

Supporting Micro-enterprise in Humanitarian Programming: Impact Evaluation of Business Grants versus Unconditional Cash Transfer

Arays Abdullahi^a, Mohamed Ali^b, Elijah Kipchumba^{c,*} and Munshi Sulaiman^{c,d}

^aSave the Children International, Mogadishu, Somalia

^bDalarna University, Falun, Sweden

^cBRAC International, Kampala, Uganda

^dBRAC Institute of Governance and Development, Dhaka, Bangladesh

*Corresponding author: Elijah Kipchumba. E-mail: kipkechgm@gmail.com

Abstract

Humanitarian programming in fragile economies often use unconditional cash transfers (UCTs) to offset food insecurity. However, there is an increasing focus on using cash transfers to boost household incomes beyond the short-term through micro-enterprise start-up and growth. This paper conducts a randomised control trial to measure the impact of three different sizes of business grants against UCT in Somalia. We find that giving the same amount of money as a lump sum business grant results in higher likelihood of business ownership and income compared with UCT in the short run (3–4 months after the transfers). However, the impacts are larger and persist 3 years later only for those who received larger amount of grants. The results indicate our ‘medium’-sized grant being more cost-effective.

Keywords: micro-enterprise, cash transfer, Somalia

JEL classification: O16, O17, I32

1. Introduction

Generating income from micro-enterprises is one of the prominent avenues of reducing poverty being pursued by development agencies in low-income countries. Initiatives to support micro-enterprise typically include transfer of capital, access to credit and skills training. While anti-poverty programs have a wide range in the comprehensiveness of the support packages to promote micro-enterprise, the use of unconditional cash transfer (UCT) has been on the rise due to its simplicity. With UCTs being a common feature in humanitarian programming, there is also growing interests to leverage on these transfers for building ‘resilience’ among the beneficiaries in fragile and conflict affected countries. This study looks at the long-term (3.5 years after transfer) impact of variations in cash transfers in the prolonged humanitarian crises context of Somalia. UCT interventions in Somalia typically gives small amount of money in monthly instalments to improve food security, whereas transfers intended to promote income-generating activity (IGA) are usually done as one-off grants. Besides testing the impact of lump sum ‘business grant’ vis-à-vis monthly UCT, we also varied the amount of cash given out as business grants.

Several studies have investigated the impact of one-off small (USD 100 to 200) cash transfers to existing businesses to find positive results on their income in Ghana (Fafchamps *et al.*, 2014), Mexico (Mckenzie & Woodruff, 2008) and Sri Lanka (De Mel *et al.*, 2008). On the other hand, small cash transfers to micro-business owners in Uganda (Fiala, 2014) and Tanzania (Berge *et al.*, 2015) did not find significant impact on income or business profit. Despite such differences in evidence, small cash transfers are generally expected to facilitate short-term business growth, especially for male entrepreneurs (Baird *et al.*, 2018). Studies involving lump sum cash transfers that have looked at the impact on business start-up include, among others, Brudevold-Newman *et al.* (2017) and Hicks *et al.* (2017) assessing UCT of about USD 250 to youth in Kenya, Blattman *et al.* (2014) assessing the average transfer of USD 382 to youth in Uganda, Fafchamps & Quinn (2016) assessing a transfer of USD 1,000 dollars to winners of business competition called aspire in Africa, De Mel *et al.* (2014) assessing a business training with a cash transfer of USD 130 to potential female entrepreneurs, Macours *et al.* (2012) assessing the marginal impact of a business grant of USD 200 with a business training layered on conditional cash transfer in Nicaragua and Beaman *et al.* (2014) assessing a cash transfer of USD 140 to farmer households in Mali. All these studies find positive impacts on business ownership and/or income in the short run, within a year after the transfer. Fewer studies that have longer term results generally indicate that the impact dissipate within a few years. Both Brudevold-Newman *et al.* (2017) and De Mel *et al.* (2014) found such declining trend within 2 years after the transfer. The study in Nicaragua shows a shift towards non-farm enterprises 2 years after the interventions and a weak effect on total income due to lower income from wage employment. Beaman *et al.* (2014) find that the positive effects on income from crop cultivation observed up to 2 years after the transfer did not persist in their 7-year follow-up survey. Blattman *et al.* (2020) found that positive effects of the grants 4 years after the transfer, but no impact after 9 years. One notable exception is De Mel *et al.* (2012), who find positive effects of cash transfer on the likelihood of business survival of male entrepreneurs 5 years after the transfer.

Some of these experimental studies in the cash transfer literature have also tested the marginal effects of varying the frequency and size of the transfers. For example, in their study in Kenya, Haushofer & Shapiro (2016, 2018) found that lump sum transfers are more likely to be spent on household durable goods and building assets compared with monthly transfers. Comparing the transfer of the same amount in monthly versus quarterly disbursements in Northern Nigeria, Bastian *et al.* (2017) found similar effects of both interventions across food security and assets, and they concluded in favour of lumping transfer to improve cost-effectiveness by lowering administrative costs. From the studies that compare the effects of different cash sizes, the evidence from Sri Lanka (De Mel *et al.*, 2012) and Kenya (Delius *et al.*, 2020; Haushofer & Shapiro, 2016, 2018) shows an expected pattern of large cash grants generating larger impact on investments in assets, livestock and non-farm micro-enterprises. Recently, Kondylis & Loeser (2021) found increase in transfer sizes reduces cost effectiveness both in the short-term and medium-term.

Despite the prominence of cash transfer in humanitarian programming (ODI, 2015), their evidence is generally focused on food security and nutrition and do not measure impact on labour market outcomes (Baird *et al.*, 2018). For example, Hidrobo *et al.* (2014) compare the impact of cash transfer with food and voucher for Colombian refugees in Ecuador on food consumption only. Hoddinott *et al.* (2018) compare cash and food in Niger, and the indicator related to livelihood is expenditure on agriculture inputs. Lehmann & Masterson (2014) find evidence of reduced labour supply in their study in Lebanon. The study was implemented in Somalia, which is known for its fragility and ongoing conflict. While humanitarian support has remained a key life-line in Somalia, there has been increasing focus on accelerating recovery and systematic resilience building. Other than humanitarian support, small enterprises are the main way for people to generate income, especially in

internally displaced persons (IDPs) camps, and are largely managed by women. Programs aimed at supporting micro-entrepreneurs in the country typically combine business skills training with vocational or skills training, followed by small business grants.

This paper looks at the sustainability of short-term effects of business grants (over UCT) 3.5 years after the interventions. The study compares four treatment groups, who were randomised through public lottery, to receive (a) small UCT of \$175 in two monthly instalments, (b) small one-off business grant of \$175, (c) 'medium' business grant of \$500 and (d) 'large' business grant of \$1,000. Participants of the business grants groups also received a short business training after the transfers. Using three waves data, we examine sustainability of short-term impact on employment, micro-enterprises and income.

Our estimates show over 3 years later, both medium and large business grants have positive effects on the likelihood of owning non-farm businesses, by 14 and 16 percentage points, respectively. The short-term impact of small business grant did not persist. By comparing the net worth of these enterprises, we find that the impact of the medium and large business grants converged in the long-term. Examining profits also shows similar pattern, whereby the point estimates of the impact on profits earned from micro-enterprises are similar between the medium and large grant arms, at around \$20 in the past 1 month and \$110 in the past 6 months, and statistically not different. Therefore, there seems to be a decreasing return to the size of business grants, and medium grant is more cost-effective.

The business profits directly fed to household income that increased by nearly same margin. We also find a significant portion of the profits were held by household as savings 3.5 years later. The larger income gains, however, did not yield substantial effect on food security both in the short-term and the long-term. Point estimates on household food security indicators (food stock at home, coping strategy index (CSI) and household dietary diversity) are positive in both follow-up surveys but not statistically significant when accounting for multiple hypothesis testing. With this introduction, the study design and contexts are presented in Section 2. Results are discussed in Section 3; first, the impacts of the three business grants versus the UCT arm. Section 4 presents some robustness checks with alternative specifications and some additional analysis. Section 5 concludes the paper.

2. Evaluation Design

Interventions under this study leveraged on two projects implemented by Save the Children in 2016–17. The projects, *Humanitarian Support and Re-Integration of IDP and Returnees in Mogadishu* supported by German Federal Foreign Office and *Building Resilient Communities in Somalia* supported by International Cooperation and Development of European Commission and DFID, included supports for micro-business establishment or expansion. These projects delivered varied cash grants sizes and thus provided an avenue to measure impact of lumped UCTs.

2.1 Randomisation and treatments

The study was designed to understand whether the cash transfers can be utilised for generating impact on livelihoods by lumping the transfers, labelling them differently and including a business training. The interventions were randomised at household level to measure the marginal effects of lumping and varying cash grants with UCT as the control group. To implement the randomised interventions, field officers of the two projects identified eligible beneficiaries following standard selection process¹. The beneficiaries

¹ A village relief committee is formed in each community consisting of clan leaders and people respected in the community. This committee organises open meetings attended by Save the Children field officers. They collectively identify the characteristics of vulnerable households and determine the eligible beneficiaries. Verification of the eligible beneficiaries is done by the project team based on project specific criteria.

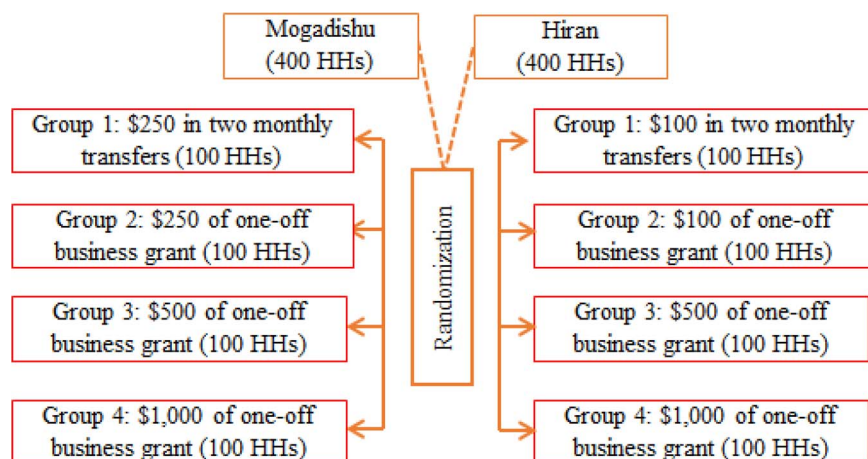


Figure 1. Randomised Treatment Arms by Site

were informed that the amount of transfer they will receive is going to be determined at a later stage and all the selected households will receive grants. We do not have a pure control group due to the concerns from the implementation team about potentially causing community backlash by not giving any support to some households after selection. After the selection was completed, the amount and method of transfer was determined through a public lottery attended by all selected beneficiaries. In each community, beneficiaries were divided into four groups with equal number of beneficiaries in each group.

As Figure 1 shows, the size of transfer for the households of Groups 1 and 2 varied between the two study sites (i.e., Mogadishu and Hiraan). This was due to budget constraint of the two projects and the programmatic necessity of disbursing the amounts within the time-frame. In Mogadishu, the small transfer was \$250, whereas in Hiraan, it was \$100. However, in both cases, the same approach was adopted to make the transfer in two monthly instalments (Group 1) and as one-off grant (Group 2). Grant size for Groups 3 and 4 were \$500 and \$1,000, respectively, in both sites. The transfer took place between January and February of 2017 after the baseline survey.

Besides the variation in transfer size, there are two important differences for Groups 2–4 compared with Group 1. Firstly, the transfer was framed as UCT for Group 1, whereas the three other groups were told about the transfers as ‘grants for supporting IGA’. Beneficiaries of these three ‘business grant’ groups also participated in a 5-day business training conducted by a consultant for 1–2 hours per day. The training covered generic modules on planning, accounting, costing and marketing. This training took place after the business grants were disbursed, and there was no condition attached to the grant. Cost of training was about \$38 per participant that included consultant fee and transport, refreshment for the participants and other logistics.

2.2 Context and participants’ profile

With decades of conflict and recurrent droughts, Somalia has a chronic humanitarian crisis. The country is consistently ranked among the lowest in most social indicators. Provision of basic social services such as education, health and nutrition is predominantly reliant on humanitarian agencies. Humanitarian supports in form of UCTs are common phenomena in the country, largely justified on the basis that markets are strong and responsive (Goodman & Majid, 2017). At the tail end of transfers in this study, a nationwide drought was declared in February 2017 following consecutive failures of the rainy seasons. While the

2017 drought affected all sectors of the economy, it exacerbated the vulnerability of the urban poor and small traders.

The study was conducted at several IDP camps in Mogadishu and in urban setting of Beledweyne district in Hiran region. While both sites are affected by cycles of drought, parts of Beledweyne are affected by periodic flash floods from Shabelle River. Apart from reliance on humanitarian support, small enterprises are the main way for people to generate income and meet their daily needs in Somalia. Baseline data from the study showed limited economic opportunities for the population. About one-third of the households had any wage income, predominantly casual labour, in the month preceding the survey. Only 20% of the households earned income from micro-businesses, and over 40% of the households did not have any cash earning in past 1 month. With average household size of 6.4 members and 0.7 earners per households, these households live in extreme poverty. However, the urban residents from Hiran were relatively better-off compared with the beneficiaries from IDP camps in Mogadishu at baseline. Table A1 in the appendix shows the baseline characteristics of the survey households across the four treatment groups. Despite the randomisation being done through public lotteries, we see the groups are generally balanced with F-statistics of five of the 27 variables showing statistical significance at less than 10% level. None of those are related to indicators of business performance, which is the primary focus for this paper. Nonetheless, we control for some of these variables as part of robustness check of our key findings.

2.3 Data and empirical strategy

Baseline data were collected between December 2016 and January 2017. The public lottery took place immediately after the baseline survey. Cash transfers were done in January 2017 followed by the roll out of business training for Groups 2–4 in February and March. Beneficiaries of the UCT group (Group 1) received their second instalment transfers in February 2017. Follow-up surveys were conducted in May/June 2017 and August/September 2020. In this study, we present both the short-term (referred to as ‘midline’, conducted 3–4 months after cash transfers) and long-term (‘endline’, conducted around 3.5 years after the transfers) effects of the interventions.

We managed to survey 760 of the baseline sample at both midline and endline. This represented an overall attrition rate of 4.5%. All the impact results presented in the paper uses only these 760 households with panel data. Attrition was 7-percentage points higher in Mogadishu compared with Hiran, which is understandable given that most of the participants in Mogadishu are IDP. More importantly, we find attrition rates being statistically similar across the four study arms after controlling for baseline characteristics (Table 1). There appears to be some differential attrition between UCT and small business grant (F-stat 1.21, p-value 0.201 for the joint significance of the interaction terms) although the rates are the same across all four arms. Therefore, we conduct robustness checks of main outcomes by using inverse probability weights.

To measure the marginal effects of the business grant arms over UCT, we use the following Analysis of Covariance (ANCOVA) specification:

$$Y_{it} = \alpha + \beta_1(Mid \times T_{2i}) + \beta_2(End \times T_{2i}) + \beta_3(Mid \times T_{3i}) + \beta_4(End \times T_{3i}) + \beta_5(Mid \times T_{4i}) + \beta_6(End \times T_{4i}) + \delta_1 End + \delta_2 Y_{i0} + \delta_3 S_i + \delta_4 X_{i0} + \epsilon_i, \quad (1)$$

where Y_{it} is the outcome of interest of household i at time t while Y_{i0} is the corresponding baseline values. *Mid* and *End* are dummies representing midline and endline, respectively. T_{2i} is a dummy of being randomised to receive small one-off business grant, T_{3i} is a dummy of being randomised to receive the medium business grant (USD 500) and T_{4i} is a dummy of being randomised to receive the large business grant (USD 1000). S_i is a site dummy taking

Table 1. Attrition Rate between Baseline and Follow-up

	Attrited (1)	Attrited (2)
High cash	-0.009 (0.020)	0.049 (0.160)
Medium cash	-0.018 (0.020)	-0.102 (0.146)
One-off low cash	0.006 (0.020)	-0.301 (0.155)*
Nudge	0.006 (0.014)	-0.083 (0.109)
Hiraan dummy	-0.068 (0.014)***	-0.098 (0.058)*
Baseline covariates		✓
Control mean	0.055	0.055
F-test (p-value)	0.534(0.659)	1.827(0.141)
F-test interaction high cash (p-value)		0.981(0.499)
F-test interaction medium cash (p-value)		0.771(0.819)
F-test interaction small cash (p-value)		1.206(0.201)
Observations	795	795

Note: Column 1 tests for differential attrition between arms, while Column 2 introduces baseline covariates in addition to treatment arms as predictors of attrition. The full set of baseline covariates are listed in Table A1. The first F-tests show joint significance of treatment arms in predicting attrition. The second, third and fourth F-tests show the joint significance test of the interaction terms of these characteristics with treatment arms. Robust standard errors in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

value 1 if individual i is located in Hiran and 0 otherwise. In this specification, β_1 and β_2 measures the marginal effect of receiving the small business grant in one instalment and the business training over UCT in instalments at midline and endline, respectively. Similarly, β_3 and β_4 are the corresponding marginal effects for Group 3 (medium business grant) and β_5 and β_6 for Group 4 (large business grants) against UCT.

Since the randomisation was done at household level, we use robust standard errors in all our estimates instead of clustering. Scale variables (for monetary values) are winsorized at 95% for outliers at the high end only. Since we test multiple treatments over multiple outcomes at two points of time, we adjust our p-values for false discovery rates by multiple hypothesis tests. For this, we follow the Westfall–Young step-down resampling methodology for each set of outcomes across the intervention groups using an approach implemented by Jones *et al.* (2019). We present these q-values along with the statistical significance based on p-values in relevant tables. As part of robustness checks, we modify Equation 1 to include subset of baseline covariates selected through Lasso post-double-selection procedure developed by Belloni *et al.* (2013) and Chernozhukov *et al.* (2015). Equation 1 is then modified to include a set of additional control variables. We also estimate conditional difference-in-difference effects using controls selected through the post-double Lasso selection.

3. Results

3.1 Impact of business grants and training

3.1.1 Effects on labour supply

We first look at the impacts of the three business grant treatments versus UCT on their household labour supply, engagement in non-farm business and in wage employment activities. Lump sum transfers can produce sustainable impacts if it is invested in productive activities rather than meeting short-term household needs. If it relaxes household's liquidity or credits constraints, it can enable households to shift labour towards those activities with higher return. Our results show small and medium business grants do not affect overall labour supply, in terms of the likelihood of being engaged in any IGA or the number of days and hours worked, by the adult members of the households either at midline and endline

(Columns 1–3 in Table 2). Although large business grant seems to marginally increase labour supply in the short run, the results are not statistically significant after adjusting for multiple hypothesis testing.

Impact on households' engagement in micro-businesses (mostly petty trading of different products—groceries, vegetable, charcoals, tea stalls, etc.) is presented in Column 4. We find significant increase in the likelihood of households operating non-farm businesses for both small and large business grants at midline. Receiving the same amount of money as the UCT arm (Group 1) but as one-off business grant (instead of two monthly transfers) along with the training increased likelihood of the households engaging in non-farm businesses by 15 percentage points in the short-term. These effects, however, are not sustained until the endline conducted 3 years later. However, we find long-term impact for the medium and large business grant groups, whereby additional capital increased the likelihood of non-farm businesses ownership by around 15 percentage points (Column 4 in Table 2). These are substantial effects when compared with the control group, which shows that only 36% of them were involved in non-farm enterprises at endline.

It is well established that short-term relieve of credit constraints, such as through UCTs, can stimulate business start-up of small scale, but with time recipients and non-recipients tend to converge (Blattman *et al.*, 2019, 2020; Fafchamps *et al.*, 2014). Indeed, we find general decline entrepreneurial activity between midline and endline for the UCT group from 65% to 36%. While lumping small transfers kick-started some entrepreneurial activities, it is only medium and large business grants that were able to sustain these new micro-enterprises. We observe virtually no effect in their wage employment in either survey rounds.

3.1.2 Effects on enterprise management

As noted earlier, beneficiaries of the business grant interventions also received business management training. Therefore, the effects on business management are the combined effects of the training and grants, which we are not able to disentangle. However, there were significant positive effects on the likelihood of keeping written business records in the short run (Column 1 in Table 3). Since the business training emphasised on keeping written business records, the finding was in line with the programmatic expectations. These positive effects are generally lower at the endline and not significant based on *q*-values. Hiring labour from outside household is a rarity for the types of enterprises, and we see no effect on this outcome. This rules out the possibility of any strong spillover effects through hired labour.

Columns 3 and 4 show the impact on utilisation of credit as part of their enterprise management. On one hand, larger grants can reduce reliance on loans or credit purchases by relaxing their credit constraint. On the other hand, micro-businesses may face credit constraint for their subsequent growth. If the large grant recipients inject more of the transfers received into their businesses as fixed or working capital, it may increase their creditworthiness to lenders or wholesalers, thereby increasing their access to credit. It could also be the case that credit purchases for business and loans are substitutes. We find medium and large business grants decreased their reliance on business loans by 7 and 8 percentage points in the short-term, the point estimates increased to around 10 percentage points 3 years later. Based on the *q*-values, we reject any effect on their business borrowing as cash or in-kind. There is no significant difference between the small business grant and UCT in both indicators either at midline or endline.

Finally, we look at the impact on business value to understand how much of the transferred money may have been invested in business in the short-term and their business growth in the long-term (Column 5 in Table 3). For this, respondents were asked to estimate value all capital items (furniture, shops, etc.) and stocks for their businesses as of the day of the interview. While the short-term estimates can be used to interpret how much of the additional grants are invested, the long-term could reflect re-investment of returns realised

Table 2. Effect of Cash Transfer on Labour Supply

	HH members engaged in IGA (1)	Days HH members worked (2)	Hours HH members worked (3)	HH has non-farm business (4)	HH earned from wage work (5)
High cash × endline	0.069(0.069) [0.982]	2.027(1.679) [0.929]	16.224(16.522) [0.982]	0.140(0.048)*** [0.072]	0.012(0.032) [0.999]
Medium cash × endline	0.097(0.067) [0.815]	1.079(1.616) [0.986]	4.740(15.685) [0.999]	0.160(0.049)*** [0.022]	-0.010(0.031) [0.999]
One-off low cash × endline	0.107(0.065) [0.751]	2.175(1.606) [0.849]	16.379(15.758) [0.974]	0.075(0.048) [0.757]	0.019(0.033) [0.988]
High cash × midline	0.101(0.058)* [0.697]	2.704(1.529)* [0.671]	24.816(15.078) [0.751]	0.188(0.050)*** [0.005]	-0.035(0.041) [0.982]
Medium cash × midline	-0.025(0.060) [0.996]	0.452(1.536) [0.999]	12.470(15.816) [0.982]	0.092(0.051)* [0.657]	-0.037(0.040) [0.982]
One-off low cash × midline	0.001(0.062) [0.999]	0.153(1.618) [0.999]	10.102(16.200) [0.988]	0.153(0.050)*** [0.043]	-0.067(0.039)* [0.727]
Baseline value of Y	✓	✓	✓	✓	✓
Endline control mean	0.741	15.148	137.381	0.360	0.127
Midline control mean	0.641	14.056	135.677	0.646	0.146
Adjusted R ²	0.071	0.037	0.032	0.070	0.015
Observations	1520	1520	1520	1520	1520

Note: Column 1 is the number of household members engaged in income generating activities in each household. Days household members worked is a sum of days each household member worked in the household the previous month preceding the survey. Hours worked sums the product of days worked in the previous month by hours each member worked on a typical day. Column 4 is a dummy taking value 1 if household reported to have any household member who operated a non-farm business 6 months preceding the survey and 0 otherwise. The last column is also a dummy taking value 1 if the household reported that any household member earned from day labour or wage work the preceding month and 0 otherwise. Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1. Q-values adjusted for multiple hypothesis in square brackets.

Table 3. Effect of Cash Transfer on Micro-enterprise Management Practices

	Kept business record (1)	Hired for the business (2)	Sought business loan (3)	Purchased on number edit (4)	Business value (5)
High cash × endline	0.020(0.036) [0.999]	-0.008(0.029) [0.999]	0.100(0.039)** [0.196]	0.053(0.039) [0.910]	143.498(40.454)*** [0.010]
Medium cash × endline	0.098(0.039)** [0.208]	0.030(0.032) [0.987]	0.097(0.038)** [0.206]	0.078(0.038)** [0.536]	127.830(38.231)*** [0.023]
One-off low cash × endline	0.057(0.037) [0.849]	-0.000(0.030) [0.999]	0.044(0.035) [0.940]	0.023(0.036) [0.999]	13.646(35.309) [0.999]
High cash × midline	0.167(0.047)*** [0.011]	-0.003(0.029) [0.999]	-0.084(0.035)** [0.256]	-0.019(0.041) [0.999]	250.811(34.342)*** [0.000]
Medium cash × midline	0.072(0.045) [0.828]	-0.014(0.027) [0.999]	-0.070(0.035)** [0.552]	-0.034(0.040) [0.991]	56.822(28.848)** [0.564]
One-off low cash × midline	0.123(0.046)*** [0.164]	0.008(0.029) [0.999]	-0.007(0.038) [0.999]	-0.041(0.041) [0.980]	35.746(27.246) [0.928]
Baseline value of Y		✓	✓		
Endline control mean	0.185	0.095	0.153	0.164	196.487
Midline control mean	0.354	0.086	0.177	0.202	207.631
Adjusted R ²	0.041	-0.003	0.038	0.111	0.079
Observations	1520	1520	1520	1520	1520

Note: Columns 1–4 are dummies corresponding to any of household's non-farm business. Specifically, respondents were asked if they applied any of the practices on any of their household businesses. Loans and credit purchases had 6-month reference period. Only Columns 2 and 3 had corresponding baseline values, the remainder were added to the questionnaire after baseline. To estimate business value, respondents were asked to estimate value all capital items and stocks for each of their businesses in USD as of the day of the interview, the values was then summed up and winsorized at 95% for outliers at the high end only. Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1. Q-values adjusted for multiple hypothesis in square brackets.

as well as initial additional investment. Results show medium sized business grant recipients invested \$0.17 for every additional \$1 after \$175, while large cash recipients invested \$0.39 for every additional \$1 after \$500 in the short run. This suggests a compounded investment, whereby a greater share of additional grant amounts after the initial \$500 were invested. Although rates of investment differed at the short-term, valuation of invested amounts by medium and large grant recipients have converged over time with point estimates are similar (\$128 and \$143 for medium and large business grants, respectively). Nonetheless, this shows the sustainability of the impact of additional business grants in the long run. Small business grants, however, stimulated some micro-entrepreneurial activity in the short-term, which did not persist.

3.1.3 Effects on household income

We collected information about household's income from various sources in the past 30 days as well as total profit from businesses in the past 6 months. Results in household income are in line with effects observed in household labour supply. There is no difference among the four groups in their wage income at midline or at endline (Column 1 in Table 4). Point estimates of the effects of small business grant on business income are positive but not significant. The effect sizes are relatively large (around \$5 per month or 15% of control mean). Although imprecisely estimated in the long-term, small business grants increased profit earned from their enterprises in the past 6 months by \$40 (or over 25% when compared with UCT). This suggests some marginal benefits of lumping UCT into business grants. Medium and large business grants resulted in significantly higher income from non-farm businesses in both measures (in the past 1 month and 6 months) at both midline and endline. In the short-term, recipients of medium business grant recipients realised less than half the impact on profits compared with their counterparts in large grants group. However, the impact estimates for both groups are similar at endline. Point estimates show that the convergence occurred through increased impact on medium business grant group while the impact of large business grant persisted at the same level.

There could be a threshold above which business grants are meaningful for longer-term effects and there is an optimum investment in the types of non-farm activities. While we cannot calculate these thresholds, our 'medium' grant of \$500 appears to be an optimal choice among the three business grants based on the results in business ownership, business value and income. We can assume a scenario whereby the impact differences between large and medium cash recipients remained the same as observed in the short run and the convergence took place before the recall period of the endline survey. In such a case, the additional income earned by large cash group would have been about \$400 by taking the difference of \$13.2 for 30 months. This is lower than the \$500 additional cash that they received. Therefore, even in such an unlikely scenario, the medium cash size have higher social return than the large grant. Continuing with the same assumptions, impact on total income for the medium business grant group comes to \$424 by the endline (\$10.3 for 30 months and \$115 in the past 6 months). Given the cost difference of \$365 with the control group, including the cost of business training, this yields a benefit-cost ratio of 1.16. For the large grant group, benefit-cost ratio is 0.94. In other words, the social return in terms of impact on income made by the medium business grant group is already higher than the cost by endline, while the benefit for the large grant group will equalise the cost if they sustain the impact for two more months after endline.

3.1.4 Effects on household asset

While business ownership and income are the focus of this study, it is important to look into other outcomes that may inform the lack of differences in impact on income between medium and large business grants at endline. For example, a number of studies such as Fafchamps *et al.* (2014); Haushofer & Shapiro (2018) and Blattman *et al.* (2019, 2020)

Table 4. Effect of Cash Transfer on Household Income

	Last month wage work income (1)	Last month business profit (2)	Last month total HH income (3)	Last 6 months business profit (4)
High cash × endline	1.006(2.270) [0.985]	20.387(5.729)*** [0.011]	23.734(7.209)*** [0.024]	112.232(27.252)*** [0.000]
Medium cash × endline	0.051(2.259)	19.242(5.489)***	20.379(6.878)***	115.130(26.462)***
One-off low cash × endline	[0.997] 2.672(2.450)	[0.012] 5.515(5.030)	[0.041] 8.011(6.531)	[0.000] 40.470(23.597)*
High cash × midline	[0.897] 0.241(2.819)	[0.897] 21.076(3.860)***	[0.845] 23.518(5.389)***	[0.502] 112.242(18.211)***
Medium cash × midline	[0.997] 1.103(2.903)	[0.000] 9.261(3.335)***	[0.000] 10.301(5.014)**	[0.000] 33.156(14.568)**
One-off low cash × midline	[0.985] -2.121(2.739)	[0.068] 5.884(3.178)*	[0.333] 3.437(4.744)	[0.240] 25.721(14.477)*
Baseline value of Y	✓ [0.962]	✓ [0.441]	✓ [0.962]	✓ [0.489]
Endline control mean	9.503	29.788	43.852	144.243
Midline control mean	9.111	23.975	36.045	108.343
Adjusted R ²	0.010	0.041	0.024	0.054
Observations	1520	1520	1520	1520

Note: Column 1 sums up wages earned from day labour or wage work by all household members the month preceding the survey. Columns 2 and 4 sums up profits reported by respondent in each of household's non-farm businesses at 1 and 6 months preceding the survey, respectively. Last month's household income in Column 3 is the sum of household wages and profits from household's businesses. All values in this table are in USD and are winsorized at 95% for outliers at the high end only. Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1. Q-values adjusted for multiple hypothesis in square brackets.

have documented lump sum transfers are more likely to be spent on durable good and therefore effects on assets are likely to last longer. Despite the importance of livestock in Somali economy, the business grants did not show any effect on livestock ownership at midline or endline. For household assets, we counted the number of asset items owned out of thirteen items². We find only large grants significantly increased the number of asset types owned both at midline and endline, but the impact estimates are not statistically significant based on q-values (Column 2 in Table 5).

We also measured impact of the treatments on household debt—consisting of both business and non-business loans. Results in Table 5 show no significant short-term effect on outstanding loans, either at extensive margin (likelihood of having outstanding loan in Column 3) or intensive margin (amount of outstanding loan Column 4). At endline, however, we see increased reliance in loans on both variables. However, none of these effects on household debt are statistically significant when adjusted for multiple hypothesis testing.

Households sometimes build up precautionary savings from these transfers to cushion them against shocks. Large cash transfers may also facilitate accumulating savings for future investment opportunities. Results from this study show persistent rise in household savings. Impact on amount of savings are small in absolute terms (around \$14 for medium and large business grants) but represent over 75% increase against UCT group. Point estimates for small business grants are also positive at both midline and endline but not statistically significant.

3.1.5 Effects on food security and consumption

To measure impact on food security, we look at self-reported food adequacy in the past week, current food stock at home, CSI and household dietary diversity scores (HDDSs) in Table 6. These indicators are commonly used in assessing food security status UCT in humanitarian programming. CSI captures prevalence of negative coping strategies for accessing food by the household, and lower scores indicate better food security situation. HDDS assesses the quality of food consumed in the previous 24 hours. Food security has two main relevance to the study. Firstly, improving food security is usually the main objective of UCT in humanitarian contexts, and it is important to assess whether business grants can have negative short-term effects on food security by encouraging households to invest rather than meeting their immediate needs. Secondly, in the long term, it is important to assess whether the positive effects on income has translated into better food security.

Overall, we find some marginal effects of business grants compared with UCT on food security, but with weak statistical significance. Point estimates for the low business grant group (who received the same amount as the UCT group) show higher likelihood of reporting adequate food consumption and lower CSI score at midline but are not significant by q-values. In the endline, the estimates are very close to zero and not significant. Therefore, we can rule out a trade-off between UCT and business grant in the short run (within 3–4 months after the transfers). Both medium and large grants show positive short-term effects but do not persist until the endline. In Columns 5 and 6 of 6, we look at per capita expenditure on food and all household items in one month preceding the survey. We do not find any significant impact on these household expenditure either at midline or at endline. While business grants enabled them to sustain higher income, these are not yet adequate to make major improvement in their household food security and consumption.

3.1.6 Effects on children

We look at a few child related outcomes in Table 7. This is important for our implementation partner, Save the Children, since their livelihood and resilience work is motivated by

² The assets counted are mobile phone, radio, television, watch, charcoal stove/jiko, wheel barrow, vacuum flask, kerosene lamp, mat, bed, Somali stool and sitting cushion/pillow.

Table 5. Effect of Cash Transfer on Household Assets

	Owens any livestock (1)	Number of HH assets owned (2)	Has any outstanding loan (3)	Amount of outstanding loans (4)	Has any savings (5)	Amount of savings (6)
High cash × endline	0.014(0.036) [1.000]	0.499(0.227)** [0.439]	0.101(0.049)** [0.550]	23.420(9.920)** [0.330]	0.086(0.042)** [0.550]	14.812(4.306)*** [0.021]
Medium cash × endline	0.026(0.036) [0.998]	0.285(0.218) [0.940]	0.096(0.048)** [0.586]	26.382(9.697)** [0.174]	0.110(0.042)*** [0.227]	13.685(4.096)*** [0.027]
One-off low cash × endline	0.010(0.036) [1.000]	-0.036(0.219) [1.000]	0.086(0.049)* [0.676]	23.793(9.835)** [0.312]	0.046(0.040) [0.967]	8.086(3.920)** [0.550]
High cash × midline	0.010(0.020) [1.000]	0.413(0.173)** [0.322]	-0.008(0.033) [1.000]	-1.701(8.724) [1.000]	0.173(0.043)*** [0.002]	18.975(4.499)*** [0.001]
Medium cash × midline	-0.000(0.019) [1.000]	-0.440(0.228)* [0.999]	-0.021(0.031) [0.024(0.034)]	-2.311(8.466) [1.000]	0.070(0.039)* [0.676]	8.759(3.944)** [0.427]
One-off low cash × midline	-0.007(0.018) [1.000]	0.229(0.184) [0.948]	0.024(0.034) [0.998]	4.610(8.688) [1.000]	0.080(0.040)** [0.586]	7.437(3.778)** [0.586]
Baseline value of Y	✓	✓	✓	✓	✓	✓
Endline control mean	0.169	7.153	0.434	73.116	0.217	19.487
Midline control mean	0.025	5.455	0.152	34.990	0.222	17.672
Adjusted R ²	0.126	0.417	0.179	0.161	0.020	0.030
Observations	1520	1520	1520	1520	1520	1520

Note: Columns 1, 3 and 5 are dummies of whether household had any livestock, loans and savings as reported by the respondent. Ownership of livestock had a recall period of 6 months while loans and savings were as of the day of interview. Column 2 is a count of different types of assets owned by any household member at the time of interview. Respondents were presented with 13 types of household assets 2 including kitchenware and electronic devices. Column 4 records sum of outstanding loans owed by all members of the household as by the day of interview, while Column 6 sums up savings kept by all household members at various places. Loan and savings values in Columns 4 and 6 are in USD as reported by the respondent are winsorized at 95% for outliers at the high end only. Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1. Q-values adjusted for multiple hypothesis in square brackets.

Table 6. Effect of Cash Transfer on Household Consumption

	Had enough food last week (1)	At least one week food stock (2)	CSI (3)	HDDS (4)	Monthly per capita food expenditure (5)	Monthly per capita total expenditure (6)
High cash × endl ine	0.109(0.047)** [0.445]	0.108(0.048)** [0.458]	-1.512(0.793)* [0.725]	0.775(0.271)*** [0.116]	-0.925(0.798) [0.965]	-2.560(1.758) [0.911]
Medium cash × endl ine	0.066(0.048) [0.930]	0.080(0.047)* [0.844]	-0.400(0.881) [1.000]	0.360(0.278) [0.934]	-1.553(0.764)** [0.645]	-2.642(1.728) [0.911]
One-off low cash × endl ine	-0.001(0.049) [1.000]	0.016(0.046) [1.000]	0.904(0.898) [0.987]	0.433(0.281) [0.911]	-0.200(0.796) [1.000]	-0.471(1.796) [1.000]
High cash × midline	0.165(0.046)*** [0.017]	0.062(0.040) [0.911]	-1.180(0.433)*** [0.173]	0.369(0.265) [0.930]	0.201(0.646) [1.000]	2.692(1.658) [0.880]
Medium cash × midline	0.087(0.049)* [0.809]	-0.014(0.038) [1.000]	-1.568(0.412)*** [0.007]	-0.593(0.283)** [0.607]	1.426(0.716)** [0.670]	-0.521(1.664) [1.000]
One-off low cash × midline	0.122(0.048)** [0.257]	0.010(0.039) [1.000]	-0.799(0.453)* [0.813]	0.245(0.277) [0.992]	0.122(0.667) [1.000]	0.885(1.650) [1.000]
Baseline value of Y	✓	✓	✓	✓	✓	✓
Endline control mean	0.608	0.286	6.307	7.815	11.137	24.688
Midline control mean	0.747	0.222	1.833	5.677	10.821	21.498
Adjusted R ²	0.022	0.122	0.087	0.195	0.029	0.060
Observations	1520	1520	1520	1520	1488	1520

Note: Column 1 is a dummy of whether food available at household was enough to last at least a week as per respondent's projection. Column 2 is also a dummy indicating whether every household member in the household had enough food to eat the previous week preceding the survey. CSI in Column 3 is a sum of activities undertaken by households to manage food shortages the last one week preceding the interview. Here, respondents were presented with 10 activities and were asked to indicate how many days they utilised an activity to manage food shortage. The CSI value therefore ranged from 0 to 70. To calculate HDDs in Column 4, respondents were presented with twelve types of food and were asked whether any household member consumed each group. The twelve food group dummies were then summed up to create the HDDS score ranging from 0 to 12. Column 5 records how much a household reported to have spent on food divided by number of household members. The last column sums reported household food and non-food expenses in the past 1 month. The expenses are in USD and are winsorized at 95% for outliers at the high end only. Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1. Q-values adjusted for multiple hypothesis in square brackets.

reducing child poverty. Moreover, it is also possible for some households to use part of the cash grants to invest in children's education and health. Although household poverty is strongly associated with child specific outcomes, various evaluation of anti-poverty interventions have shown that the positive impacts on household income or expenditure do not necessarily translate into better well-being for children (De Hoop *et al.*, 2020; Sulaiman, 2015). For example, a short-term cash-based study by Grijalva-Eternod *et al.* (2018) in Somalia just before onset of the 2017 drought found no evidence of monthly cash transfer reducing malnutrition risks despite improvement in household food security.

We generally do not find any significant effect of business grants on children. In terms of household expenditure on children's health, there were some short-term positive effects that do not persist at endline (Column 2 in Table 7). We find around 10 percentage points positive effect on school enrolment at endline of the recipients of large business grants (Columns 5 and 6). Although these point estimates are large compared with 30% enrolment rate of the UCT group, they are not significant in *q*-values. Besides the expectations of positive effects on school enrolment, there are also potential risks of increasing child labour by business grants. This unintended consequence of increasing child labour (either for business or at home) can take place if the transfers results in expanded household enterprise and the concerned households have constrained adult labour supply (De Hoop *et al.*, 2020). However, we do not find any effect on child labour (Column 3). As noted earlier, there is high unemployment among the beneficiary households, for example, at baseline only 58% of households had at least one adult engaged in IGA. Similarly, we found low prevalence of child labour, less than 4% of the households had any child involved in IGA at baseline. This rate of child labour did not change as a result of the business ownership induced by business grants either at midline or at endline.

4. Robustness of Main Results

Table A2 in appendix presents our key results related to micro-enterprises using alternative specifications. In Panel A, we use the same specification in Equation 1 but adding control variables that are selected through Lasso post-double-selection procedure discussed earlier. In Panel B, we use the same set of control variables but change the specification from ANCOVA to difference-in-difference. Our main results on the likelihoods of business ownership, value of business, income from these businesses as well as total household income and savings are qualitatively the same and unaffected by the choice of specification.

Cash transfers provides the vulnerable with liquidity needed to engage in relations of reciprocity hence strengthening informal risk-sharing. The same transfers can reduce inter-household transfers since needs of the vulnerable will be deemed satisfied. Since beneficiaries under this study was determined by village relief committees, it can be expected that they receive in short-term from humanitarian agencies. We find in short-term medium business grant recipients were 14-percentage point less likely to receive support from the government or NGOs, while those receiving lumped UCTs were 8-percentage points less likely to receive any support (Table A3). These negative effects were not discernible 3 years after the transfers. There is no significant difference among the four treatment groups in their likelihoods of resource sharing or in the size of informal sharing (cash or in kind). Households in the large business grant groups were 4-percentage points less likely to receive remittances at endline. No effect on informal transfers (either receiving or giving out) mitigate potential risks of spillover effects biasing our main results.

A common argument in micro-enterprise studies are that female-run enterprises have low returns to capital because females' financial resources are often redirected to male owned enterprises and that female enterprises tend to operate in less profitable sectors

Table 7. Effect of Cash Transfer on Child-Related Outcomes

	Children education expenses (1)	Children healthcare expenses (2)	Any child engaged in IGA (3)	Enrolled to school (Boys) (4)	Enrolled to school (Girls) (5)	Enrolled to school (Boys + Girls) (6)
High cash × endl ine	-0.036(1.689) [1.000]	-0.989(1.262) [1.000]	0.005(0.005) [1.000]	0.127(0.058)** [0.817]	0.095(0.054)* [0.933]	0.084(0.041)** [0.863]
Medium cash × endl ine	-0.647(1.555) [1.000]	-0.143(1.260) [1.000]	0.010(0.007) [0.980]	-0.013(0.058) [1.000]	0.046(0.053) [1.000]	-0.020(0.041) [1.000]
One-off low cash × endl ine	-3.087(1.531)** [0.868]	-0.481(1.295) [1.000]	0.005(0.006) [1.000]	-0.019(0.058) [1.000]	-0.006(0.054) [1.000]	-0.026(0.041) [1.000]
High cash × midl ine	2.576(1.676) [0.969]	2.952(1.115)*** [0.703]	-0.011(0.008) [0.981]	-0.008(0.055) [1.000]	0.027(0.056) [1.000]	0.007(0.043) [1.000]
Medium cash × midl ine	-1.117(1.591) [1.000]	3.094(1.199)*** [0.715]	-0.000(0.010) [1.000]	-0.085(0.056) [0.974]	-0.035(0.056) [1.000]	-0.047(0.044) [1.000]
One-off low cash × midl ine	-1.528(1.630) [1.000]	-0.306(0.972) [1.000]	-0.000(0.011) [1.000]	-0.103(0.055)* [0.906]	-0.066(0.057) [1.000]	-0.094(0.043)** [0.818]
Nudge × endl ine	1.100(1.130) [1.000]	-0.017(0.880) [1.000]	-0.006(0.005) [1.000]	0.046(0.041) [1.000]	0.041(0.039) [1.000]	0.029(0.029) [1.000]
Nudge × midl ine	-0.619(1.162) [1.000]	0.037(0.814) [1.000]	-0.007(0.007) [1.000]	-0.015(0.038) [1.000]	-0.036(0.040) [1.000]	-0.032(0.031) [1.000]
Baseline value of Y	✓	✓	✓	✓	✓	✓
Endl ine control mean	12.132	9.519	0.005	0.281	0.320	0.321
Midl ine control mean	11.000	6.896	0.010	0.234	0.255	0.225
Adjusted R ²	0.226	0.152	-0.001	0.082	0.094	0.114
Observations	1488	1488	1520	831	858	1167

Note: Columns 1 and 2 record how much a household reported to have spent on children's education and healthcare in the past 1 month. These expenses are in USD and are winsorized at 95% for outliers at the high end only. Column 3 is a dummy of whether there is any household member below 18 years who is engaged in income generating activities. Columns 4–6 school enrollment rates for children aged 6–13 years. It divides the number children within this age range reported to be enrolled in school by the total number of children within the age range in an household. Columns 4 and 5 are restricted to children's sex sub-sample, while Column 6 includes both sexes. Robust standard errors in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. Q-values adjusted for multiple hypothesis in square brackets.

and that female are often necessity entrepreneurs among other reasons (Bernhardt *et al.*, 2017; Carranza *et al.*, 2018). On the other hand, a few studies such as De Mel *et al.* (2008) and Fafchamps *et al.* (2014) find larger effect of cash transfer on male entrepreneurs. Our study does not distinguish ownership in household enterprises; we examine if effects of the transfer differ by the gender of the recipient who received the cash. These recipients of the three business grant groups also participated in the business training. Though not significantly different, the effect directions suggests female recipients realise more positive business outcomes from medium and large business grants (Table A4).

In the study design, we have a variation in the amount of cash transferred to the UCT and small business grant groups between Mogadishu and Hiran sites (see Figure 1). Although we control for site fixed effects in our analysis, it is of interest to explore whether the effects varied between the sites. Despite concerns of smaller sample size for site level results, we find that the directions of impact on micro-enterprise to be qualitative similar (Table A5). The magnitude of effects on business value and income for medium and large business grant recipients is larger in Mogadishu compared with Hiran although their difference in transferred amount was lower. This could possibly be showing higher level of non-farm business opportunities in Mogadishu.

5. Conclusion

Whether humanitarian supports can be utilised to enhance household resilience is an important policy question in the contexts of prolonged humanitarian crises. This study was conducted in Somalia to test the additional benefits of changing UCT into business grants while also varying the size of the cash transfers. The study found that giving the same amount of money as business grant coupled with a short training promoted micro-enterprise ownership in the short run compared with UCT. However, this difference disappeared after three years. On the other hand, transfer of larger business grants had more persistent effects suggesting that the amounts transferred in UCTs are not adequate in creating livelihood resilience. The study also demonstrates non-linearity in the impact by cash size, and the medium-sized business grant (\$500 in our study) is found to be more cost-effective than twice that amount.

Funding

Funder Name: Private Enterprise Development in Low-Income Countries. Grant number: PEDL ERG 6728.

Supplementary material

Supplementary material is available at *Journal of African Economies* online.

References

- Baird S., McKenzie D., Özler B. (2018) 'The Effects of Cash Transfers on Adult Labor Market Outcomes', *IZA Journal of Development and Migration*, 8(1): 1–20.
- Bastian G., Goldstein M., Papieni S. (2017) 'Are Cash Transfers Better Chunky or Smooth? Evidence from an Impact Evaluation of a Cash Transfer Program in Northern Nigeria'. *Gender Innovation Lab Policy Brief* No. 21. World Bank: Washington, DC.
- Beaman L., Karlan D., Thuysbaert B., Udry C. (2014) 'Self-Selection into Credit Markets: Evidence from Agriculture in Mali'. *NBER Working Paper* No. 20387.
- Belloni A., Chernozhukov V., Hansen C. (2013) 'Inference on Treatment Effects after Selection among High-Dimensional Controls', *Review of Economic Studies*, 81(2): 608–50.

- Berge L. I. O., Bjorvatn K., Tungodden B. (2015) 'Human and Financial Capital for Microenterprise Development: Evidence from a Field and Lab Experiment', *Management Science*, 61(4): 707–22.
- Bernhardt A., Field E., Pande R., Rigol N. (2017) 'Household Matters: Revisiting the Returns to Capital among Female Micro-Entrepreneurs'. *NBER Working Paper* No. 23358.
- Blattman C., Dercon S., Franklin S. (2019) 'Impacts of Industrial and Entrepreneurial Jobs on Youth: 5-year Experimental Evidence on Factory Job Offers and Cash Grants in Ethiopia'. *NBER Working Paper* No. 25788.
- Blattman C., Fiala N., Martinez S. (2014) 'Generating Skilled Self-Employment in Developing Countries: Experimental Evidence from Uganda', *The Quarterly Journal of Economics*, 129(2): 697–752.
- Blattman C., Fiala N., Martinez S. (2020) 'The Long-Term Impacts of Grants on Poverty: Nine-Year Evidence from Uganda's Youth Opportunities Program', *American Economic Review: Insights*, 2(3): 287–304.
- Brudevold-Newman A., Honorati M., Jakiela P., Ozier O. (2017) 'A Firm of One's Own: Experimental Evidence on Credit Constraints and Occupational Choice'. *Policy Research Working Paper* No. 7977. World Bank: Washington, DC.
- Carranza E., Dhakal C., Love I. (2018) 'Female Entrepreneurs: How and Why Are They Different?'. *Jobs Working Paper Issue* No. 20. World Bank: Washington, DC.
- Chernozhukov V., Hansen C., Spindler M. (2015) 'Post Selection and Post Regularization Inference in Linear Models with Many Controls and Instruments', *American Economic Review*, 105(5): 486–90.
- De Hoop J., Groppo V., Handa S. (2020) 'Cash Transfers, Microentrepreneurial Activity, and Child Work: Evidence from Malawi and Zambia', *World Bank Economic Review*, 34(3): 670–97.
- De Mel S., McKenzie D., Woodruff C. (2008) 'Returns to Capital in Microenterprises: Evidence from a Field Experiment', *The Quarterly Journal of Economics*, 123(4): 1329–72.
- De Mel S., McKenzie D., Woodruff C. (2012) 'One-Time Transfers of Cash or Capital Have Long-Lasting Effects on Microenterprises in Sri Lanka', *Science*, 335(6071): 962–6.
- De Mel S., McKenzie D., Woodruff C. (2014) 'Business Training and Female Enterprise Start-Up, Growth, and Dynamics: Experimental Evidence from Sri Lanka', *Journal of Development Economics*, 106: 199–210.
- Delius A., Sterck O., Alix-Garcia J., Betts A., Dercon S., Mckenzie D., Omata N., Ulyssa G., Woodruff C. (2020) 'Cash Transfers and Micro-Enterprise Performance: Theory and Quasi-Experimental Evidence from Kenya'.
- Fafchamps M., McKenzie D., Quinn S., Woodruff C. (2014) 'Microenterprise Growth and the Flypaper Effect: Evidence from a Randomized Experiment in Ghana', *Journal of Development Economics*, 106: 211–26.
- Fafchamps M., Quinn S. (2016) 'Aspire', *The Journal of Development Studies*, 53(10): 1615–33.
- Fiala N. (2014) 'Stimulating Microenterprise Growth: Results from a Loans, Grants and Training Experiment in Uganda'.
- Goodman R., Majid N. (2017) 'In Pursuit of a Safety Net Programme in the Short Term Paving the Way to a Social Protection Approach in the Long Term: Issues and Options', report submitted to the ASiST, European Commission.
- Grijalva-Eternod C. S., Jelle M., Haghparast-Bidgoli H., Colbourn T., Golden K., King S., Cox C. L., Morrison J., Skordis-Worrall J., Fottrell E., Seal A. J. (2018) 'A Cash-Based Intervention and the Risk of Acute Malnutrition in Children Aged 6–59 Months Living in Internally Displaced Persons Camps in Mogadishu, Somalia: A Non-randomised Cluster Trial', *PLoS Medicine*, 15(10): e1002684.
- Haushofer J., Shapiro J. (2016) 'The Short-Term Impact of Unconditional Cash Transfers to the Poor: Experimental Evidence from Kenya', *Quarterly Journal of Economics*, 131(4): 1973–2042.
- Haushofer J., Shapiro J. (2018) 'The Long-Term Impact of Unconditional Cash Transfers: Experimental Evidence from Kenya'.
- Hicks J. H., Kremer M., Mbiti I., Miguel E. (2017) 'Assessing the Potential of Vocational Training and Small Business Grants in Kenya'.
- Hidrobo M., Hoddinott J., Peterman A., Margolies A., Moreira V. (2014) 'Cash, Food, or Vouchers? Evidence from a Randomized Experiment in Northern Ecuador', *Journal of Development Economics*, 107: 144–56.
- Hoddinott J., Sandström S., Upton J. (2018) 'The Impact of Cash and Food Transfers: Evidence from a Randomized Intervention in Niger', *American Journal of Agricultural Economics*, 100(4): 1032–49.
- Jones D., Molitor D., Reif J. (2019) 'What Do Workplace Wellness Programs Do? Evidence from the Illinois Workplace Wellness Study', *Quarterly Journal of Economics*, 134(4): 1747–91.

- Kondylis F., Loeser J. (2021) 'Intervention Size and Persistence'. *Policy Research Working Papers* No. 9769. World Bank: Washington, DC.
- Lehmann C., Masterson D. (2014) 'Emergency Economies: The Impact of Cash Assistance in Lebanon', report submitted to the International Rescue Committee, Beirut, Lebanon.
- Macours K., Premand P., Vakis R. (2012) 'Transfers, Diversification and Household Risk Strategies: Experimental Evidence with Lessons for Climate Change Adaptation'. *Policy Research Working Papers* No. 6053. World Bank: Washington, DC.
- Mckenzie D., Woodruff C. (2008) 'Experimental Evidence on Returns to Capital and Access to Finance in Mexico', *World Bank Economic Review*, 22(3): 457–82.
- ODI (2015) 'Doing Cash Differently: How Cash Transfers Can Transform Humanitarian Aid', report submitted to the Overseas Development Institute, London.
- Sulaiman M. (2015) 'Does Wealth Increase Affect School Enrolment in Ultra-Poor Households: Evidence from an Experiment in Bangladesh', *Enterprise Development & Microfinance*, 26(2): 139–56.

Appendix

A.1 Summary of Survey Respondents

Table A1. Baseline Characteristics

Variables	Two instalment low cash	One-off low cash	Medium cash	High cash	F-test
Household size	5.56	-0.06(0.25)	0.64(0.24)***	0.38(0.24)	3.589**
HH members engaged in IGA	0.66	-0.04(0.07)	0.16(0.07)**	0.14(0.07)**	4.741***
Days HH members worked	12.30	0.24(1.66)	3.04(1.66)*	4.10(1.66)**	3.011**
Hours HH members worked	113.72	5.52(17.54)	25.15(17.50)	37.59(17.52)**	1.980
HH has non-farm business	0.19	0.06(0.04)	-0.00(0.04)	0.01(0.04)	0.879
Earned from wage work	0.31	0.01(0.04)	0.06(0.03)*	0.05(0.04)	1.413
Hired anyone for the business	-0.01	0.03(0.02)	0.05(0.02)**	0.04(0.02)	1.448
Sought loan for business	0.10	-0.03(0.04)	-0.04(0.04)	-0.04(0.04)	0.354
Income from wage work	14.88	1.12(2.05)	2.24(2.05)	1.18(2.05)	0.399
Business profit	5.19	4.90(3.66)	2.67(3.65)	4.35(3.65)	0.725
Total HH income	24.16	7.08(5.20)	4.28(5.19)	5.29(5.19)	0.668
6-month business profit	7.30	45.98(22.43)**	26.68(22.38)	41.70(22.40)*	1.716
Owens any livestock	0.03	-0.01(0.02)	0.02(0.02)	0.01(0.02)	0.407
Number HH assets owned	4.07	0.25(0.23)	0.30(0.23)	0.19(0.23)	0.668
Has any outstanding loan	0.45	0.02(0.05)	0.05(0.05)	0.06(0.05)	0.724
Outstanding loans amount	35.40	8.89(11.25)	17.55(11.22)	15.71(11.23)	1.001
Has any savings	0.13	-0.04(0.04)	-0.02(0.04)	-0.03(0.04)	0.456
Amount of savings	10.83	-4.27(3.37)	-2.42(3.36)	-1.60(3.37)	0.556
Had enough food last week	0.61	-0.03(0.05)	-0.08(0.05)	0.02(0.05)	1.584
At least one week food stock	-0.02	0.05(0.03)*	0.02(0.03)	0.05(0.03)*	1.454
HH CSI	5.05	0.06(0.67)	0.26(0.67)	-0.79(0.67)	0.940
HDDS	4.39	-0.08(0.23)	0.30(0.23)	0.41(0.23)*	2.038
Per capita food expenditure	7.45	0.30(0.59)	0.04(0.59)	0.91(0.59)	1.024
Monthly non-food expenses	64.19	-6.20(5.77)	5.37(5.76)	7.89(5.76)	2.350*
Last 6 months lumpy expenses	38.39	-7.56(10.03)	9.55(10.00)	14.39(10.01)	1.917
Per capita total expenditure	13.65	-1.36(1.25)	-0.90(1.24)	1.74(1.24)	2.422*
Minority clan	0.52	0.06(0.05)	-0.00(0.05)	-0.03(0.05)	1.459

Note: This table tests difference between the UCT (control) arm and the business grants. The F-test column shows whether business grants arms significantly differ from the UCT arm. Columns 2–4 tests whether each business arm differ from the UCT arm and by how much. Robust standard errors in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. The table shows UCT arm differed from the business grant arms in only three out of the twenty-seven outcomes of interest.

A.2 Robustness of Cash Transfer Effects

Table A2. Robustness of Cash Transfer Effects

	Non-farm business (1)	Business value (2)	Last month profit (3)	Last six months profit (4)	Last month HH income (5)	Savings amount (6)
Panel A: conditional ANCOVA						
High cash × endline	0.139(0.049)***	144.924(40.364)***	19.563(5.660)***	107.694(26.869)***	22.755(7.085)***	14.535(4.283)***
Medium cash × endline	0.155(0.049)***	126.645(38.049)***	17.393(5.445)***	106.794(26.487)***	18.414(6.853)***	13.217(4.086)***
One-off low cash × endline	0.071(0.048)	15.331(35.372)	5.452(5.014)	41.186(23.688)*	7.648(6.446)	7.924(3.920)**
High cash × midline	0.194(0.050)***	251.672(34.353)***	20.224(3.824)***	109.612(18.082)***	22.379(5.435)***	19.812(4.479)***
Medium cash × midline	0.095(0.051)*	54.551(28.620)*	7.315(3.264)**	25.226(14.339)*	8.154(4.950)*	8.810(3.817)**
One-off low cash × midline	0.161(0.050)***	36.209(26.987)	5.946(3.138)*	26.323(14.168)*	2.799(4.700)	8.582(3.770)**
Baseline value of Y	✓		✓	✓	✓	✓
Observations	1520	1520	1520	1520	1520	1520
Panel B: conditional difference in difference						
High cash × endline	0.134(0.056)**	137.670(40.107)***	15.279(6.361)**	69.642(31.770)**	17.113(8.019)**	16.566(5.062)***
Medium cash × endline	0.163(0.057)***	114.075(38.437)***	16.647(6.074)***	93.004(30.765)***	15.736(7.686)**	15.880(4.906)***
One-off low cash × endline	0.022(0.056)	10.394(35.563)	0.858(5.697)	0.320(28.347)	-0.169(7.445)	12.799(4.732)***
High cash × midline	0.189(0.059)***	244.631(34.666)***	15.967(4.842)***	71.752(24.319)***	16.761(6.620)**	21.769(5.161)***
Medium cash × midline	0.103(0.059)*	41.661(28.705)	6.530(4.179)	11.149(20.765)	5.439(6.245)	11.583(4.712)**
One-off low cash × midline	0.112(0.059)*	31.190(27.412)	1.342(4.196)	-14.616(20.749)	-5.027(6.063)	13.485(4.558)***
Baseline value of Y	✓		✓	✓	✓	✓
Observations	2280	1520	2280	2280	2280	2280

Note: Column 1 is a dummy of whether any household member operated a non-farm business 6 months preceding the survey. Business value in Column 2 is sum of the value of all capital items and stocks for all household's businesses in USD as of the day of the interview. Columns 3 and 4 sum up profits reported by respondent in each of household's non-farm businesses at one and 6 months preceding the survey, respectively. Last month's household income in Column 5 is the sum of household wages and profits from household's businesses. Column 6 sums up savings kept by all household members at various places. Monetary values in USD and are winsorized at 95% for outliers at the high end only. Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1. In addition to corresponding baseline value for each outcome, both panels include subset of baseline covariates listed in Table A1 selected through Lasso post-double-selection procedure developed by Belloni *et al.* (2013) and Chernozhukov *et al.* (2015). This procedure includes sets of variables predictive of likelihood of receiving a specific treatment or those predictive of outcomes.

A.3 Effects on Interhousehold Transfers

Table A3. Effect of Cash Transfer on Social Support and Interhousehold Transfer

	Received any support (1)	Received support from neighbours or relatives (2)	Received government or NGO support (3)	Received remittance (4)	Gave any support (5)
High cash × endline	-0.057(0.039)	-0.019(0.028)	-0.007(0.030)	-0.043(0.021)**	-0.008(0.025)
Medium cash × endline	-0.024(0.040)	0.020(0.031)	0.016(0.031)	-0.030(0.022)	0.004(0.026)
One-off low cash × endline	0.008(0.040)	0.047(0.033)	0.028(0.032)	-0.013(0.024)	-0.006(0.025)
High cash × midline	-0.026(0.039)	0.010(0.007)	-0.022(0.040)	0.000(0.002)	0.026(0.034)
Medium cash × midline	-0.060(0.042)	-0.000(0.002)	-0.137(0.044)***	0.000(0.002)	0.012(0.034)
One-off low cash × midline	-0.083(0.040)**	-0.001(0.002)	-0.077(0.041)*	0.005(0.006)	-0.026(0.031)
Baseline value of Y	✓				
Endline control mean	0.217	0.138	0.127	0.053	0.063
Midline control mean	0.622	0.000	0.606	0.005	0.083
Adjusted R ²	0.396	0.060	0.445	0.046	0.006
Observations	1488	1520	1520	1520	1485

Note: Column 1 is a dummy of whether household received any support (food or cash) from anyone (friend, relative or NGO) in the past 6 months preceding the survey. Columns 2 and 3 are dummies of whether household received aid support from organisations the past 6 months preceding the survey. Column 4 is dummy of receipt of remittances from family and friends, while the last column is dummy indicating whether the household gave out any support to other households. Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

A.4 Heterogeneity by Recipient Sex

Table A4. Heterogeneity of Cash Transfer Effects by Recipient Sex

	Has non-farm business (1)	Sought business loan (2)	Purchased on nonumber edit (3)	Business value (4)	Last month profit (5)	6 months profit (6)
High cash	0.052(0.105)	-0.030(0.089)	-0.001(0.091)	116.333(88.508)	19.470(13.042)	107.431(62.462)*
High cash × female	0.110(0.118)	0.164(0.099)*	0.069(0.100)	34.360(99.839)	1.226(14.544)	7.609(69.439)
Medium cash	0.047(0.096)	0.012(0.083)	0.059(0.086)	91.691(77.724)	17.919(11.441)	106.633(54.670)*
Medium cash × female	0.163(0.112)	0.105(0.093)	0.018(0.096)	51.071(89.552)	1.614(13.049)	11.120(62.472)
One-off low cash	0.067(0.103)	-0.005(0.087)	0.020(0.089)	23.561(79.918)	11.279(11.643)	70.660(55.826)
One-off low cash × female	0.006(0.116)	0.061(0.095)	0.002(0.097)	-12.762(89.055)	-7.502(12.922)	-37.926(61.470)
Female	-0.084(0.095)	-0.138(0.080)*	-0.044(0.085)	-39.706(76.055)	-7.965(10.633)	-46.546(48.513)
Baseline value of Y	✓	✓			✓	✓
Endline control mean	0.391	0.196	0.239	234.717	39.043	192.239
Adjusted R ²	0.024	0.003	0.060	0.032	0.017	0.024
Observations	760	760	760	760	760	760

Note: The values in this table presents effects as at endline only; we exclude midline effects. Column 1 is a dummy of whether any household member operated a non-farm business 6 months preceding the survey. Columns 2 and 3 are dummies indicating if they applied sought business loans or purchased business items on credit the previous 6 months preceding the survey. Business value in Column 4 is sum of the value all capital items and stocks for all household's businesses in USD as of the day of the interview. Columns 5 and 6 sums up profits reported by respondent in each of household's non-farm businesses at 1 and 6 months preceding the survey, respectively. Columns 4–6 are monetary values in USD and are winsorized at 95% for outliers at the high end only. Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

A.5 Heterogeneity by Study Site

Table A5. Heterogeneity of Cash Transfer Effects by Study Site

	Has non-farm business (1)	Sought business loan (2)	Purchased on nonnumber edit (3)	Business value (4)	Last month profit (5)	6 months profit (6)
High cash	0.171(0.067)**	0.142(0.056)**	0.033(0.043)	196.848(53.341)***	24.727(7.977)***	133.380(37.538)***
High cash × Hiran	-0.066(0.096)	-0.082(0.075)	0.043(0.074)	-105.932(79.891)	-8.581(11.355)	-41.521(53.827)
Medium cash	0.179(0.068)***	0.109(0.054)**	-0.000(0.039)	128.576(45.748)***	19.875(7.356)***	118.811(35.248)***
Medium cash × Hiran	-0.042(0.097)	-0.026(0.075)	0.153(0.074)**	-5.118(76.087)	-1.511(10.928)	-7.637(52.627)
One-off low cash	0.066(0.065)	-0.006(0.046)	-0.031(0.036)	29.373(42.020)	2.232(6.362)	38.182(30.712)
One-off low cash × Hiran	0.007(0.094)	0.095(0.069)	0.107(0.070)	-30.501(69.412)	6.227(9.953)	5.291(46.837)
Hiran dummy	0.059(0.074)	-0.004(0.056)	0.120(0.055)**	148.795(55.798)***	9.325(8.004)	40.682(35.841)
Baseline value of Y	✓	✓			✓	✓
Endline control mean	0.303	0.101	0.045	147.258	23.551	125.213
Adjusted R ²	0.021	0.007	0.066	0.037	0.019	0.023
Observations	760	760	760	760	760	760

Note: The values in this table presents effects as at endline only; we exclude midline effects. Column 1 is a dummy of whether any household member operated a non-farm business 6 months preceding the survey. Columns 2 and 3 are dummies indicating if they applied sought business loans or purchased business items on credit the previous 6 months preceding the survey. Business value in Column 4 is sum of the value all capital items and stocks for all household's businesses in USD as of the day of the interview. Columns 5 and 6 sums up profits reported by respondent in each of household's non-farm businesses at 1 and 6 months preceding the survey, respectively. Columns 4–6 are monetary values in USD and are winsorized at 95% for outliers at the high end only. Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1.