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Cash transfers amid shocks: A large, one-time, unconditional cash transfer to refugees in Uganda has multidimensional benefits after 19 months

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ABSTRACT

Refugees in protracted displacement are often limited in their opportunities for income-generating activities and investments, making them dependent on aid for meeting basic needs. In the context of stretched humanitarian aid budgets, it is a necessary policy question to determine ways to increase refugees' self-reliance. In this study, we combine a randomized controlled trial with extensive longitudinal qualitative data to explore the multidimensional impacts of a large, one-time, unconditional transfer of 1,000 USD to households of predominantly South Sudanese refugees living in protracted displacement in Uganda. Estimated after 19 months, we find that the transfer significantly increased households' consumption, asset values, business ownership, business revenue, psychological well-being, and self-reliance. We find positive but insignificant effects on food security, migration, employment, or female empowerment. Overall, a large one-time cash transfer given in the context of shocks has multidimensional improvements in refugees' lives, providing meaningful movement towards self-reliance.

1. Introduction

In many settings, refugees face limited actual opportunities to advance their well-being, even when the host country's stated policies are favorable. In circumstances of protracted displacement, with low coverage by host-government social protection programs and limited employment opportunities, refugees remain dependent on the aid agencies that provided initial success (Hagen-zanker & Both, 2021). However, as humanitarian crises extend and new ones emerge, aid agencies face stretched and uncertain budgets; over-stretched agencies reduced monthly consumption support to refugees in protracted displacement in both 2020 and 2021 (WFP, 2021). In this context, the need to—and debate on how to—set refugees on the path to self-sufficiency/self-reliance has come into sharp relief (Easton-Calabria, 2022; Skran, 2020; Skran & Easton-Calabria, 2020).[1] Development and humanitarian support organizations are working to allow refugees to be more self-sufficient and progressively integrate into the social and economic lives of the host communities (Betts et al., 2019; Easton-Calabria, 2022; Krause & Schmidt, 2020; Mastrorillo et al., 2022; Skran, 2020; Skran & Easton-Calabria, 2020). Humanitarian organizations have applied several tools in efforts to increase refugees' self-reliance, ranging from agriculture (MacPherson & Sterck, 2021), entrepreneurship (Skran, 2020), education (Awidi & Quan-Baffour, 2021; Dagar, 2022; Schiltz et al., 2019) and leveraging social networks (Betts et al., 2020a, 2020b; Betts et al., 2022).

Another possible tool to promote self-reliance is cash. Cash is already

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Author order was randomised based on the American Economic Association Author Randomisation tool. Confirmation code: 1-epvvjhD1XR.
[1] A simple search in the journal database Web of Science with the key search term "self-reliance" or "self-sufficiency" and "refugees" as of September 29, 2022 yielded 164 published articles of which 82.3 percent were published in 2015 or later.

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in wide use in the humanitarian sector. One approach to cash, often used by aid agencies is to provide regular, small transfers of food or cash as monthly 'consumption support' to refugees.[2] This aid might promote and smooth near-term consumption but there is a limited expectation of sustained effect; it enables survival rather than transformation. Indeed, in the context of Syrian refugee children in Lebanon, Moussa et al. (2022) find that a monthly cash transfer program (US$174 per household per month over 12 months) has substantial effects on children's health, schooling, and reduction of child labor, but many of these effects decline once support was discontinued. Similarly, Altındağ & O'Connell (2023) find that monthly transfers (also US$174 per household per month to Syrian refugees in Lebanon over 12 months) improve consumption, child well-being, and food security during the program—but that all effects dissipate within six months after the transfers' end.

In contrast to consumption support, another approach to cash might be a large, one-off cash transfer that might durably help refugees become self-reliant. In non-refugee settings, large, one-time unconditional cash transfers (UCTs) have increased well-being through gains in asset value, earnings, food expenditure, food security, and psychological well-being (Egger et al., 2022; Haushofer & Shapiro, 2016; Mcintosh & Zeitlin, 2018). That being said, there is limited evidence on how long these effects persist, and some recent studies have shown decreasing effects of time (Blattman et al., 2020; Haushofer & Shapiro, 2018). Given the displacement and funding crises, a pressing unanswered policy question is whether large UCTs can have similar effects in protracted refugee settings even though recipients may have fewer economic opportunities—and whether those gains obviate the need for future aid (Hagen-Zanker et al., 2018). Core questions include (a) whether large transfers can be operationally delivered in a refugee setting and whether refugees can convert cash into consumption given their access to markets, (b) whether large transfers will increase well-being, (c) whether large transfers can help refugees achieve self-reliance, and (d) whether the distribution of a transfer has negative social effects that disqualify it from being a reasonable policy tool, especially in a context of ethnic tension. Unexpectedly, we also addressed the question of whether large, one-off transfers can preserve or improve wellbeing in the face of macro shocks such as disease outbreaks and natural disasters, on which the emerging evidence from COVID-19 is mixed (Gentilini et al., 2021; Londoño-Vélez & Querubín, 2022; Tossou, 2021). Moreover, for this particular contribution, our study is the first one (of which we are aware) to evaluate this in the context of refugees.

We examine the well-being impacts and social ramifications of a USD 1,000 (~2840 USD PPP)[3] cash transfer made by the international NGO GiveDirectly to refugees registered in Kiryandongo refugee settlement in Uganda. The transfer was sequentially rolled out after the random assignment of cohorts of households such that over two years, all households in the settlement received the transfer. With baseline data collected in late 2019 (September - November) and end line data collected three months before the control cohorts received their transfers (February - April 2022), we were able to estimate the causal effects of this transfer ~ 19 months after receipt by comparing outcomes of early recipients (treatment group) to those who had yet to receive the transfer at the time of end line measurement (control group). We estimate the effect of cash transfers using a sample of 1,090 households on a range of economic and social outcomes. Our primary outcomes are household consumption, assets, and business revenue (including own-farm agriculture) and secondary outcomes are psychological well-being, employment, migration, female empowerment, household composition, food security, and a self-reliance index. Alongside quantitative data, we also conducted a longitudinal panel of semi-structured qualitative interviews to provide additional context on the impact of the transfer, and to explore other ramifications that are difficult to assess quantitatively due to spillovers and measurement challenges, such as social cohesion (including host-refugee relationships), safety and security, and aspirations.

First, from a program implementation perspective and responding to the question whether universal cash transfers are logistically possible, GiveDirectly was able to deliver the transfer to over 10,000 households in the whole refugee settlement. Moreover, 80% of enrolled households in our sample received their transfers on time, demonstrating that large, one-off transfers delivered via mobile money are logistically feasible in refugee settlements, even during economic and health crises like COVID-19. Furthermore, against a 40 percent reduction in food aid experienced during the COVID-19 pandemic (WFP, 2021), households registered in the refugee settlement were able to protect themselves during the pandemic and keep their household welfare and food security resilient (Stein et al., 2022).

Looking at the treatment effects, we found an 11% increase in household monthly consumption (equivalent to 92 USD PPP). This was mostly driven by increased consumption of some types of foods, as households shifted their consumption patterns towards slightly costlier but desirable foods such as animal products and vegetables (which are not part of the WFP food rations provided in the settlement). Our findings here underline the effect of the transfer on quality preferences. However, our treatment effect on household consumption was less than half the amount of monthly support received by the average household at the beginning of the study.

In addition to a boost in consumption, we found significant impacts on multiple economic outcomes, suggesting that many households can invest their transfer productively in a context of protracted displacement. We found a treatment effect on the value of assets of 3,937 USD PPP (compared to the control mean of 6,495), mostly driven by an increase in the value of house and land holdings. Many respondents used the transfer to build new houses or improve their existing ones. In qualitative interviews, respondents consistently report home improvements as the most important effects of the transfer of their lives; quantitatively, we see impacts on the number of rooms, and the quality of walls, floors, and roofs. Transfer recipients also invested in businesses, with treatment households 8.2 percentage points more likely to own a business - a 37% increase from the control mean and generate 41 USD PPP more per month in business revenue (compared to the control mean of 63 USD PPP), driven by small shops in our treatment group. Our qualitative results suggest that business formation could have been even larger during non-COVID-19 times, as many households planned to use the transfer to start a business but were prevented from doing so due to the lockdown. In addition, households vary in their ability to productively invest one-time transfers. While some could start successful businesses and develop long-term income streams, others were still heavily reliant on humanitarian support post-transfer.

The study then measures household self-reliance using the self-reliance index ((Leeson et al., 2020; Seff et al., 2021). We observed a 0.16 standard deviation increase in self-reliance, mainly driven by a reduction in household debt. In addition to these economic outcomes, we find a 0.28 standard deviation increase in our psychological well-being index, with consistent increases in mental health metrics including measures assessing depression, stress, happiness, and life satisfaction. However, we did not observe effects in other areas that might be associated with durable self-reliance. We find small and statistically insignificant effects on agricultural production or revenue as well as food security, household dependency ratio, migration, or employment status of the respondent. In addition, we found statistically insignificant improvements in female empowerment as measured by girls' education and time spent on chores (while noting that schools in

[2] A core debate has been whether cash or food vouchers are more effective for monthly consumption support. Researchers generally find evidence of cash transfers' cost-effectiveness while providing similar or higher levels of food security (Aker, 2017; Gilligan et al., 2013; MacPherson & Sterck, 2021; Uekermann et al., 2017).

[3] We compute PPP using the 2017 conversion rates by the World Bank (World Bank, 2020).

Uganda were closed for most of the duration of our study). Full migration from the settlement (resulting in household deregistration) is generally low, reflecting the continuing crises in South Sudan and continued reliance on the aid provided to settlement inhabitants.

Finally, we qualitatively assessed—through news tracking and interviews—the possible downsides of introducing a large amount of cash, in a staggered manner, into a settlement that contains the social and ethnic divisions that perpetuated the civil war in South Sudan. Although our qualitative work uncovered some evidence of unintended consequences such as increased theft and to some extent, domestic violence, we do not find systematic negative impacts on a range of outcomes including social cohesion, security, and domestic conflict.

Overall, a large one-time cash transfer given in the context of shocks has multidimensional improvements in refugees' lives. This suggests large one-off cash transfers for refugees in situations of protracted displacement allow them to make meaningful movements toward self-reliance through improved investments and asset accumulation. However, while large cash transfers should continue to be a key part of the humanitarian policy toolkit, the magnitude and mixed nature of our findings suggest that large one-time cash transfers alone are insufficient to deliver lasting self-reliance to those in protracted displacement, especially in the context of multiple shocks. Our findings underline the continued need for humanitarian assistance in settings of protracted displacement.

2. Context and intervention

As of September 2022, the United Nations High Commissioner for Refugees (UNHCR) estimates that there are over 1.5 million refugees and asylum seekers in Uganda (UNHCR, 2022). Uganda hosts the largest refugee population in Africa and the third-largest in the world. Many refugees have been living in Uganda long-term, meeting the definition of protracted displacement and reflecting conflicts in neighboring South Sudan and the Democratic Republic of Congo (DRC). Refugees in Uganda benefit from progressive policies: Uganda permits refugees to move freely outside the settlements, work, start businesses, engage in farming activities on rented land, and access (*de jure* free) public services including education and health care. Still, the majority of refugees live in "settlements" and remain dependent on monthly consumption support from the World Food Programme (WFP).[4] To receive this consumption support, a household must remain registered in the settlement with some family members living there, even if some members leave for employment, schooling, or other reasons.

Among Uganda's eleven major settlements, Kiryandongo, where this study is focused, is one of the older and smaller settlements. It is also relatively open in terms of integration with the adjacent town of Bweyale, a market hub. Kiryandongo settlement was established in the 1970s on land cleared for ranching by Idi Amin and currently hosts over 76,000 refugees, mostly (99%) South Sudanese (UNHCR, 2022). The Office of the Prime Minister (OPM) and the UNHCR co-manage the settlement. Most of its current residents arrived in 2014 shortly after South Sudanese independence and the ensuing civil war. They are primarily ethnically Nuer, Dinka, and Acholi/Luo, though the settlement hosts over ten ethnicities, including all those in conflict as well as in the crossfire. Seventy-four percent of households were female-headed. Though this was higher than the 2018 refugees survey covering all the settlements (World Bank, 2019), the two surveys agree that the majority of refugee households were female-headed, much higher than the host communities. For program enrollment and identifying our main respondents, GiveDirectly and IDinsight considered the "de jure" household head as designated by UNHCR and OPM through the household's attestation document specifying the household head along with all *registered* household members. The household head is usually the main decision-maker at the time of registration. However, this can cover a variety of different "de facto" household constellations (*e.g.* if the husband lives and works in South Sudan, or joined the family in Kiryandongo after registration and therefore is not registered as the de jure household head). Many households live in makeshift or traditional huts; some have built semi-permanent houses using half-burnt bricks and iron sheets. Permanent houses, using fully burned bricks and cement, are officially forbidden. As of March 2022, 97.6% of households registered in Kiryandongo settlement receive assistance and only 16.1% have an occupation (UNHCR, 2022).

While this cash transfer program predated COVID-19 in design and implementation, its operations and impacts can also be viewed in light of the pandemic as well as pre-planned and COVID-consequent aid cuts. On 30 March 2020, Uganda entered a nationwide lockdown to prevent COVID-19 spread, restricting almost all movement and commerce in the country and across international borders. Over the next two years, Uganda alternated between strict and semi-lockdown states. These included a nightly curfew throughout the whole period, as well as bans/restrictions on public and private transportation, markets, restaurants, bars, and public gatherings. Workers in the informal sector were among the worst affected. In January 2022, President Museveni authorized a full reopening of the economy, lifting the nightly curfew and all remaining restrictions on urban transportation (motorcycle taxis), bars, cinemas, and public gatherings, as well as reopening schools.[5]

The WFP also trimmed their support to refugees twice in this period, by about 30% from ~ 24.46 USD PPP (31,000 UGX) to ~ 17.36 USD PPP (22,000 UGX) per person per month in April 2020 and a further 10% to ~ 14.99 USD PPP (19,000 UGX) in February 2021. Our results therefore not only speak to the effects of the program but also the resilience and protective effects of the transfer amid a set of shocks.

In addition (and prior) to the cash distribution to households, GiveDirectly's intervention included holding community sensitization meetings, shared transfer investment ideas, and providing basic training on financial and digital literacy and security. Further, a hotline offered in multiple languages to manage questions, disputes, and fraud claims was maintained throughout the project period. In line with the Government of Uganda's policies, GiveDirectly also distributed the cash transfers to around 5,000 Ugandan (host community) households; this evaluation focuses only on the refugee population as the host community was not part of the study. Stein et al. (2022) provide further details on the program as well as short-term effects on household food security, psychological well-being, and COVID-19 preventive practices.

3. Methods

We use a mixed-methods approach that combines an RCT with a small-n longitudinal, qualitative study. The mixed-methods design allows us to develop a comprehensive picture of the effects of unconditional cash transfer on the lives of refugees by further unpacking and contextualizing the findings from the RCT, as well as exploring transfer effects that are difficult to observe quantitatively. Our qualitative data collection and deep engagement in the settlement also informed the design of our end-line quantitative questionnaire.

3.1. Randomized controlled trial

The international NGO GiveDirectly implemented a universal cash

[4] Each registered household in the settlement receives food or cash rations (their choice) from WFP. The rations constitute roughly one-quarter (23%) of baseline consumption.

[5] see: https://www.theeastafrican.co.ke/tea/news/east-africa/uganda-museveni-reopens-economy-amidst-surge-in-covid-19–3669258.

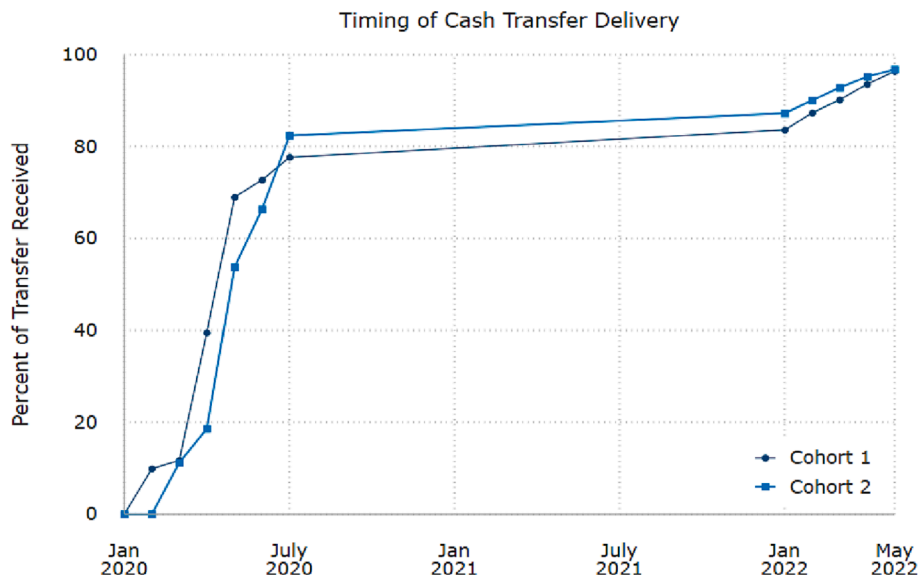

Fig. 1. Transfer timing.

transfer program in which all households registered in the settlement were eligible for a one-off UCT of ~ 1,000 USD (~2,840 USD PPP) via mobile money.[6] Putting this in the context of existing transfers, this UCT was equivalent to equivalent to 29 months of monthly WFP consumption support in 2022 (assuming a household size of ~ 6 members).[7] In consultation with local stakeholders, GiveDirectly and IDinsight chose a public lottery approach to maximize transparency and perceptions of fairness in the randomization process. For the lottery, we asked participants to pick out their cohort number (from a bucket of ping-pong balls, with replacement). Our baseline survey data show about 90% of baseline respondents thought the lottery was a fair approach, and 85% thought that it was the fairest approach possible. Recipients were randomized into 24 cohorts to receive the transfer sequentially. This allowed for a phased-in study design, where households enrolled to receive cash early formed the treatment group, and households enrolled later formed the control group.[8] The transfer was then disbursed in chronological order starting with cohort 1.[9] Cohorts 1 and 2 became the treatment group; a random subsample of cohorts 17 through 20 is the control group.[10] All households would receive the same transfer size, regardless of household size. While the 1,000 USD transfer was a one-off (not recurring), the transfer was disbursed in three installments—a smaller installment of 520,000 UGX (394.57 USD PPP) and two larger installments of 1.63 million UGX (1286.29 USD PPP) each.[11] The central reason for a phased intervention and disbursements was to accommodate a fairly efficient logistical outlay and also avoid small area inflation risks that would have caused possible negative externalities in the local economies,[12].[13] Recipients could opt to receive a basic mobile phone from GiveDirectly, in which case GiveDirectly would deduct 68,000 UGX (53.66 USD PPP) from the final installment to cover the cost. Only 85 households chose this option.

We summarize the transfer timing by cohort for our end line sample in Fig. 1.

Cohort 1 received transfers earlier on average, starting in February 2020; cohort 2 households started receiving their first installment in March 2020. Transfers to the treatment cohorts continued until August 2020 at which point, 83% of the planned transfer value had been disbursed. However, due to COVID-19 operational challenges and additional constraints emanating from a suspension of GiveDirectly's operations between September 2020 and October 2021, some treatment

[6] Compared to cash, mobile money is more secure for distribution and provides recipients with privacy and security. Customers can withdraw their transfers from mobile money agents or ATMs and make direct mobile money payments.

[7] WFP transfer size is determined by the official household roster data from UNHCR, which had an average of around 6 people per household (UNHCR, 2019). Our survey used a more standard household definition of people who ate "from the same pot", which gave a larger household size. This difference is driven by the fact that sometimes multiple official households live together, and also that sometimes family members are part of a household but not formally registered with UNHCR.

[8] It was essential for randomization to precede our baseline data collection so that we knew which households (those assigned to which cohorts) among the 10,000 households in the settlement to sample. We discuss possible anticipatory effects throughout the paper.

[9] Households which had a person with special needs ("PSN" households), as determined by UNHCR, received transfers first, before cohort 1, and therefore were neither part of the lottery nor our data collection.

[10] We chose cohorts 17–20 as our control group to balance two concerns. First, we wanted to ensure that our control group did not receive transfers directly after our endline, to avoid anticipation effects during our endline survey. Second, we were concerned about using the final cohorts since we thought these households may be displeased by the lottery and refuse participation in our surveys.

[11] The total transfer value is more than 1,000 USD because it includes mobile money withdrawal fees.

[12] Empirical evidence suggest that in general, cash transfers do not negatively affect local prices and inflation (Egger et al., 2022; Handa et al., 2018) but this remains a concern to implementers especially for large one off transfers like the present one.

[13] Note that the present study does not assess the possible differential impact of phased disbursement because this was not pre-registered in the pre-analysis plan.

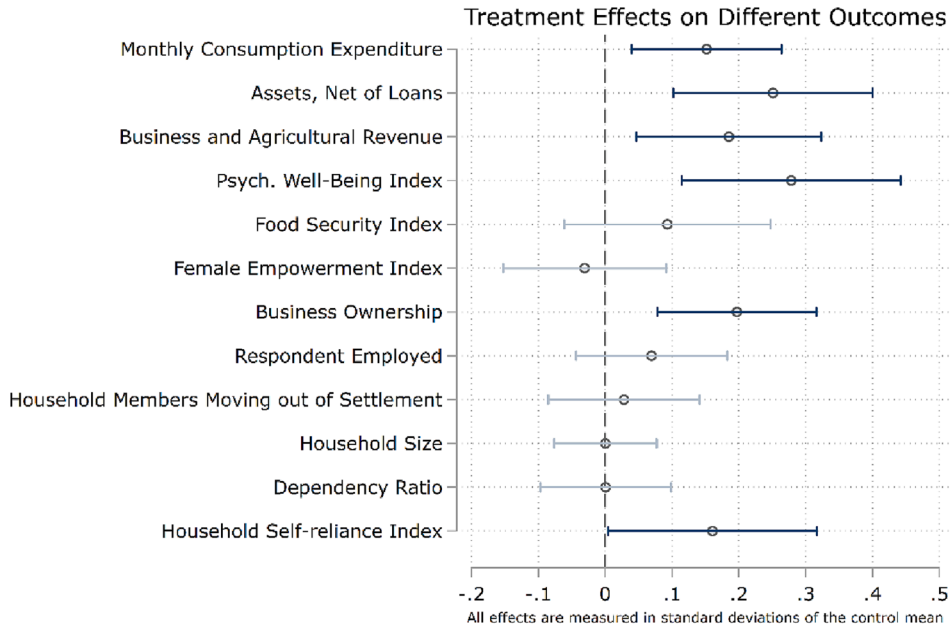

Fig. 2. Effect of the unconditional cash transfer on composite outcomes.

households received their final transfer in early 2022.[14] While this fact creates complexities in interpreting the results, our results show that households who received transfers in 2022 do not drive the effects observed. By the time the end line was conducted, 95% of the treatment group had received at least one transfer, and about 85% had received all three installments. There was an average of 19 months between the third and final installment and the end line.

3.1.1. RCT Empirical strategy

We use the following linear regression equation to estimate the causal impact of the cash transfers:

$$y_{h,t=1} = \beta_0 + \beta_1 T_h + \gamma X_h + \delta_1 y_{h,t=0} + \delta_2 M_h + \varepsilon_h$$

Here, h indexes the household, and t indicates the period, where t = 1 indicates the end line and t = 0 indicates the baseline. $y_{h,t=1}$ is the outcome of interest at the end line for household h; T_h is an indicator that takes value 1 if household h has been assigned to treatment, and 0 otherwise. Therefore, β1 estimates the treatment effect in this specification. Following McKenzie (2012), we also condition the baseline values of the outcome variable $y_{h,t=0}$ to improve statistical power for our estimates[15]; When $y_{h,t=0}$ is missing for an observation, we include an indicator term for missingness M_h and replace $y_{h,t=0}$ with its mean. We also include X_h, which is a vector of baseline household covariates that include the sex of the household head, household size, time spent in the settlement, and ethnicity dummies. Since we administered some of our surveys by telephone, we include a dummy for the phone survey in all regressions.[16] ε_h is an idiosyncratic error term. Since the treatment was at the household level and we have only one observation for each household, we use standard errors that are robust to heteroskedasticity. As some of our treatment households did not receive all (or any) of their transfer, this equation estimates the Intent-To-Treat (ITT) effect. We report ITT effects throughout the paper; given that compliance was notably high, we expect the ITT effects to closely approximate the Local Average Treatment Effect (LATE).

We look at the effects of a large, unconditional cash transfer on many outcomes, which might artificially inflate the chance of finding statistically significant results. To address this concern, we take multiple steps. First, we pre-specified a small number of primary and secondary outcomes, many of which are an index or summary of outcomes in a certain category. For indicators such as consumption, assets, and revenue, we compute the sum of all components that make up the indicators. For types of outcomes like food security, psychological well-being, and female empowerment, we report treatment effects on a standardized composite index following Anderson (2008) Additionally, we adjust inference formally for multiple hypothesis tests. Within our three pre-specified primary outcomes (monthly consumption, total assets, and monthly revenue), we also report adjusted p-values controlling for the family-wise error rate following the step-down procedure (Westfall & Young, 1993). Finally, for all primary and secondary outcomes, we compute and report Anderson's sharpened q-values to control for the False Discovery Rate (FDR) (Anderson, 2008). When exploring the mechanisms driving changes in our primary outcomes (such as exploring which consumption categories are driving an overall consumption change) we do not adjust for multiple hypotheses, since the concept of statistical significance is of secondary importance for these analyses.

We pre-registered this study with the American Economic Association's registry for randomized controlled trials (RCT ID: AEARCTR-0006271). Further details on the study design, outcome specification, and analytical model can be found in the Pre-Analysis Plan (PAP).[17]

3.1.2. Sample and data collection

Our baseline sample consisted of 1,264 households, in which we

[14] Due to reasons unrelated to the implementer or overall program quality, GiveDirectly's operation license was suspended by the government of Uganda in September 2020 and only reinstated in November 2021. Though the reasons given included UCTs making people lazy, promoting idleness, and promoting a dependency syndrome among recipients, these theories are not supported by evidence (Handa et al., 2018).

[15] When estimating effects on different outcomes within a family, we control for the baseline value of the aggregate variable instead. For example, when estimating effects on food consumption, instead of controlling for food consumption at baseline, we control for total consumption.

[16] We note that this control was not pre-specified, as we did not anticipate conducting any phone surveys when we wrote our pre-analysis plan.

[17] Trial registry and pre-analysis plan can be found at https://www.socialscienceregistry.org/trials/6271.

Table 1
Balance table.

Variable	Treatment	Control	Difference	Cond.
	Mean/SD	Mean/SD	*t*-test	On ethnicity
	(2)	(4)	(2)-(4)	(2) - (4)
Gender of Household Head	0.723	0.749	−0.026	−0.013
	[0.448]	[0.434]		
Household Head has at least Secondary Education	0.345	0.294	0.051*	0.032
	[0.476]	[0.456]		
Household Size	8.619	9.094	−0.475*	−0.226
	[3.901]	[4.256]		
Time in Settlement	2163.131	2176.206	−13.075	−35.023
	[2043.631]	[1990.799]		
Ethnic Acholi / Luo	0.209	0.210	−0.001	
	[0.407]	[0.408]		
Ethnic Dinka	0.241	0.253	−0.012	
	[0.428]	[0.435]		
Ethnic Nuer	0.151	0.243	−0.092***	
	[0.358]	[0.430]		
Ethnic Bari	0.140	0.118	0.022	
	[0.348]	[0.323]		
Other Ethnicities	0.259	0.176	0.083***	
	[0.438]	[0.381]		
Total Monthly Consumption Expenditure, USD PPP	925.808	955.102	−29.294	−6.173
	[597.158]	[623.575]		
Total Assets, Net of loans, USD PPP	199.992	157.119	42.873	30.178
	[694.611]	[567.642]		
Total Monthly Business Revenue, USD PPP	53.455	41.400	12.055	4.535
	[165.292]	[141.262]		
Psychology Well-Being Index	0.052	−0.085	0.136**	0.168***
	[0.989]	[1.001]		
Female Empowerment Index	0.025	−0.005	0.030	0.028
	[0.978]	[1.014]		
Non-Ag Enterprise Ownership	0.205	0.163	0.042*	0.021
	[0.404]	[0.370]		
Share of Respondents Employed	0.483	0.409	0.074**	0.030
	[0.496]	[0.487]		
Dependency Ratio	0.497	0.495	0.002	0.008
	[0.218]	[0.217]		

Note: All monetary outcome variables measured in USD (PPP adjusted) and continuous variables are winsorized at 99%. The asset module at baseline was shortened, so asset values at baseline are not comparable to those at the end line. The difference columns report the coefficient of regressing a treatment dummy on the given variable. The 'Cond on Ethnicity' coefficient includes a full set of ethnicity dummies in the regressions. *, **, and *** signify p <.1, p <.05, and p <.01 respectively.

spoke with the household head or another adult household member who was knowledgeable about the household's workings. We attempted to survey all households in cohorts 1 and 2 and a random sample of 50% of cohorts 17–20.[18] Baseline data collection took two months, from late September until November 2019. The the end line data collection took place from February to April 2022. Owing to attrition, we completed 1,090 surveys at the end line (86.2% of the baseline sample). About six percent (sixty-nine) of the end line sample were phone surveys due to difficulties reaching the households in person. All other surveys were completed face-to-face. There was no differential attrition between the treatment and control groups. The sample size varies per outcome as we administered some selected modules (psychological well-being, food security, and self-reliance) to only half the household (randomly selected). This was done to add additional elements to our survey while maintaining a manageable survey time (around two hours on average). Ex-post power calculations for our primary outcomes using the full sample and our main specification give a normalized minimum detectable effect size of around 0.16 standard deviations (SD).

3.1.3. Randomization Validity and balance

Even though the lottery was designed with an equal probability of being assigned to any of the 24 cohorts—and we took steps to prevent manipulation— in Fig. 2 we show that the probability of being in an early cohort was higher than that of being in a later cohort.[19] Specifically, there was a two-percentage-point difference in being in cohorts 1 and 2 than in cohorts 23 and 24.[20] This difference in cohort representation is statistically significant and indicates signs of tampering with the lottery process. Since the treatment group is more likely to be ethnically Nuer and less likely to be in a minority ethnic group, we hypothesize that the larger social networks of the largest ethnic group(s) might have caused tampering with the recording of their lottery draw. This is disappointing and may introduce bias into our results. To limit this possible source of bias as well as increase model precision, we included ethnicity dummies as controls in all the regressions to absorb any systematic differences emanating from an imbalance in ethnicity. Indeed, as we show in Table 1, conditioning on ethnicity removes almost all imbalances in baseline measures.

3.1.4. Summary statistics

Table 1 gives the summary statistics and the balance table. The sample is 74% female-headed households, consistent with the representation of female-headed households in the whole settlement. The largest ethnicity represented is Dinka, followed by Acholi, then Nuer, again reflecting the distribution in Kiryandongo refugee settlement.

As discussed, we find some systematic differences between treatment and control at baseline. Compared to the control group, the treatment group was more likely to be ethnically Nuer, less likely to be a minority ethnic group in the "other" category, scored higher on the psychological well-being index, and was more likely to be employed. We interpret most of these differences as being a function of tampering with randomization. However, once we control for ethnicities these differences become small and statistically insignificant. Therefore, conditional on ethnicities, our treatment assignment approaches the level of balance sought through randomization.

The one exception is the psychological well-being index, which we believe could be affected directly by a participant's draw in the lottery. Since the baseline was conducted after the participants were aware of their treatment status (1–4 months after the lottery), their psychological well-being could have improved at baseline because of anticipatory effects. Therefore, we do not include the baseline value of psychological well-being in our regressions.

Compared to households that attrited between baseline and the end

[18] At baseline, we found that sometimes multiple households in our sampling frame were actually eating together and acting as a single household. To avoid contamination, we dropped any household in treatment or control that were combined with another household who would receive a transfer before the end line.

[19] Details on the lottery can be found in the following blog post: https://www.idinsight.org/article/implementing-a-10000-refugee-household-public-lottery-in-eight-days-lessons-from-kiryandongo-uganda/.

[20] The p-value of a comparison of the number of households to their expected value for cohorts 1,2, and 24 are 0.007, 0.006, and 0.006, respectively. No other cohort (including any of our control groups 17–20) has a p-value less than 0.05.

Table 2
Effect of unconditional cash transfer on composite outcomes.

Dependent variable	Control Mean	Control SD	Treatment Effect	Standard Error	FWER adj.p-value	FDR adj.q-value	N
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Panel A: Primary Outcomes							
Total Monthly Consumption Expenditure, USD PPP	843.358	605.350	91.899***	34.679	0.008	0.017	1,090
Total Assets, Net of Loans, USD PPP	6495.094	1.6e + 04	3937.210***	1190.572	0.003	0.005	1,090
Total Monthly Business Revenue, USD PPP	63.324	218.916	40.514***	15.442	0.008	0.017	1,083
Panel B: Secondary Outcomes							
Psychology Well-Being Index	0.000	1.000	0.278***	0.083		0.005	558
Food Security Index	−0.000	1.000	0.093	0.079		0.217	536
Female Empowerment Index	0.000	1.000	−0.031	0.062		0.552	1,011
Non-Ag Enterprise Ownership	0.220	0.414	0.082***	0.025		0.005	1,088
Respondent Employed	0.478	0.500	0.035	0.029		0.217	1,066
Household members migration	1.073	1.950	0.055	0.113		0.552	1,090
Household Size (Endline)	9.448	4.548	0.001	0.178		0.552	1,090
Dependency Ratio	0.405	0.189	0.000	0.009		0.552	1,090
Household Self-reliance Index	0.000	1.000	0.161**	0.080		0.055	531

Notes: All monetary outcome variables measured in USD (PPP adjusted) and continuous variables are winsorized at the 99% upper tail. All regressions other than psychological well-being, food security, female empowerment index, and individual migration, control for their respective baseline values. All regressions control for household size, sex of the head of the household, time lived in the settlement, ethnic group of the household, and a phone survey dummy. Col (5) reports FWER adjusted p-values for Panel A, considering all primary outcomes as one 'family' and Column (6) reports Andersons's sharpened q-values to account for multiple hypothesis testing for all outcomes. *, **, and *** signify p <.1, p <.05, and p <.01 respectively.

line, end line respondents were less educated, have been in settlement longer, were more likely to be Acholi/Luo, Dinka, were less likely to be Nuer, had lower baseline consumption values, and a larger dependency ratio. These differences are shown in Appendix Table A1. The attrition between baseline and end line does not vary by treatment status, therefore we do not expect these imbalances to bias our treatment effects.

3.2. Qualitative study

3.2.1. Overview

The qualitative study was designed to complement the RCT by providing additional context to our RCT results, as well as exploring topics not covered in the RCT. The qualitative study explored the following topics:

1. Household preparation for and response to the transfer:
- Investments and spending plans and ideas,
- Household decision-making processes, and
- Transfer utilization.
2. Contextual factors and changes over time that might have been related to key RCT results:
- Changes in market prices and household response, and
- Service accessibility and quality (especially education).
3. Experiences and changes in key topics not captured in the RCT:
- Hope, aspirations, and (anticipated) long-term impact of the transfer, and
- Social cohesion, safety, and security (including relationships between refugees and local Ugandans).

3.2.2. Qualitative sample

We originally designed the longitudinal qualitative study to include eight "rounds" of semi-structured interviews over ten months in 2020. However, due to the COVID-19 pandemic and GiveDirectly's temporary suspension in Uganda (during which the research team also was prevented from gathering data), we adapted the design. In all data collection rounds we spoke with refugees who were early transfer recipients (in cohort 3), late transfer recipients (cohort 12), and households in surrounding Ugandan communities, some of whom also received the transfer (but were not part of the RCT.) The data collection can be broken into three phases, all of which had slightly different sampling strategies:

1. **Pre-COVID-19 in-person interviews**: We completed one round of data collection in-person before the lockdown began in March 2020, with 32 refugee households and nine Ugandan households.
2. **COVID-19 phone interviews** From March 2020 to September 2020, we conducted multiple rounds of phone interviews with 17 refugee households, seven Ugandan households, and key informants including seven of our baseline enumerators living in the settlement, a teacher from a neighboring town, and a nurse from a neighboring health center.
3. **Post-lockdown, in-person interviews**: In March 2022 we conducted in-person interviews with 27 refugee households, 21 Ugandan households, and three Ugandan key informants from Bweyale town (a teacher, a business owner, and a health worker. The 2022 data collection also included a focus group discussion with nine leaders from all host communities represented in our qualitative sample.

As in the RCT, the qualitative interview respondents were usually household heads. If the household head was not available, we spoke with the next most knowledgeable adult in the household as identified by the household member first reached.

We conducted a total of 345 interviews over eight "rounds," led by two local interviewers with frequent debriefs with two of the paper's authors. The first seven rounds were conducted in 2020 and the last was conducted in 2022; three rounds were in-person and five were remote. In-person interviews lasted about 90 min and covered multiple topics. To minimize fatigue associated with phone interviews, we split interviews into three 30-minute sessions—usually a week apart and covering a specific topic area. We audio-recorded, translated, and transcribed the interviews in Excel©, and then coded and analyzed them using a thematic approach (Kiger & Varpio, 2020).

4. Results

4.1. Overall quantitative findings

We summarize treatment effects on our pre-specified outcomes in Fig. 2 and Table 2. An average of 19 months after receiving their transfers, recipient households showed increased consumption, asset

Table 3
Effect of the unconditional cash transfer on consumption.

Dependent variable	Control Mean	Control SD	Treatment Effect	Standard Error	N
	(1)	(2)	(3)	(4)	(5)
Total Monthly Consumption Expenditure	843.358	605.350	91.899***	34.679	1,090
Food	454.124	338.985	59.996***	19.940	1,090
Health (medical visits, medicines, transport)	37.511	47.638	8.820**	3.404	1,090
House Rent	20.915	73.653	7.937*	4.563	1,090
Airtime and Internet	21.261	28.552	3.924**	1.841	1,083
Alcohol/ Tobacco/ Lottery	1.969	10.071	1.468**	0.710	1,090
Education (Fees, uniform, stationary)	92.497	126.990	−1.529	7.026	1,090

Notes: All monetary outcome variables were measured in USD and winsorized at 99% upper tail. All regressions control for 99% winsorized value of total consumption at baseline, household size, sex of head of the household, time lived in the settlement, the ethnic group of the household, and a phone survey dummy. Robust standard errors are reported in Column 4. *, **, and *** signify $p < .1$, $p < .05$, and $p < .01$ respectively.

ownership, business ownership and revenue, and psychological well-being. We do not find statistically significant effects on food security, migration, female empowerment, employment, household size, or the household dependency ratio. Note that although (as described earlier) some of the transfers were made in 2022 shortly before the end line, these transfers are not driving the results. Table A2 in the Appendix shows that after dropping all households who received transfers in 2022 from our sample, our results remain qualitatively similar and point estimates even increase for most outcomes. In the sections that follow, we dive deeper into these results, exploring the mechanisms that drive our findings, using both quantitative and qualitative data. We also report additional results on social cohesion, security, and aspirations, which we derive from just the qualitative data.

4.2. Consumption and food security

In Table 3, we report the effect of the transfer on the consumption of refugee households. The transfer increased the overall consumption of the treatment group by 94 USD PPP (an 11% increase over the control mean of 858 USD PPP). The largest contributor to this increase is food consumption, which increased by 60 USD PPP. We also see increases in health expenditures, house rent, and airtime. We do not see increases in educational expenditures, even though many households in our qualitative sample listed education as one of their main plans for the transfer and frequently linked the potential education to sustainable improvements in household well-being. Although schools were open by the time of our end line study, educational plans were likely disrupted by the nearly 2-year closure of Uganda's schools during the COVID-19 pandemic (the longest in the world.).

Although we see clear increases in food consumption, we somewhat surprisingly do not see a statistically significant increase in our food security index (although it has a positive point estimate).[21] This is in contrast to the midline results (Stein et al., 2022) where an increase in food security was observed, but not an increase in total food consumption. This can potentially be explained by variations induced by small samples: the midline phone survey had a small sample (for the first round, n = 633), and at the end line the food security module was only conducted with 50% of households, *i.e.*, 536 households. In addition, we suspect that changing food security landscapes during and after COVID-19 would drive these results as during COVID-19 food access would have been a critical indicator of food insecurity but after the pandemic, when food access was no longer the main challenge, food consumption would be the outcome of critical interest.

However, we think a more compelling explanation has to do with changing patterns of food consumption over time in the settlement. Our food security index is designed to detect acute levels of distress, which were common in mid-2020 due to the effects of the pandemic lockdown as well as WFP aid cuts. By the end line, while overall levels of food security remained low, respondents were much less vulnerable than at the midline.[22] Additionally, we find no treatment effects on the consumption of staples and pulses but see large and significant increases in more preferred, expensive, and perishable foods, such as fruits, vegetables, and meats (see Table A4 in the Appendix). One qualitative respondent described that before the transfer, she and her neighbors used to "rely on only one main source [type] of food," but now they were able to "buy anything of their choice," such as "meat, fish, and rice." These data points support a hypothesis that by the time of the end line, treatment households were experiencing less acute food insecurity, and therefore were using their increased income to shift to higher-value foods.

We also find a small but statistically significant increase in temptation goods of 1.5 USD PPP (75%), which is driven by alcohol spending which increased by 1.0 USD PPP (100%). Generally, studies on the effect of cash transfers on temptation goods such as alcohol find limited evidence of increasing consumption of temptation goods (Evans & Popova, 2017; Handa et al., 2018). While we find a positive and significant effect on alcohol, our point estimate reveals two things. First, compared to overall consumption, temptation goods account for a very small share of consumption. Secondly, our results are in line with various other studies showing that cash transfers only accounted for between 0.00% and 0.02% of household consumption of temptation goods (Handa et al., 2018). Nonetheless, through qualitative interviews, alcoholism was mentioned as one of the main negative changes that people observed and attributed to the transfer during our qualitative interviews. However, these stories did not appear to indicate a systematic trend suggesting that transfer increased alcohol consumption but rather highlighted a small number of visible cases. This seems consistent with our quantitative findings of a positive but small average effect on alcohol spending. We can postulate two explanations. We can not rule out some social desirability bias in qualitative data. The responses in qualitative data mostly refer to other households and generally the community and not the respondent's households. Secondly, from a small sample of qualitative respondents, it seems that problematic alcohol consumption could have been concentrated in a small number of households and was not widespread. Thirdly, an increase in alcohol consumption might have been related to increasing idleness associated with lockdowns, school closures, and unemployment in 2020 and 2021. Recent evidence (though focusing on specific sub-groups) suggests that while bar

[21] We do find significant increases in two components of the index: "Household members eat until content every day" (0.10 SD increase) and "Household has enough food in the house for tomorrow's meal" (0.09 SD increase).

[22] Quantitatively, we compare midline and endline using five components of the index: household went to bed hungry; household regularly eats at least two meals a day, household eats until they are content each day, household has enough food in their home for tomorrow's meals, and household protein intake. Respondents scored higher (more food secure) for every component at endline compared to midline. This is also supported by qualitative data. In 2022, recipients were less worried about food having resumed much of the economic activities. Qualitative respondents mention that "hunger disappeared," "people are feeding well," they were "able to eat good food," and "have enough food at home.".

Table 4
Effect of the unconditional cash transfer on household assets.

Dependent variable	Control Mean	Control SD	Treatment Effect	Standard Error	N
	(1)	(2)	(3)	(4)	(5)
Net Assets	6495.094	1.6e + 04	3937.210***	1190.572	1,090
Net Assets (excluding House and Land)	917.133	1433.552	256.772***	91.829	1,090
Land Value	2404.284	9075.060	2294.202***	697.278	1,090
House Value	2935.852	8202.501	1386.694**	559.930	1,090
Outstanding Debt (Amount)	104.226	223.181	5.939	14.488	1,090
Loan made to others (Amount)	25.165	112.674	29.142***	9.172	1,090
Net Debt	64.216	299.595	−35.145	22.743	1,090
Savings	107.412	306.512	67.229***	22.466	1,090
Household Assets (Furniture/ Sewing Machine/ Radio)	492.306	616.798	140.749***	39.989	1,090
No. of Plots	0.348	0.614	0.118***	0.041	1,090
No. of Houses	1.753	1.535	0.218**	0.095	1,090
No. of Rooms per House	1.691	1.024	0.147*	0.076	822
No. of Houses having improved walls (plaster/ burnt brick)	0.581	0.815	0.252***	0.052	1,090
No. of Houses having Plaster Floors	0.794	0.874	0.290***	0.058	1,090
No. of Houses having Iron-sheet Roofs	1.434	1.006	0.205***	0.062	1,090

Note: All outcome variables are measured in USD and winsorized at the 99% upper tail. All regressions control for 99% winsorized value of total net assets at baseline, household size, sex of head of the household, time lived in the settlement, the ethnic group of the household, and a phone survey dummy. Robust standard errors reported in Column 4. *, **, and *** signify $p < .1$, $p < .05$, and $p < .01$ respectively.

attendance reduced during lockdowns, unhealthy alcohol use increased (Asiimwe et al., 2022) and reduced bar attendance was not associated with reduced alcohol intake (Beesiga et al., 2023). The effect of the transfer on inducing these tendencies might therefore have been only circumstantial. Taking the quantitative and qualitative results together, we can conclude that there was a small but statistically significant impact of the transfer on problematic alcohol consumption.

4.3. Assets

During our qualitative interviews before the transfer, during which we focused on aspirations and plans, many respondents reported an intention to spend the transfer on home improvements and land purchases. They were able to follow through with these plans, as improvement in assets seems to be the largest use of these transfers. At the end line, refugee recipients had significantly higher asset values—by 3,937 USD PPP (60%)—compared to those who did not yet receive the transfer. This is driven by increased house and land values (see Table 4).[23]

The treatment effect on home value was 1,387 USD PPP (47% higher than the control). Though this measure is self-reported, increased home value is supported by evidence of many types of improvements in treatment houses: we find significant effects on the number of rooms in the house, as well as improved walls, floors, and roofs. In the qualitative interviews, refugee respondents noted that "a lot of people used the money for constructing new houses or renovating old ones" and often highlighted this as the most notable positive change in their lives from the transfer.

We also find a large treatment effect on land values of 2,294 USD PPP (95% higher than the control). The effect is driven by increases in the value of land owned by refugees in South Sudan, which are higher in treatment by 1,932 USD PPP. Refugees are likely purchasing or improving land in South Sudan since they are not legally allowed to own land in Uganda. While our qualitative investigations did not touch on the desire for return migration (to South Sudan), our results are supported by evidence of the existence of high-frequency mobility among the refugee population between Uganda and South Sudan (Schiltz et al., 2019; Vancluysen, 2022). It is therefore highly probable that refugees in Uganda travel back to South Sudan to buy and cultivate their lands while keeping a registered presence in Uganda.

Looking at total net assets excluding houses and land, we find a positive effect at 257 USD PPP. Household assets increased by 141 USD PPP (29%) compared to the control group, driven mostly by beds, mattresses, and mobile phones. We also find statistically significant increases in the value of savings (67.2 USD PPP or 63%)[24] and loans (29.1 USD PPP or 116%). Loans may indicate some spillover effects of the transfers; we discuss this in section 4.9.1.

The fact that assets increased much more than the cash transfer (3937 USD PPP vs 2800 USD PPP) is surprising. As mentioned earlier, much of this increase is driven by house and land values, which are very hard to estimate since they are infrequently sold. Note that respondents here provide self-reported asset values. It is therefore plausible that after investing in household improvements, individuals tend to value their houses at prices higher than their actual market prices. However, since all respondents are providing self-reported measures, we assume that any possible measurement error is randomly distributed and therefore does not affect the results. In addition, after investment in these assets and as refugees seek to establish longer-term settlement and integration, asset values may be influenced by treatment status. In other words, wealthier households may be less willing to sell their assets and therefore more likely to value assets higher or inflate their values. In both dimensions, the results here therefore might reflect individual valuation and not actual asset values.

4.4. Business ownership and revenue streams

4.4.1. Business ownership

In our qualitative interviews before the transfer, many refugees spoke of planning to use the transfer to start businesses, and a few others to expand agricultural production for selling. In line with their plans, non-agricultural business ownership was higher by 8.2 percentage points in the treatment group compared to the control group (in which 22% owned businesses). This is driven mostly by transfer recipients starting small retail shops either in the market center or running from their homes.

Though positive, these effects may have been weakened by the COVID-19 pandemic. Many of our qualitative respondents were unable to start businesses with their transfer as planned since they had to concentrate on basic needs during the pandemic. One respondent expressed that "if I would have received out of the COVID-19 period, I would have done business like others.".

[23] The value of houses and land were estimated by households, and therefore may not accurately reflect their market value.

[24] According to one respondent in 2020, she saved the entire GiveDirectly transfer "for [school] fees" once schools reopen.

Table 5
Effect of the cash transfer on business revenue.

Dependent variable	Control Mean	Control SD	Treatment Effect	Standard Error	N
	(1)	(2)	(3)	(4)	(5)
Monthly Business and Agricultural Revenue	63.324	218.916	40.514***	15.442	1,083
Business Revenue	60.688	218.413	40.304***	15.419	1,083
Agricultural Revenue	1.928	6.776	0.353	0.450	1,083
Remittance Income	55.744	167.511	34.900***	11.915	1,083
Remittance Expenditure	19.016	59.953	−0.655	3.590	1,083
Enterprise Ownership	0.220	0.414	0.082***	0.025	1,088
Enterprise Started	0.144	0.352	0.061***	0.022	1,088
Enterprise Closed	0.088	0.284	−0.020	0.013	1,088
Respondent Employed	0.478	0.500	0.035	0.029	1,066

Note: All outcome variables are measured in USD and winsorized at the 99% upper tail. All monetary values are expressed in USD PPP. The Revenue variables control for total revenue at baseline (winsorized at 99%), whereas the enterprise ownership/start and exit variables control for enterprise ownership at baseline and the respondents' employment control for employment at baseline. All regressions additionally control for household size, sex of the head of the household, time lived in the settlement, the ethnic group of the household, and a phone survey dummy. Robust standard errors reported in Column 4. *, **, and *** signify p <.1, p <.05, and p <.01 respectively.

Some business owners, regardless of transfer status, benefited indirectly from the transfer because of increased demand in the local economy. One respondent noted that "people with tippers [construction trucks] are making money," and "right now getting bricks is not easy [due to high demand for construction]." This shows likely positive spillover effects of the impacts on home improvement discussed earlier. However, not all businesses started were successful. A few respondents mentioned their businesses were "not doing well," which might have been, in part, due to the COVID-19 economic slowdown and prolonged lockdowns that would have affected both refugee and Ugandan businesses.

4.4.2. Sources of household income

Since we find an increase in monthly consumption 19 months after the transfer of around 91.9 USD PPP, it is reasonable to expect that this increase must be financed by some sustained increase in income. We find that this increase in consumption is primarily sustained by increased revenue from businesses and an increase in remittances. We explore these and other possible channels for income streams in Table 5, with further explanations below.

4.4.3. Businesses

We found that the total monthly revenue from businesses and agriculture increased by 40.5 USD PPP (64% increase). Breaking this down into business revenue and agricultural revenue, we observed that almost all the increase was from business revenue (40.3 USD PPP, a 66% increase). Some qualitative respondents reflected on business growth, attributing it to increased demand or "transfer use by refugees.".

The assessment of business revenue is not conditional on owning a business at baseline. We wanted to report the aggregate effect on the revenue flows for the household including on both the extensive margin (through increased business ownership) as well as on the intensive margin (through differential business growth where households have a business). To assess the extensive margin, we observed that business ownership increased by 8.2% (a 37 percentage point difference from control households) and the probability of starting a new business increased by 6.1% (a 42 percentage point difference from control households). While there is this compelling evidence of business startup, the number of households that had a business was still very few and therefore underpowered to assess the effect on business revenue for households that previously had businesses. With this assessment, our sample size dropped 296 observations and the effects were not statistically significant (76.163, p-value = 0.134). The results were however consistent with the positive effect at the intensive margin as well. Moreover, the results here though not statistically significant, are of very profound economic importance.

4.4.4. Agriculture

Agricultural revenue remained largely unaffected, implying that where households were cultivating their plots, all the produce was for home consumption. Although our qualitative interviews suggest that some households did use their transfer to invest in agriculture, it appears that these investments did not systematically bring higher production of revenue. While providing refugees with access to land has been used as a tool to promote self-reliance, studies have shown that the plots of land (50 m by 50 m) granted to refugees upon arrival in the settlement are usually too small for commercial agriculture. Moreover, studies have shown that refugees who arrived before 2012 are more likely to have such access to land and more recent arrivals do not have as much access to agricultural land due to higher refugee in-flows than camp expansion (Betts et al., 2019). For recent refugees, access to agricultural land, therefore, exists more in policy documents than in reality. A 2018 survey of refugees and host communities found that only 15 percent of refugees had access to agricultural land and even for those who had, access to farm inputs such as fertilizer was too low to make farming commercially viable (World Bank, 2019). Our findings confirm these earlier studies. One refugee respondent explained that "the garden given to me is too small to even support my family."[25].

4.4.5. Employment

The legal and political framework in Uganda permits refugees to move outside of the settlement and seek employment opportunities. Despite legal permission, refugees face significant challenges such as a lack of job opportunities, job market discrimination, bureaucratic hurdles, limited professional networks, and the seasonality of casual labor demand. This is set against a backdrop of low rural employment in Uganda more generally. Only a small proportion of refugee income in Uganda comes from wage employment (World Bank, 2019) and this is supported by our qualitative interviews, where we found that few refugee respondents were employed, and those mostly did casual labor. Ultimately, we find only a small point estimate on employment, and it is not statistically significant. Outside refugee contexts, the effects of large cash transfers on employment have been elusive (Egger et al., 2022). Our result, therefore, is not surprising and instead in line with the precedent. Moreover, refugees face additional difficulties in obtaining employment, more than the general population. These challenges include discrimination (Loiacono & Silva Vargas, 2019) and hence very low employment levels (Betts et al., 2019). One possible context to lower employment levels is the nature of the legal and operational framework of refugee support in Uganda. While refugees are legally allowed to work, gainful employment is usually outside refugee settlements including further distance in cities. In addition, employment could also be driven by the pandemic.

However, moving outside the settlement results in losing support including food aid from WFP and other support from other organizations. Refugees are therefore less likely to seek employment given these

[25] This reflection is echoed by other researchers (Braak & Kenyi, 2018; MacPherson & Sterck, 2021).

Table 6
Effect of the unconditional cash transfer on psychological wellbeing.

Dependent variable	Control Mean	Control SD	Treatment Effect	Standard Error	N
	(1)	(2)	(3)	(4)	(5)
Psychology Well-Being Index	0.000	1.000	0.278***	0.083	558
CES-D Scale	2.657	0.572	0.085*	0.048	558
Cohen's Stress Scale	2.773	0.798	0.232***	0.065	558
Worries Scale	1.796	0.639	0.026	0.054	558
Happiness	2.433	0.851	0.185***	0.068	558
Satisfaction	4.336	2.265	0.644***	0.184	557

Note: All regressions control for household size, sex of the head of the household, time lived in the settlement, the ethnic group of the household, and a phone survey dummy. Robust standard errors reported in Column 4. *, **, and *** signify p <.1, p <.05, and p <.01 respectively.

conditions. However, our qualitative data shows that the transfer increased opportunities for casual work, even for non-recipients within the settlement. A construction worker said the transfer to refugees gave him "a lot of work within the settlement." It is, therefore, possible that some employment even when might be generated is not well captured by our assessment. positive spillovers in settlements mask potential effects on employment.[26] Consistent with this theory, we see that employment in our control group increased by around 8 percentage points between the baseline and the end line.

4.4.6. Migration and remittances

Generally, migration in refugee settings like Kiryandongo is a difficult concept to define, as entire households and specific household members tend to frequently move in and out of the settlement while maintaining an anchor. This is because many South Sudanese refugees in Uganda continue to maintain economic and agricultural activities as well as strong social networks in South Sudan. Hence, to some extent, the settlement is perennially transitory (Vancluysen, 2022). Our migration metrics only attempt to determine whether households have left the settlement permanently—with consequent loss of claims to food and other aid—or whether household members have permanently left the household.

Based on these metrics, we did not find quantitative or qualitative evidence of the transfer motivating migration back to South Sudan, or within Uganda. Respondents explained that their household members who migrated back to South Sudan were mainly males looking for "better opportunities to study or find work", especially during the lockdown in Uganda. Some temporarily migrated to "look after a sick relative" or "seek treatment after an injury." Some refugee household members had traveled to other parts of Uganda, such as Kampala and Arua, for "work", "school" or because of "ease of access" to food, transport, and education. None of our qualitative respondents mentioned that the cash transfers made them more or less likely to permanently out-migrate from the settlement. It, therefore, seems that all indications of out-migration were only for short-term purposes. Our qualitative probing further supported this position. When asked why they did not intend to migrate out of the settlements, some responses included "my children need to finish their education here in Uganda", "we pay no rent and have a plot of land to cultivate", "we have settled here and this is our home", "there is a high cost of living outside the settlement" and "it is not yet safe in South Sudan" among others. We are also reminded that the Ugandan refugee policy mandates that refugees are only supported while refugee settlements in which they have been registered in. Therefore, whereas the cash transfer increased many aspects of household welfare, it might not have been large enough to weigh higher than the continued benefits of presence in the settlement.

Despite lacking evidence of increased migration, we do find that income from remittances increased by 34.9 USD PPP (61%). We hypothesize that the transfer allowed household members to increase temporary migration (which we did not measure quantitatively), and therefore increase remittances. It is also possible that the transfer allowed temporary migrants to be more productive, therefore sending back additional money.

4.5. Psychological well-being

Our psychological well-being index combines measures of depression, stress, happiness, life satisfaction, and worries.[27] We assess these indicators individually and also combine them into an index of composite psychological well-being. On average, the treatment group at the end line scored 0.28 SD higher on the composite psychological well-being index compared to the control group. This was a meaningful increase and in line with other studies.[28] As shown in Table 6, this increase is driven by consistent increases in most of our index components, including abridged versions of the CES-D depression scale and Cohen's stress scale, as well as questions on happiness and satisfaction from the World Values Survey (Haerpfer et al., 2022). Regarding worry, using a module similar to Haushofer & Shapiro (2016)'s study of cash transfers in non-refugee settings in Kenya, we do not find any change across time and between treatment and controls.

It is important here to recall that our baseline measure of psychological well-being was not balanced (even after controlling for ethnicity), and we believe that the lottery (and, therefore, the anticipation of payments) could have influenced psychological well-being at baseline. We, consequently, do not control for the baseline value of our index in the regressions and suggest that our end-line results represent a valid treatment effect.

Despite the positive treatment effect of cash, levels of psychological well-being are still concerning, even in the treatment group. For instance, ~70% of treatment households rated their life satisfaction as 5 or less (on a scale of 10), and ~ 40% of treatment households rated their happiness as "not at all happy" or "not very happy". These results are not much different from other life satisfaction studies in Uganda and the regions. For instance, the 2021 World Happiness Report ranked Uganda 117 out of 146 countries (Helliwell et al., 2022). Similarly, the 2021 World Values Survey for Kenya shows that about 45% of the respondents had low happiness levels—5 or under on a 10-point scale (Haerpfer et al., 2020). Our findings, therefore, underscore the fact that even when the cash transfer improved psychological well-being, they still left recipients in a suboptimal state. In qualitative interviews, the three most commonly mentioned worries among refugees in 2020—in order of frequency—were COVID-19, food security, and "fighting in the settlement." The latter was likely driven by an intra-tribal conflict within the settlement reported between April and June 2020. Some respondents, especially female heads of households whose husbands live in or regularly commute to South Sudan, shared that they struggle with the burden of their responsibilities and that they often feel lonely. Other respondents expressed worries about their future and reported difficulties due to a lack of money. One female respondent, for example, shared that she asks herself "daily, how will the future of these children be?" since she does not "have enough capital" to "take care of them". Some respondents expressed feeling "troubled" in their "hearts", their minds being "occupied" and "confused," or expressing feelings of "fear,"

[26] We provide more information on spillovers under section 5.2.

[27] Many cash transfer studies use this index to measure psychological well-being, but the scales were originally designed for Western contexts. We caveat that this index may fail to measure crucial nuances in a refugee context such as trauma or context-specific definitions of worries, depression, etc.

[28] For example, Haushofer and Shapiro (2016).

Table 7
Effect of the unconditional cash transfer on female empowerment.

Dependent variable	Control Mean	Control SD	Treatment Effect	Standard Error	N
	(1)	(2)	(3)	(4)	(5)
Female empowerment index	0.000	1.000	−0.031	0.062	1,011
Prop. of time away from household care	0.750	0.170	−0.011	0.011	880
Percent girls enrolled in school	0.920	0.231	−0.013	0.016	888
No. of school days not missed by girls	3.724	1.668	0.168	0.106	888
Percent boys enrolled in school	0.927	0.224	0.002	0.015	922
No. of school days not missed by boys	3.888	1.556	0.148	0.100	922

Note: All regressions control for household size, sex of the head of the household, time lived in the settlement, the ethnic group of the household, and a phone survey dummy. Robust standard errors reported in Column 4. *, **, and *** signify p <.1, p <.05, and p <.01 respectively.

Table 8
Effects of the unconditional cash transfer on self-reliance.

Dependent variable	Control Mean	Control SD	Treatment Effect	Standard Error	N
	(1)	(2)	(3)	(4)	(5)
Household Self-reliance Index	0.000	1.000	0.161**	0.080	531
Housing	0.000	1.000	0.122	0.087	531
Rent	0.000	1.000	0.042	0.086	531
Food	0.000	1.000	−0.003	0.085	531
Education	0.000	1.000	−0.008	0.088	531
Healthcare	0.000	1.000	0.022	0.082	531
Health status	0.000	1.000	−0.084	0.091	531
Safety	0.000	1.000	0.069	0.088	531
Employment	0.000	1.000	0.140	0.086	531
Financial resources	0.000	1.000	0.110	0.080	531
Assistance	0.000	1.000	0.129	0.083	531
Debt	0.000	1.000	0.228***	0.087	531
Savings	0.000	1.000	0.042	0.085	531
Social Capital	0.000	1.000	−0.118	0.087	531

Note: All regressions control for household size, sex of the head of the household, time lived in the settlement, the ethnic group of the household, and a phone survey dummy. All component variables of the index are also normalized by the control mean. Robust standard errors reported in Column 4. *, **, and *** signify p <.1, p <.05, and p <.01 respectively.

"helplessness," "depression," and "anger" due to the challenges they face. One male respondent described himself as a "beggar" with "no choice." In 2022, theft of the transfer became the most common worry among transfer recipients—once the transfer had been withdrawn from mobile phones.

4.6. Gender, family relations, and household decision-making

The majority of households in the settlement are female-headed, given the context of war and migration, and our qualitative work showed that in these households the female household head is often the primary (*de-facto*) decision-maker—although absent husbands may still be the formal or *de-jure* decision-maker. One male respondent assessed that "women are the ones controlling the money in most homes." Another female respondent shared that she made decisions but would have to "consult with [her] husband." For households in which the household head was a man, there were more varying arrangements on how the transfer spending was decided. Most had some form of joint decision-making. In some, the husband had ultimate decision-making power over how the money was spent, but in others, the wife had a lot of *de-facto* power over spending.

As shown in Table 7, the quantitative data do not show any statistically significant changes in our overall female empowerment index or any of its three components.[29] We found no statistically significant treatment effect on the proportion of time that females are spending on household care (household chores, caring for children), girls' school enrollment, or girls' school attendance.[30] Additionally, we did not find any differences in treatment effects for any of our primary or secondary outcomes when comparing households with male versus female heads (Table A3, Table 8).

About half of the qualitative respondents shared experiences or anecdotes about how the transfer negatively affected family relations and it was one of the most commonly mentioned sources of tensions within families across all qualitative rounds. However, few households reported about themselves; most spoke about "others", which could be neighbors, relatives, other community members they directly knew, or general anecdotes circulating in the community. A key time of tension was before the transfer was delivered, especially if it was not delivered on time. For example, some respondents felt "pressure" from family members accusing them of having "eaten the money alone, yet they [GiveDirectly] had not yet given the money."[31].

Our results on domestic harmony and violence are generally mixed. In qualitative interviews, a few respondents reported instances of domestic violence due to the transfer, alcohol abuse, or the COVID-19 lockdown more generally—though these anecdotes never referred to their household and a few salient stories may have circulated widely in the settlement. As an example of such a salient—but empirically unique—case, one respondent described a situation where a woman "did not want to give her husband the money, so the husband picked a panga [machete] and cut her." Another respondent shared that "this mama (woman) ate all the money without giving the son" and that the son then "even beat *her* very badly until *she* released small money." These responses were indeed worrisome however, we can not conclusively link the domestic violence to the cash transfer. This is partly because domestic violence in refugee settlements is endemic pre-pandemic (Hatano, 2021; Krause & Schmidt, 2020) and was also reported to

[29] Our index included the proportion of time that females are spending on household care (household chores, caring for children), girls' school enrollment, or girls' school attendance. Female empowerment in East Africa is generally under-researched; constructing a female empowerment outcome measure in an East African context of largely female-headed households and a survey in which we spoke to both male and female household heads was challenging. We could not, for example, simply use the index suggested by Miedema et al. (X). First, measures of household decision-making did not broadly apply. Second, given the lack of professional psychosocial support in the variety of languages in which we fielded our survey (officially five), we did not want to ask questions about abuse that carried the potential of psychological harm. As such, we constructed an index based on human and social assets about which we thought would apply in a variety of household arrangements. We believe our index is conceptually reasonable and we report on it as it is a pre-registered outcome—but given extended school closures in Uganda during our study period, our results should not be taken as a clear statement of the (lack of) impact of cash transfers on female empowerment.

[30] Note that schools in Uganda were closed from March 2020-January 2022. We also do not find effects on boys' schooling.

[31] "Eating the money" was a very common phrase used by respondents - it usually referred to someone being thoughtless in how they spend the money, misusing the money, or using it without involving or consulting other household members.

have increased during the pandemic (Abwola & Michelis, 2020).

However, some households highlighted how the transfer contributed to improved harmony and family dynamics in their households. One refugee explained that the transfer helped to build "a team to focus on things that can make us not live as before, a life of understanding." For others, quarrels in the past involved a lack of money; but after receiving the transfers, they "no longer have problems." The responses here pointed to the possible reduction of violence related to needs, highlighting that in such contexts, responding to humanitarian needs through cash transfers can indeed reduce incidences of intimate partner violence (Hidrobo et al., 2016) and more so, during the pandemic (Blofield et al., 2022).

4.7. Social cohesion and security

We explore the concept of social cohesion primarily through qualitative data.[32] Our definition of social cohesion follows Manca (2014) in a narrow view as "connectedness and solidarity among groups" promoting a "sense of belonging of a community and relationships among members". We explore social cohesion both within the settlement among refugees as well as between refugees and Ugandans. A key question was whether the transfer in any way affected social cohesion in the settlement and district. Despite a few negative consequences discussed further below, we find no clear evidence that the transfer negatively affected social relations in any of the cohesion dimensions explored. We also find positive effects on social support networks, especially at the neighborhood level.

Among refugees, most respondents shared that they are "staying well" with their neighbors (who can be from the same or different tribes). To a few respondents, there was a shared sense of identity as visitors in Uganda hence they "respect each other", "unite" and "love each other". However, the dual external shocks (COVID-19 and aid cuts) and the transfer seem to have affected the social support fabric in the settlement in multiple directions. While some individuals have reduced their support to others as they focus more on their own immediate needs, others have used their available resources (*e.g.*, the transfer) to support neighbors in need. For example, one respondent who was part of an early cohort (cohort 3), mentioned helping a neighbor in a later cohort (cohort 4) with 500,000 UGX to repair her leaking house, and "she returned it when she got her transfer." The different types of support in order of frequency were loans, food, household items, and remittances to relatives. Recipients who supported others had an underlying expectation that they would return the favor. These effects may suggest spillovers and anticipation effects in our quantitative data.

Overall, refugee-host relationships were positive as described by both refugee and host respondents. One respondent used the metaphor "we always eat the same thing" to describe their relationship, meaning they get along. However, some perceptions of each other depicted underlying negativity between them. Refugees and neighboring host communities often share facilities such as markets, water points, schools, and hospitals where they meet and interact. The most commonly mentioned interaction between refugees and host communities was through trading. Refugees would buy foodstuff from Ugandans in the market, and when refugees get food from WFP, they would sometimes trade with Ugandans. Refugee respondents described the relations as harmonious due to the absence of fights and conflicts. They were grateful that Ugandans accepted them in their land and believed that they [Ugandans] benefited from their presence. For example, the refugees are "promoting their [Ugandans'] businesses.".

One of the negative consequences of the transfer, which was fueled by the perception of refugees "having money," was price discrimination. This perception led Ugandans to "increase the prices of goods consistently" and "overcharge" the refugees. One Ugandan Key Informant (a businessman) noted he had observed price discrimination and supported that the perception of refugees having money existed. Another refugee respondent shared that "whenever they [Ugandans] see someone with money and is from South Sudan, they think that every South Sudanese has money, but there are those who are well off with lots of money, there are those who are somewhat rich, and then those who are totally poor." Another respondent interpreted being overcharged as Ugandans "chasing them [refugees] out of their country.".

We found limited evidence of the transfer directly affecting safety or security. Some qualitative respondents thought that people who received cash transfers were more likely to be victims of theft, and indeed, in 2022, theft of the transfer was the most common worry among respondents. A few respondents experienced fraud attempts. For example, one refugee respondent reported that she and her neighbor were called by "con men" who were trying to steal the transfers; but she added: "nowadays we don't experience that." While these are some examples of security worries brought on by the transfer, we found these to be isolated incidents, early in the process. Other respondents felt generally safe with their cash transfers, especially given that they were sent directly to their phones so "nobody can know you have gotten your transfer unless you disclose." Others showed attention to safety by "keeping money at home and only withdrawing what he needed.'' Our results in this dimension are in agreement with emerging evidence on the modalities of disbursement of transfers suggesting that mobile money-based transfers provided more security and reduced social pressure on the recipients (Riley, 2020).

4.8. Aspirations

One mechanism by which transfers may have longer-term effects on recipients' outcomes is by changing their vision of what is possible: in other words, altering their hopes and aspirations. Some respondents directly acknowledged that "GiveDirectly gave us hope" and for others, their aspirations were linked to what they would achieve using their transfers. Apart from the transfers, the respondents relied on faith and hard work as their source of hope for the future.

The majority of hopes and aspirations shared by the refugee respondents related to the entire household or their children, rather than to themselves. Some respondents felt that with the cash transfers, they could help their children "succeed in their dreams." Envisioning a better future for the family was often centered around their children's education. Aspirations for higher education and better career trajectories were expressed by refugees. One respondent mentioned they "would like to see [their children] having Ph.D. one day." A few respondents talked about how education would allow children "get jobs" and "get paid more", and eventually help "take care of the family," "lift the standard of the home" and "make the home grow." A few refugee respondents hoped and prayed for peace in South Sudan, and others indicated that with the return of peace, "our gun will be a pen." Education and career aspirations were also intertwined with social status and social recognition aspirations. One respondent looked forward to a moment when people in her community would say "This woman struggled [worked hard] to pay her children in school […] and now they are nurses, doctors, and drivers.".

For some respondents, a better future for the family also entailed an improved socio-economic status, wealth, and self-reliance. Some respondents had great aspirations for their businesses. Some individuals would like to leverage the transfer to accumulate productive assets, train people (including their children), and earn money, achieving their "dreams" and "getting everything for their families." Similarly, one respondent's priority for the next five years was to expand his agriculture practice to take "good care of [his] family, neighbors, and everybody who is at home here." Other wealth aspirations for refugees were to have

[32] We pre-specified social cohesion, safety, and security in the pre-analysis plan as RCT outcomes; due to survey length limitations, however, decided to drop these topics from the endline survey and instead focused on exploring them qualitatively.

their "own home" and other assets such as land and cars. Business or employment and education were the perceived pathways to a better future. This aligned with the respondents' spending plans, which often focused on education and business investment. However, as mentioned earlier, many people did not follow through on these investment plans and instead used the transfer to concentrate on basic needs.

4.9. Self-Reliance

In some manner, most of the above results so far measure some dimension of self-reliance. However, as opposed to measuring many dimensions of socioeconomic progress as proxies, composite measures of self-reliance have been developed. We follow recent tools in assessing self-reliance along 12 domains capturing housing, food, education, health, safety, employment, finance, and social capital (Leeson et al., 2020; Seff et al., 2021). We find that the cash transfer increased the overall self-reliance index by 0.16 SD. In 9 of the 13 components, a positive effect was observed while the largest proportional effect was observed in the debt component, reducing the level of indebtedness by 0.23 SD. However, when assessing the components of the index individually, there is a significant treatment effect for only one of the 13 dimensions (indebtedness).

5. Discussion and policy implications

5.1. Contributions and links with current research

In this phased-in randomized controlled trial, we study the effect of a one-off large cash transfer on various dimensions of household welfare, psychological well-being, women empowerment, and overall self-reliance. Following a pre-registered plan, we found that cash transfer increased overall household consumption, increased household assets especially durable assets, increased business and agricultural revenue, increased the probability of business ownership, and also improved overall self-reliance through reducing household debt. To a large extent, this study shows that indeed large one-off cash transfers were credible avenues for improving household resilience and self-reliance, especially in the face of the COVID-19 pandemic shock.

This study adds to the emerging literature on the effectiveness of interventions aimed to increase self-sufficiency and self-reliance in humanitarian settings especially as conflicts become protracted and emergency humanitarian displacement transits to more medium and longer-term settlements. These studies include those assessing the effects of entrepreneurship interventions (Skran, 2020), education improvements and integrations (Awidi & Quan-Baffour, 2021; Dagar, 2022; Schiltz et al., 2019) and those leveraging social networks (Betts et al., 2020a, 2020b; Betts et al., 2022). However, the studies closest to ours are those assessing the effects of cash transfers (Altındağ & O'Connell, 2023; MacPherson & Sterck, 2021; Moussa et al., 2022). MacPherson & Sterck (2021) study the effect of changing from food rations to cash transfers in Kakuma and Kalobeyei settlements in Kenya. Using a regression discontinuity design, they found that households receiving a cash transfer had better nutrition, were happier, and felt more independent from humanitarian aid. however, they did not observe any effects on household assets or employment. Moussa et al. (2022) and Altındağ & O'Connell (2023) use regression discontinuity designs to study the effects of monthly cash transfers equivalent to about US$ 175 per month per household among Syrian refugees in Lebanon. Moussa et al. (2022), focusing on child health and welfare find that children in treated households were less likely to be acutely ill, more likely to remain in school, reduce child labor and also reduce early marriage for girls. Altindag & O'Connell found that the transfer increased household food security incentivized higher food expenditure, and also improved the general household livelihood coping. However, they observed that these effects were only realized in the short term and dissipated within six months such that after six months, there were no distinguishable differences between cash transfers or food vouchers with the control households. In both these two studies, the overall annual value of the cash transfer was much higher than the one in our study. One key difference is the design of the transfer. While the Syrian studies were designed as monthly relatively smaller transfers, ours was designed as a one-off large transfer. Likely, one-off transfers can better enable investments while smaller transfers are more likely to facilitate immediate shock coping and consumption. Secondly, we postulate that the value of the transfer might also have implications on "how far it can go". Using the 2017 World Bank Purchasing Power Parity, (World Bank, 2020), we can observe that a USD 1670 transfer in Lebanon would be about USD PPP 3430 while in Uganda, a USD 1000 transfer would be USD PPP 2,842. The USD is therefore only twice its value in Lebanon (3430/1670) while it is almost three times its value in Uganda (2842/1000). This might imply that the transfer among South Sudanese refugees in Uganda could have a more extensive impact than among Syrian refugees in Lebanon.

5.2. Implications for policy and practice

Our results show that it is operationally feasible to deliver large cash transfers via mobile money to refugees registered in a settlement and for recipients to translate that money into increased consumption, dietary quality, and household assets. We also find promisingly positive effects in psychological well-being. We have also demonstrated limited downside effects, at either the household or community level. Taken together, these pieces suggest that large, one-off UCTs are a feasible, non-harmful tool for the humanitarian toolkit.

However, our primary motivation for this paper is to understand whether a large, one-off UCT can lead to refugee self-reliance and therefore reduce or eliminate their dependence on humanitarian aid, given the context of more humanitarian crises and fewer humanitarian dollars. Our results provide somewhat mixed results to this question, ultimately suggesting that USD 1000 is insufficient and pointing to the need for a clearer definition—whether context-informed or context-agnostic—of what constitutes durable self-reliance.

On many dimensions, we indeed find that refugees had the potential to be more self-reliant post-transfer, driven particularly by increased business income and remittances. But is this enough to justify ending monthly consumption support? We start by looking at the magnitudes of our effects and how they compare to the WFP's aid. As noted, in early 2022 households received around 8 USD per person per month in consumption support (either in cash or in-kind in food, as per their preference). With around 9 household members in our sample, this results in around 72 USD per household per month. Our treatment effect on consumption (expressed in nominal terms as opposed to PPP as stated earlier) is 32 USD per household per month, suggesting that lasting effects from the transfer constitute around 44% of a household's monthly aid. So, while the cash transfer does cause meaningful gains that are detectable at ~ 19 months, the magnitude is not large enough to replace monthly aid. It can, however, compensate for declining aid amounts, with a smaller NGO substituting for the work of a large aid agency. Between our baseline and the end line, aid per person declined by around 3 USD or 27 USD per household; the transfer allowed households to compensate for this decrease.

Whether an aid agency should—or morally 'can'—replace continuous cash transfers with one final lump-sum transfer depends critically on how long the positive effects of the transfer will last. Consider an aid agency that was considering reducing or eliminating future flows of aid (as consumption support) to give households a large one-time payment now. Assuming interest rates of 5%/year, an aid agency could reduce 39 future monthly transfers by 32 USD (our treatment effect in nominal terms) to provide a 1000 USD lump sum payment now. What do our results suggest they will do? Certainly, at 19 months households are likely better off with the lump-sum transfer, as they have equivalent consumption but much higher assets. If the results persist for a further

Table A1
Differential attrition.

	Attrited		Non-attrited		Difference
	N	Mean/SD	N	Mean/SD	*t*-test
	(1)	(2)	(3)	(4)	(2)-(4)
Gender of Household Head	174	0.747	1090	0.736	0.011
		[0.436]		[0.441]	
Secondary Education Household Head	174	0.431	1090	0.320	0.111***
		[0.497]		[0.467]	
Household Size	174	8.856	1090	8.851	0.005
		[4.768]		[4.084]	
Time in Settlement	174	1766.753	1090	2169.537	−402.784**
		[1299.435]		[2017.006]	
Ethnic Acholi / Luo	174	0.109	1090	0.209	−0.100***
		[0.313]		[0.407]	
Ethnic Dinka	174	0.098	1090	0.247	−0.149***
		[0.298]		[0.431]	
Ethnic Nuer	174	0.379	1090	0.196	0.183***
		[0.487]		[0.397]	
Ethnic Bari	174	0.149	1090	0.129	0.020
		[0.358]		[0.336]	
Other Ethnicities	174	0.264	1090	0.218	0.046
		[0.442]		[0.413]	
Total Monthly Consumption Expenditure, USD	174	1083.541	1090	940.159	143.382***
		[803.189]		[610.138]	
Total Assets, Net of loans, USD	174	174.441	1090	178.988	−4.547
		[520.792]		[635.657]	
Total Monthly Business Revenue, USD	174	54.267	1090	47.549	6.719
		[161.565]		[154.036]	
Psychology Well-Being Index	174	0.095	1090	−0.015	0.110
		[1.018]		[0.997]	
Female Empowerment Index	156	−0.063	995	0.010	−0.073
		[1.027]		[0.996]	
Non-Ag Enterprise Ownership	174	0.218	1090	0.185	0.034
		[0.414]		[0.388]	
Share of Respondents Employed	173	0.416	1090	0.447	−0.031
		[0.494]		[0.493]	
Dependency Ratio	174	0.464	1090	0.496	−0.032*
		[0.217]		[0.217]	

Note: All monetary outcome variables measured in USD (PPP adjusted) and continuous variables are winsorized at 99%. The asset module at baseline was shortened, so asset values at baseline are not comparable to those at endline. The difference columns report the coefficient of regressing an attrition dummy on the given variable. *, **, and *** signify p <.1, p <.05, and p <.01 respectively. Bari ethnic group includes Mundavi, Kuku, Kakwa, Pajulu, Nyangwara.

Table A2
All outcomes (Households who did not receive any transfers in 2022).

Dependent variable	Control Mean	Control SD	Treatment Effect	Standard Error	FWER adj. p-value	FDR adj. q-value	N
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Panel A: Primary Outcomes							
Total Monthly Consumption Expenditure, USD PPP	843.358	605.350	111.030***	37.180	0.003	0.007	979
Total Assets, Net of Loans, USD PPP	6495.094	1.6e + 04	4108.946***	1260.372	0.003	0.006	979
Total Monthly Business Revenue, USD PPP	63.324	218.916	55.412***	17.530	0.003	0.006	973
Panel B: Secondary Outcomes							
Psychology Well-Being Index	0.000	1.000	0.266***	0.089	0.007		497
Food Security Index	−0.000	1.000	0.068	0.080	0.287		481
Female Empowerment Index	0.000	1.000	−0.033	0.067	0.450		913
Non-Ag Enterprise Ownership	0.220	0.414	0.109***	0.027	0.001		977
Respondent Employed	0.478	0.500	0.060**	0.030	0.043		958
Household members Moving out of Settlement	1.073	1.950	0.145	0.120	0.168		979
Household Size (Endline)	9.448	4.548	−0.057	0.192	0.525		979
Dependency Ratio	0.405	0.189	−0.001	0.010	0.525		979
Household Self-reliance Index	0.000	1.000	0.237***	0.085	0.007		481

Note: All monetary variables are measured in USD (PPP adjusted) and winsorized at the 99% upper tail. All regressions, other than psychological well-being, food security female empowerment index, and individual migration, control for their respective baseline values. All regressions control for household size, sex of the head of the household, time lived in the settlement, the ethnic group of the household, and a phone survey dummy. Col (5) reports FWER-adjusted p-values for Panel A, considering all three families of outcomes, and Column (6) reports Andersons's sharpened q-values to account for multiple hypothesis testing for all outcomes.

20 months (which is plausible but far from guaranteed), converting monthly payments to a lump sum will be a win–win for the aid agency and recipient. Unfortunately, we can't make a confident policy prescription with shorter-term results even when they are convincingly strong- for more clear policy implications, we would need to understand longer-term effects.

But even if the impact of a lump sum was higher on average, policymakers would still have to contend with the fact that cash transfers affect households unequally. Although most income gains in our sample can be attributed to business revenues or remittances, in our treatment

Table A3
All outcomes by gender.

Dependent variable	Treatment Effect		Difference		
	Male	Female	Diff (9) - (3)	p-value	N
Panel A: Primary Outcomes					
Total Monthly Consumption Expenditure, USD PPP	161.935**	67.149	−86.090	0.248	1,090
Total Assets, Net of Loans, USD PPP	1383.438	4816.050***	3295.083	0.234	1,090
Total Monthly Business Revenue, USD PPP	29.436	45.511***	15.826	0.681	1,083
Panel B: Secondary Outcomes					
Psychology Well-Being Index	0.173	0.301***	0.103	0.599	558
Food Security Index	0.062	0.106	0.095	0.609	536
Female Empowerment Index	−0.038	−0.033	−0.002	0.990	1,011
Non-Ag Enterprise Ownership	0.067	0.087***	0.035	0.561	1,088
Respondent Employed	0.007	0.043	0.045	0.485	1,066
Household members Moving out of Settlement	0.136	0.020	−0.111	0.649	1,090
Household Size (Endline)	0.290	−0.106	−0.423	0.289	1,090
Dependency Ratio	0.019	−0.005	−0.016	0.548	1,090
Household Self-reliance Index	0.037	0.223**	0.246	0.154	531

All outcome variables were measured in USD and winsorized at 99%. All regressions control for household size, sex of the head of the household, time lived in the settlement, the ethnic group of the household, and a phone survey dummy. p-value calculated using robust standard errors.

group at the end line only 33% of households own businesses, and 76% reported receiving no remittances. So, an aid strategy that relied on one-time lump-sum transfers may end up leaving a subset of the population impoverished once the transfer ran out. This is likely a tradeoff that would make a transition to lump sum payments untenable for most policy-makers.

Another dimension to consider is migration. A truly successful transition to self-reliance might see many refugees leaving the settlement, moving to areas with more employment opportunities, and leaving behind their claims to monthly WFP aid and other organizational support. Although relocation decisions are complicated and determined by more than just economic factors, the lack of out-migration likely indicates that even after receiving cash transfers, refugees still strongly value and weight the support they receive while in the refugee settlements than the possible opportunities (and threats) that might abide when they leave the settlements. Our qualitative results show that a myriad of reasons keep refugees in their settlements and some tend to be long-term, hard-to-influence reasons. It might therefore be the option that institutions aiming to support refugees to increase their self-reliance, including a reduction in formal support (such as WFP's food aid) implement programs in the context of current refugee locations rather than those that might aim at incentivizing out-migration.

Overall, we conclude that although a large, lump-sum cash transfer had positive effects on households in Kiryandongo, it is unlikely to fundamentally change the dynamic of refugees' dependence on humanitarian aid.

Table A4
Food consumption breakdown.

Dependent variable	Control Mean	Control SD	Treatment Effect	Standard Error	N
	(1)	(2)	(3)	(4)	(5)
Total Food Consumption	454.124	338.985	59.996***	19.940	1,090
Staples (Matoke, Maize, Cassava, Rice, Sorghum)	122.410	97.201	2.153	5.249	1,090
Vegetables (Potatoes, Tomatoes, Cabbage, Onion, Okra, Eggplant, Peppers, Leafy G	55.012	55.757	5.317*	3.169	1,090
Pulses (Beans, Groundnuts, Cowpeas)	38.860	37.660	2.632	2.259	1,090
Fruits (Banana, Mango, Jackfruit, Papaya, Watermelon, Pineapple)	16.679	25.447	4.518***	1.648	1,090
Animal (Beef, Goat, Chicken, Pork, Fish, Eggs, Milk)	70.782	85.028	21.517***	5.626	1,090
Other (Oils, sugars, salt/ spices, processed food, beverages, alcohol)	105.413	93.689	14.688***	5.546	1,090
Food/beverages consumed outside home (School, restaurant, relatives' home, frien	39.399	93.129	1.593	5.517	1,090

*All outcome variables were measured in USD PPP and winsorized at the 99% upper tail. All regressions control for 99% winsorized value of total consumption at baseline, household size, sex of head of the household, time lived in the settlement, the ethnic group of the household, and a phone survey dummy. Reported standard errors reported in Column 4. *, **, and *** signify $p < .1$, $p < .05$, and $p < .01$ respectively.*

5.3. Some limitations

5.3.1. Spillover effects

Respondents in our control and treatment samples belong to the same settlement, hence spillover effects may exist owing to interaction or general equilibrium effects on the local economy (Egger et al., 2022; Filmer et al., 2021). We are limited by our research design to investigate these effects directly, as we do not have a sample from an untreated settlement. However, we can try to investigate the presence of some of these mechanisms by exploring potential avenues that may have been affected if spillover effects exist.

Potential avenues for spillover effects include (a) direct transfers from treatment to control (*e.g.*, through loans or remittances within the settlement), (b) price effects (*e.g.*, inflation, price discrimination), (c) labor market effects (*e.g.*, people in the treatment group hiring those in the control group), or (d) households merging or intermarrying (*e.g.*, a household in the control group merging with a treatment household since baseline).

Our qualitative data includes numerous anecdotes of transfer recipients making loans to those who have not already received transfers, and this is backed up in the quantitative data, which shows that the control group is more likely to draw loans from people within the

Table A5
All outcomes (Estimates without covariates).

Dependent variable	Control Mean	Control SD	Treatment Effect	Standard Error	N
	(1)	(2)	(3)	(4)	(7)
Panel A: Primary Outcomes					
Total Monthly Consumption Expenditure, USD PPP	843.358	605.350	61.863*	36.867	1,090
Total Assets, Net of Loans, USD PPP	6495.094	1.6e + 04	4373.400***	1179.301	1,090
Total Monthly Business Revenue, USD PPP	63.324	218.916	51.115***	15.750	1,083
Panel B: Secondary Outcomes					
Psychology Well-Being Index	0.000	1.000	0.258***	0.083	558
Food Security Index	−0.000	1.000	0.137*	0.081	536
Female Empowerment Index	0.000	1.000	−0.040	0.062	1,011
Non-Ag Enterprise Ownership	0.220	0.414	0.116***	0.027	1,088
Respondent Employed	0.478	0.500	0.056*	0.031	1,066
Household members Moving out of Settlement	1.073	1.950	−0.008	0.120	1,090
Household Size (Endline)	9.448	4.548	−0.493*	0.266	1,090
Dependency Ratio	0.405	0.189	0.000	0.012	1,090
Household Self-reliance Index	0.000	1.000	0.258***	0.090	531

Note: All monetary variables are measured in USD (PPP adjusted) and winsorized at the 99% upper tail. There are no controls used in any of the regressions.

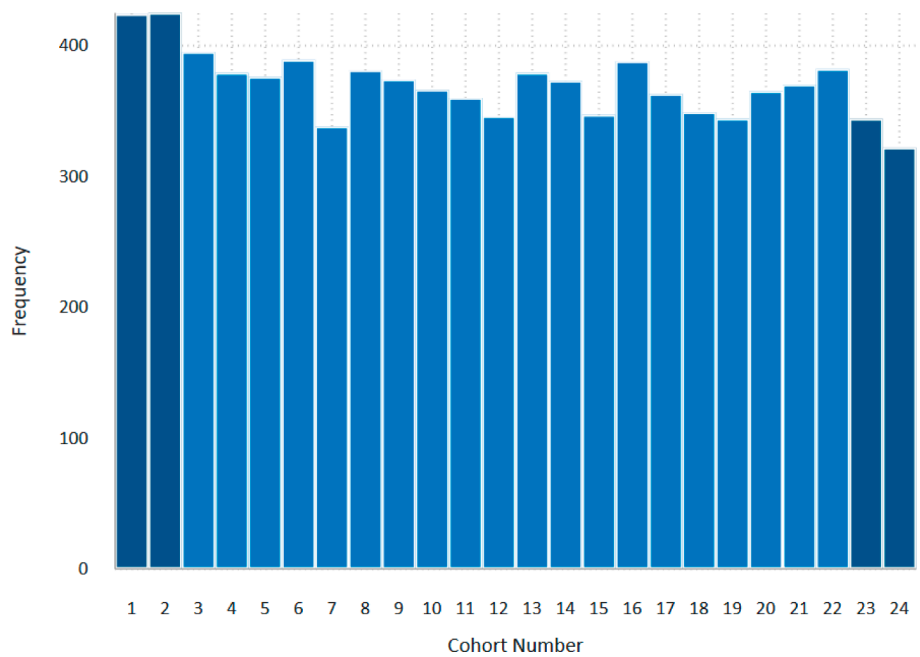

Fig. A1. Cohort randomization imbalance.

settlement. However, it is not clear in which direction it would bias the treatment effects. On the one hand, this seems likely to bias our consumption estimates downwards, as it would result in less consumption and assets in the treatment group, and more in the control. On the other hand, it is plausible that the bias could go in the opposite direction if we consider loaning money to be a profitable enterprise for the lender. However, since our point estimates on loans are small (29.7 USD PPP), the net spillover effects in either direction are minimal.

We also explored if the increased enterprise ownership of the treatment group led to an increase in employment of the control group. This would likely lead to our estimates being downward-biased since employment would be a positive effect of the transfer experienced by the control group. We find some reports of this in our qualitative data but we do not have the data to establish it quantitatively.[33] One data point we have is the proportion of employees being hired in the firms operated by the treatment group: only 12.2% of firms hire someone outside their household on a salary. This suggests that this channel also would have had a very limited scope on biasing our estimates.

Finally, there can be general equilibrium effects affecting prices in the local economy, reducing the purchasing power of the control group and biasing our estimates upwards. We, unfortunately, have no quantitative means of testing whether this happened, though our qualitative interviews suggest that some price increases may have been driven by the transfer. Many qualitative respondents shared experiences of "price discrimination" where Ugandans charge refugees extra. Other respondents thought that the transfer directly affected prices due to increased demand.

5.3.2. *Compromised randomization*

As mentioned earlier, we believe that our public randomization was partially compromised, with more people in cohorts 1 and 2 than is possible by chance. This caused our sample to be imbalanced in some key characteristics, specifically regarding ethnic groups. We have dealt with this by including baseline controls for ethnicity as well as controls for baseline values of our outcome variables. Although all our baseline outcomes are balanced conditional on ethnicity, we cannot exclude the

[33] We think that making before-after comparisons using baseline data is likely to be unreliable due to the external shock of COVID-19.

possibility that there may be some imbalance on unobservables.

5.3.3. Timing of transfers emanating from operational difficulties

Most of the transfers (80%) were distributed between February and July 2020. However, about 20% of the households in our treatment group received their transfers in 2022 (as we show in Fig. 1). This was mainly due to COVID-19 operational difficulties and also the 2021 Uganda general elections in which the license for GiveDirectly was suspended by the government for almost a year. This, therefore, introduced some contamination in the study. More recent recipients could therefore bias the results upwards and make interpreting our results difficult since we mostly interpret our results as the treatment effects 19 months after receiving the transfer. To alleviate these concerns, we conduct the main regressions (replicating Table 2) while excluding households that received their transfers in 2022. We show the results in Appendix Table A5. The results after excluding this sub-sample show some notable changes. For the primary results, the point estimates for assets and business revenue were 3.5% and 36.8% bigger while for total monthly consumption, the point estimate is about 21% bigger than our main specification. Regarding the secondary results, psychological well-being was lower by 4.3%, owning a non-agricultural enterprise was higher by 33%, having a job was statistically significant and higher by 71% and the self-reliance index was higher by 47%. All these results, except psychological well-being, indicate that instead of biasing the results upwards, the inclusion of these households that received their transfer in 2022 biased the results downwards. If these results were smaller than the main specification, we would be concerned with this upward bias. We are therefore confident that maintaining our primary specification, the inclusion of households that received their transfers in 2022 is more conservative.

5.3.4. External validity in the context of COVID-19

As with all field studies, it is not clear how well our results will generalize to other contexts. In particular, this study took place during the COVID-19 pandemic, which drastically affected the economy including most dimensions of welfare such as food security, employment, and education opportunities among others. For this reason, we suggest that some of the results be read with some caution. For instance, we do not find statistically significant results on the food security index. This might not imply that the cash transfer did not affect household food security. Indeed, on the contrary, looking at the results of food consumption shows that household food consumption was significantly enhanced. However, we might be observing an even more protective role of the transfer during the pandemic. Earlier midline results showed that indeed during the pandemic, household food insecurity measured by this food insecurity index was 14% better and with substantial levels of statistical significance for recipient households (Stein et al., 2022). Therefore, the fact that we do not observe significant effects might reveal that households did not drop into food insecurity levels of worse magnitudes than before the pandemic, hence the protective role. Another contextual explanation is that the food insecurity index and food consumption measure different dimensions of food insecurity. Our food insecurity index is the coping strategies index which mainly measures severe food access. For this reason, it was not surprising that in months when food access was extensively constrained (during the pandemic and lockdowns) household food access was higher for treated households compared to control. After the reopening of the economy in the post-pandemic period, food access is no longer the most salient measure but rather improvements in the quantity and quality of food consumption. In addition, the sample used for the food security index was only half of the total sample.

Another result of caution is the qualitative results regarding domestic/intimate partner violence might have been related to the general trend of increasing economic precarity related to COVID-19 and not the cash transfer per se. To some extent, even when the intervention was not designed as a COVID-19 emergency assistance intervention, we can not completely remove the influence the pandemic would have had not only on the programming but also on the outcomes. The intervention, therefore, ended up responding to more than one humanitarian crisis. We do not relent that this was a lost opportunity following the hypotheticals (without the pandemic) of our pre-analysis planning but believe that there is still another opportunity for researchers and implementers to assess the effect of large one-off transfers on welfare and resilience in humanitarian settings. It is possible that if a similar program was implemented in a different period, we would see different applications of the transfer and possibly different downstream outcomes. We, therefore, invite other researchers and implementers to consider implementing and evaluating programs similar to this to gather more evidence, especially that which pertains to normal non-crisis times.

6. Conclusion

This study showed that a large, one-off UCT is operationally feasible and helped refugees to absorb two external shocks in 2020: the COVID-19 pandemic and WFP aid cuts. Using mixed methods, we found that the large, one-time UCT to refugees in Kiryandongo settlement improved households' economic and psychological well-being 19 months after the transfer, with limited adverse effects on social cohesion, safety, or security in the community. Recipients meaningfully increased their household consumption, driven by greater food consumption. Increased household consumption appears to be driven by a couple of sources. First, recipients are more likely to start businesses and have increased business revenue. Second, they receive more remittances (though we do not see an impact on household members migrating).

Additionally, the value of transfer recipients' assets experienced a large increase driven by home improvements and land values. Transfer recipients noted home construction and improvements— such as installing a metal roof or constructing additional rooms—as the most notable improvement to their lives. We do not find any evidence of an effect of the transfer on food security, education, employment, and female empowerment.

Notably, the fact that we see lasting effects well after the transfers contrasts other research in related contexts, where most effects dissipated after transfers were discontinued (Altındağ & O'Connell, 2023; Moussa et al., 2022). We hypothesize that the large one-time nature of the transfers in our context was more likely to spur investment, compared to the smaller monthly transfers in the aforementioned studies.

This study adds to the evidence base on cash transfers by showing that in a refugee setting, a one-time large cash transfer can have lasting effects. It also leaves some important questions unanswered. For instance, how long will the effects persist? And are there positive (or negative) spillovers to other members of the community such as in host community areas? This study, which is at best, in a medium-term context, is not able to answer these outstanding questions. Overall, we believe that this study may motivate practitioners and policymakers to consider large, one-off unconditional cash transfers as one mechanism for improving refugee self-reliance and resilience during protracted displacement situations while acknowledging that it will likely not make recipients self-reliant and no longer in need of monthly consumption support. At a time of stretched budgets in traditional refugee support organizations, understanding the role of and support required from other actors is essential.

CRediT authorship contribution statement

Prankur Gupta: Software, Formal analysis, Methodology, Writing – original draft, Writing – review & editing. **Daniel Stein:** Conceptualization, Methodology, Supervision, Writing – review & editing. **Kyla Longman:** Software, Data curation, Investigation, Writing – review & editing. **Heather Lanthorn:** Conceptualization, Methodology,

Supervision, Data curation, Formal analysis, Funding acquisition, Writing – original draft, Writing – review & editing. **Rico Bergmann:** Software, Data curation, Investigation, Project administration, Writing – original draft, Writing – review & editing. **Emmanuel Nshakira-Rukundo:** Data curation, Formal analysis, Investigation, Methodology, Software, Writing – original draft, Writing – review & editing. **Noel Rutto:** Data curation, Project administration. **Christine Kahura:** Data curation, Project administration. **Winfred Kananu:** Data curation, Project administration. **Gabrielle Posner:** Data curation, Investigation, Project administration. **K.J. Zhao:** Data curation, Project administration. **Penny Davis:** Data curation, Formal analysis, Project administration, Writing – original draft.

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Data availability

The authors do not have permission to share data.

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Appendix

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