.55)
Cash 500	0.43	-0.23	2.13**	-0.40
	(0.78)	(0.47)	(0.96)	(0.58)
Cash 750	0.71	-0.20	4.16***	-0.05
	(0.81)	(0.47)	(1.30)	(0.67)
Control mean	3.17	2.00	8.39	2.63
Control SD	9.80	11.29	15.00	14.26
p-value (all three equal)	0.911	0.174	0.349	0.739
Observations	1,794	2,595	1,794	2,595
Panel B. Malawi				
Pooled cash treatment:				
Cash	0.23	0.01	-0.25	0.17
	(0.19)	(0.06)	(0.73)	(0.19)
Individual treatments by cash amount:				
Cash 250	0.24	0.03	-0.20	0.06
	(0.31)	(0.08)	(1.03)	(0.26)
Cash 500	0.14	-0.08	-0.69	0.10
	(0.24)	(0.07)	(0.99)	(0.27)
Cash 750	0.31	0.08	0.17	0.34
	(0.28)	(0.09)	(1.14)	(0.28)
Control mean	0.97	0.42	9.04	1.01
Control SD	3.23	1.84	14.15	4.31
p-value (all three equal)	0.882	0.124	0.801	0.682
Observations	1,885	2,784	1,885	2,784
Panel C. Pooled				
Pooled cash treatment:				
Cash	0.44	-0.23	1.32**	-0.09
	(0.28)	(0.19)	(0.54)	(0.25)
Individual treatments by cash amount				
Cash 250	0.54	-0.44*	1.14	-0.25
	(0.42)	(0.22)	(0.75)	(0.29)
Cash 500	0.27	-0.17	0.69	-0.15
	(0.39)	(0.23)	(0.69)	(0.31)
Cash 750	0.51	-0.06	2.17**	0.15
	(0.42)	(0.23)	(0.87)	(0.36)
Control mean	2.06	1.19	8.72	1.80
Control SD	7.35	8.01	14.57	10.44
p-value (all three equal)	0.843	0.210	0.316	0.556
Observations	3,679	5,379	3,679	5,379

Note: Regressions include baseline measurement, strata fixed effects, and indicator for market access treatment. Standard errors clustered at the village level in parentheses. Monetary outcomes are in USD and Winsorized at the 99th percentile.

Appendix E: Lump-sum and Flow Payments

Table E1: Balance between Lump-sum and Flow within Matched Treatment Group

	(1)	(2)	(3)	(4)	(5)	(6)
	Liberia Wave 1			Liberia Wave 2		
	Lump-sum	Flow	p-value: difference	Lump-sum	Flow	p-value: difference
Panel A. Demographics						
=1 if female	0.82	0.83	0.839	0.75	0.76	0.739
=1 if currently married or has partner	0.77	0.84	0.135	0.91	0.90	0.777
Age	37.76	37.63	0.937	38.78	39.59	0.387
	[13.71]	[13.35]		[13.29]	[13.41]	
Years of education	1.93	1.56	0.275	3.14	3.39	0.372
	[3.12]	[2.80]		[3.85]	[3.96]	
Number of household members	4.09	4.39	0.179	4.68	4.95	0.077*
	[1.85]	[2.03]		[2.08]	[2.23]	
Panel B. Primary outcomes measured at baseline						
Food security index (z-score)	-0.45	-0.43	0.858	0.20	0.16	0.488
	[0.91]	[0.94]		[0.93]	[0.90]	
Total expenditure (monthly)	41.29	45.47	0.273	54.85	51.69	0.264
	[31.77]	[34.62]		[42.98]	[37.72]	
Food expenditure (monthly)	18.27	22.36	0.035**	20.97	19.59	0.204
	[16.37]	[17.37]		[16.25]	[14.78]	
Net value of durables, livestock, and financial assets	66.07	44.08	0.131	132.17	115.74	0.242
	[158.96]	[81.23]		[210.49]	[189.96]	
Non-agricultural income (monthly)	5.90	6.26	0.777	9.05	8.36	0.651
	[10.35]	[11.94]		[22.83]	[20.15]	
=1 if any IPV (past year)	0.33	0.37	0.515	0.55	0.56	0.738
Transfers received (monthly)	10.91	11.08	0.962	10.44	16.58	0.016**
	[17.09]	[14.42]		[12.54]	[21.82]	
Transfers sent (monthly)	7.12	9.67	0.521	13.29	14.90	0.601
	[13.70]	[20.99]		[23.46]	[25.72]	
Observations	151	153		393	430	

Note: Columns 1 and 4 present the mean for the subgroups for which we a match in GiveDirectly's database and are assigned to the lump-sum payment schedule; Columns 2 and 5 report the mean for those in the flow payment schedule; and Columns 3 and 6 report the p-values for testing mean difference. Standard deviations are in square brackets. Monetary outcomes are in USD and Winsorized at the 99th percentile. ***, **, and * represent significance at 1%, 5%, and 10%, respectively.

Table E2: First Stage for Lump-sum / Flow Randomization

	(1) =1 if enrolled as Flow in GiveDirectly database
=1 if assigned to Flow	0.79***
	(0.02)
Assigned to Lump-sum: Mean	0.10
Observations	823

Note: This table is restricted to Liberia Wave 2 only. ***, **, and * represent significance at 1%, 5%, and 10%, respectively.

Table E3: Difference in treatment effects of "lump-sum" and quarterly transfers

	(1) Food Security Index[a] (past year)	(2) Food Expenditures (past month)	(3) Non-food Expenditures (past month)	(4) Non-agricultural Income[b] (past month)
Panel A. Liberia Wave 1				
Pooled flow effect:				
Flow payments	0.04	-0.16	3.24	0.35
	(0.15)	(1.99)	(3.55)	(1.39)
Individual flow effects by cash amount:				
Cash 250 in Flow	0.01	-0.85	13.36*	4.08*
	(0.24)	(4.93)	(6.66)	(2.26)
Cash 500 in Flow	0.36	1.36	-3.35	-1.16
	(0.22)	(2.46)	(6.13)	(2.47)
Cash 750 in Flow	-0.31	-1.05	-0.67	-1.83
	(0.29)	(2.39)	(4.78)	(2.25)
Lump-sum: mean	0.34	22.53	29.01	5.71
Lump-sum: SD	1.13	20.16	31.31	14.41
p-value (all three equal)	0.172	0.776	0.149	0.158
Observations	304	304	304	304
Panel B. Liberia Wave 2				
Pooled cash treatment:				
Flow payments	0.07	0.01	1.27	-0.48
	(0.08)	(1.49)	(3.05)	(2.92)
Individual flow effects by cash amount:				
Cash 250 in Flow	0.20	2.11	3.55	-0.66
	(0.15)	(2.45)	(5.02)	(7.08)
Cash 500 in Flow	0.14	-2.38	-2.22	-2.22
	(0.13)	(3.03)	(5.45)	(3.48)
Cash 750 in Flow	-0.10	0.65	3.26	1.12
	(0.11)	(2.03)	(5.27)	(3.49)
Lump-sum: mean	0.26	30.09	40.07	11.47
Lump-sum: SD	1.08	22.77	44.96	38.04
p-value (all three equal)	0.196	0.515	0.692	0.796
Observations	823	823	823	823
Panel C. Pooled				
Pooled cash treatment:				
Flow payments	0.06	-0.05	1.75	-0.32
	(0.07)	(1.18)	(2.43)	(2.15)
Individual flow effects by cash amount				
Cash 250 in Flow	0.15	1.44	6.11	0.61
	(0.13)	(2.21)	(4.14)	(5.32)
Cash 500 in Flow	0.20*	-1.40	-2.43	-1.91
	(0.11)	(2.28)	(4.27)	(2.59)
Cash 750 in Flow	-0.17	0.07	2.16	0.28
	(0.11)	(1.61)	(4.09)	(2.62)
Lump-sum: mean	0.28	27.99	37.00	9.87
Lump-sum: SD	1.09	22.32	41.89	33.30
p-value (all three equal)	0.045	0.673	0.360	0.807
Observations	1,127	1,127	1,127	1,127

Note: Quarterly payments were implemented only in Liberia. The endline was conducted about 18-22 months after first transfers were received in Liberia. Regressions include baseline measurement, strata fixed effects, and indicator for market access treatment. Monetary outcomes are in USD and Winsorized at the 99th percentile. Standard errors clustered at the village level in parentheses. ***, **, and * represent significance at 1%, 5%, and 10%, respectively. [a] Food Security Index is standardized z-score of HDDS, FCS, HHS (negatively weighted), and FIES (negatively weighted), using inverse covariance weighting (Anderson 2008) relative to the control mean and SD in each country.