Great Expectations: Responses to Current and Future Transfers for Low-Income Individuals

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Achyuta Adhvaryu, Jean-François Gauthier,
Pamela Jakiela, and Dean Karlan†

February 4, 2025

Abstract

The mere expectation of aid may influence short-run household and investment decisions. We study this phenomenon by conducting a four-arm randomized controlled trial in Uganda that varied the timing of transfers, examining impacts on current expenditures, investment, saving, work hours, health and well-being. The four arms are: T1) a lump-sum cash transfer of $135; T2) the same $135 transfer accompanied by a light-touch financial planning exercise; T3) an "expectations" arm in which individuals were told they would receive a $135 unconditional lump-sum cash transfer in 12 months; and 4) control. Both the contemporaneous transfers (T1 and T2) and the promise of a future transfer (T3) increase work hours, income from self-employment, and food consumption both after one month and after 11 months (i.e., just before individuals in the expectations treatment receive their transfer). Immediate transfers also increase business and household expenditures as well as savings. We suggest that a variant of the canonical life-cycle model where income depends on nutrition through labor productivity can explain these movements.

Keywords: expectations, cash transfers, life-cycle model, consumption, labor supply, saving, borrowing, Uganda
JEL: D15, J22, O12

*We thank participants in the University of Michigan's H2D2 and Labor Lunch seminars, participants at CIRANO's Applied Micro Day, and in particular Sonia Laszlo and Fabian Lange for helpful comments.

†Adhvaryu: University of California San Diego (aadhvaryu@ucsd.edu); Gauthier: HEC Montreal (jean-francois.gauthier@hec.ca); Jakiela: Williams College (pj5@williams.edu); Karlan: Northwestern University (karlan@northwestern.edu).

1 Introduction

To understand the determinants and consequences of persistent poverty, economists often study the causal impacts of policy interventions. However, few if any interventions perfectly isolate one constraint. We suggest that in some cases studying the effects of a credible promise of future intervention may provide more precise insights into underlying market failures than the examination of the intervention itself. Furthermore, interventions (aid, in particular) may shift expectations that affect current actions, such as investment and consumption. Typically most evaluations of aid examine treatment effects that implicitly combine the direct effect of the aid and the shift that that aid may have generated with regard to expectations of future aid. We designed a study that attempts to separate these effects, in order to understand more about how expectation of future aid affects short-run choices.

Cash transfers, for example, are often used to study the impacts of additional income on labor supply (in addition to a host of other outcomes such as consumption, saving, borrowing, health, entrepreneurship, etc.). Canonical life-cycle models (e.g. Hall, 1978, and Deaton, 1991) predict that cash transfers should lead to reductions in work hours. Yet recent evidence from developing countries does not support this prediction (Banerjee et al., 2017; Crosta et al., 2024). One potential explanation for this pattern is that, depending on how they are spent, cash transfers could have positive effects on labor productivity by altering aspirations, reducing stress and cognitive load, or allowing individuals to invest in their own physical and mental health (Banerjee et al., 2020; Kaur et al., 2021).

How should the workhorse life-cycle model be modified to better explain the interactions between financial expectations, investments in self-care, and productivity? Answering this question is important both to understand the behavior of individuals and households experiencing persistent poverty as well as to aid in the prediction of potential impacts of public policy targeted to these households. To shed light on this question, we conducted a randomized controlled trial (RCT) in Uganda in which we compare the treatment effects of a vanilla unconditional lump-sum cash transfer to two alternatives: a promise of an unconditional lump-sum cash transfer in one year, and an unconditional lump-sum cash transfer accompanied by short session designed to nudge individuals to create a plan for themselves for how to spend or invest the transfer. The *expectation* of a transfer, we argue, is void of some alternative mechanisms that could cause a cash transfer to shift short-run labor supply.

The expectation of a future transfer also provides individuals with time to consider the potential uses of the funds (and perhaps to borrow in anticipation of their future receipt), potentially altering impacts. Our immediate grant plus financial planning treatment allows us to partially unpack the potential impact of greater reflection on the impacts of the transfer, reflection that may help solidify

one's expectations for oneself with respect to how to use the additional cash. Our design thus also allows us to better understand constraints that low-income individuals face regarding investment, since the mere promise of money in a year does not (at least directly) provide any immediate liquidity.

The RCT was conducted in partnership with The AIDS Support Organization (TASO), a Ugandan nongovernmental organization (NGO) that provides services to and advocates for individuals living with HIV (Iliffe, 2006). TASO was founded in 1987, and is one of the oldest and best known locally founded NGOs assisting Africans living with HIV. Since 2004, the Ugandan government has offered free antiretroviral therapy (ART) to HIV-positive Ugandans, greatly reducing mortality and morbidity from AIDS and allowing those with HIV to live relatively normal lives while receiving treatment (Iliffe, 2006). TASO partners with the government to provide ARTs and counseling to more than 100,000 HIV-positive Ugandans. All participants in our study are HIV-positive, and they are broadly representative socioeconomically of the approximately five percent of prime-age Ugandans currently living with HIV.[1]

We find that the mere promise of a future transfer leads to an immediate increase in work hours, which in turn allows for increases in microenterprise profits and consumption. The anticipated transfer does not reduce net saving, suggesting that the ability to borrow is unlikely to mediate the observed effects. In contrast, the cash plus financial planning treatment generates quite similar effects as the cash-only treatment, suggesting that additional cognitive focus (or our attempt at generating additional cognitive focus) does not change choices or outcomes for recipients.

To better interpret the empirical patterns that we observe, we begin with the workhorse life-cycle model (e.g., Hall (1978)). Consumption and leisure are normal goods and there are no financial frictions (participants in our context have access to varied sources of savings and borrowing, and we observe an increase in net savings in all treatment groups). The basic model assumes that labor productivity is constant and is not affected by consumption patterns. This leads to the prediction that consumption increases are accompanied by a reduction in work hours following contemporaneous or promised future transfers unless frictions are imposed. The added consumption is then fueled by the transfer for an immediate grant or fueled by dissaving for an expected future transfer. Our empirical results contradict this model, since we find that individuals in both the immediate and delayed transfer groups increase their self-employment hours and individuals in the delayed transfer group do not increase their net borrowing, violating key predictions of the basic model.[2]

[1] In Uganda, HIV-prevalence dropped from 9.6 percent in 1990 to 5.4 percent in 2020. Much of this decline is attributable to the availability of free ART treatment. Uganda's 2004 distribution program was one of the first in Africa. UNAIDs estimates that the proportion of HIV-positive Ugandans receiving ART increased from 5 percent in 2004 to 81 percent in 2020.

[2] Several natural extensions of the canonical model fail to deliver predictions consistent with the movements we see in the data. These include allowing health to directly affect utility or affect survival probabilities; and lumpy durables

The key challenge with existing models in which leisure is a normal good is that an increase in wealth leads to a decrease in labor supply due to the income effect. We extend existing models by allowing labor income to depend on both work hours and *productivity*, which can increase following a transfer or an expected future transfer, shifting labor demand upward.[3] In particular, we let the product of labor depend in an increasing and concave way on an asset that we broadly think of as the individual's nutrition. Investing in nutrition raises the marginal product of labor, increases labor income (*ceteris paribus*), and can lead to increased work hours following an immediate or an expected future transfer.

Consistent with this extended model, we observe an increase in profits and work hours in participants' businesses for all treatment groups, along with substantial improvements in food security and dietary diversity, including consuming more food groups important for building energy reserves, without substituting away from other food groups (World Bank, 2007). Recent work has provided further evidence of the intrinsic link between health, nutrition, productivity and work hours, particularly in physical work, leading us to believe that participants in all treated groups invest in their health and become more productive.[4] Participants in groups receiving an immediate transfer also invest more in own-business inputs, which would also make their own labor more productive for a broad array of production functions.

We then explore an extension of our preferred model in which transfers and expected future transfers also have a positive *psychological productivity* effect on recipients as in Banerjee et al., 2020. In our preferred framework, the desire to smooth consumption across periods drives the adjustment in outcomes. We cannot rule out that, for example, being more hopeful about the future contributes to the decision to re-optimize. However, we also do not have conclusive evidence for this effect empirically given the mental health variables measured in the trial.

1.1 Contributions

We contribute to several strands of literature in economics. First, a vast literature examines how households smooth consumption and trade-off labor and leisure in particular after changes in current or permanent income changes. Many have pointed out that the ability to smooth and the manner in which smoothing is done can be deeply influenced by saving and borrowing constraints that tend to bind more strongly for poor individuals (e.g. Fink et al., 2020; Jayachandran, 2006). Our

models in the vein of Banerjee et al. (2015).

[3]Allowing labor productivity to affect earned income makes sense if individuals are self-employed, or wages are determined (or renegotiated) based on productivity. We believe that this assumption represents our sample well: more than 80% of participants are self-employed in agriculture or animal husbandry. The productivity of each work hour in this context is thus important for total income.

[4]See for example Adhvaryu et al., 2020; Black et al., 2013; Niemesh, 2015, as well as Adhvaryu et al., 2022; Adhvaryu and Nyshadham, 2017; Aragon et al., 2017; Graff Zivin and Neidell, 2012.

research demonstrates that both contemporaneous shocks and the expectations of future shocks can be productive if they lead to improved health and increased business investments. At the same time, we observe increased work hours and improvement in health that is intrinsically linked to nutrition, suggesting the presence of a *physiological productivity* channel highlighted in early poverty-trap models as discussed by Banerjee et al., 2020. We are able to quantify such effects through novel variation in expected income with some participants receiving an immediate cash grant and others being promised the same transfer in a year's time. Comparing the outcomes between these two groups and to a pure control group that receives no grant or promises allows us to test many predictions of life-cycle models and distinguish which models fit in the context at hand.

Second, we contribute to the rich literature on cash transfers (Egger et al., 2022; Haushofer et al., 2020; Haushofer and Shapiro, 2016).[5] Cash transfer policies are integral components of the social safety net in most countries (World Bank, 2018). In recent years, and particularly during economic crises, the number, scope, and generosity of such programs has greatly increased.[6] The rapid expansion of such programs – as well as the fraught political climate surrounding them – generates considerable policy uncertainty that may directly impact potential beneficiaries (Altig et al., 2020; Baker et al., 2016). It also raises the important question of how expectations about future transfers affect the current economic behaviors and outcomes of the target population. Individuals who expect to be beneficiaries may consume, save, invest, and spend their time differently than those who do not have such an expectation. This fact, in turn, may fundamentally change the social return of a given transfer program, generating additional gains or losses from the policymaker's perspective depending on the behavior induced by these expectations (Ashenfelter, 1978; Ashenfelter and Card, 1985; Deshpande and Dizon-Ross, 2022). Much has been written about the short- and long-term impacts of cash transfers on low-income households, yet little is known about how the expectation of future transfers changes current economic behaviors and outcomes. Documenting responses to changes in expectations regarding future income is thus of first order academic as well as of policy interest.

We add to the literature by studying both immediate cash transfers and the promise of future cash transfers, with the latter having received less attention. We find that both cash transfers and the expectation of them lead to adjustments in many outcomes. As other studies in low-income settings have found, we observe that immediate cash transfers do not discourage work and provide novel evidence that this also holds true for the promise of future transfers (see Banerjee et al., 2020, 2017; Egger et al., 2022; Gerard et al., 2021). Bianchi and Bobba, 2013, study the incidence of contemporaneous and future cash transfers on entrepreneurship decisions among recipient

[5] See Fiszbein and Schady (2009), Baird et al. (2013), and Hanlon et al. (2012) for reviews.

[6] For example, combined safety net programs in the United States reached up to 310 million caseloads in the aftermath of the Great Recession, and over 1.3 billion people worldwide were beneficiaries of cash transfers during the Covid-19 pandemic (Gentilini, 2022; Gentilini et al., 2022; Moffitt, 2013; Moreira and Hick, 2021).

households of the PROGRESA program in Mexico, making them one of the few who paid attention to the expectation of future cash transfers. Households receive a cash transfer of various amounts based on the demographics of their children, and depending on these demographics, the participants may be entitled to future cash transfers (also of various amounts). Focusing on individuals working for wages or unemployed at baseline, the researchers find that the expectation of future transfers has a strong incidence on the probability of becoming entrepreneurs while immediate transfers have little effect, suggesting that credit constraints are more important than liquidity constraints in their context. Importantly, they look at individuals who receive a contemporaneous *and* expect future transfers, while we compare individuals who receive a contemporaneous transfer to individuals who expect a future transfer, but do not receive a contemporaneous one. Moreover, recipients of the Mexican program are financially constrained with only 1.2% PROGRESA communities having formal credit institutions, while virtually all of our participants have savings and borrowings and over 70% of them have formal savings or borrowings (Gertler et al., 2012). We find that immediate transfers raise investment in own businesses and in the number of income-generating activities, but expectation of future transfers have little effect on these variables. However, there's very little impact on the probability of becoming an entrepreneur as 82% of our participants have at least one business at baseline.

Finally, we make a methodological contribution to the impact evaluation literature. Many evaluations employ a strategy that promises the control group delayed treatment (e.g., Blattman et al., 2016). Such a strategy presumes that the promise of the treatment does not change immediate behavior. Our results should give pause to this strategy; in our case, promising delayed support to the control group would have led to an underestimate of the treatment effect, but clearly in other contexts it could be the opposite (or null). At a minimum, one lesson aid to the in that merely promising aid it harms the internal validity of the study. A wide array of studies have have shown that individuals often adjust their behavior prior to participating in various programs (see Ashenfelter, 1978, Ashenfelter and Card, 1985, and Deshpande and Dizon-Ross, 2022, for a more recent example). Researchers need to be cognizant of expectation impacts when designing evaluations of social-net policies. The PROGRESA program, for example, is often evaluated by comparing early treatment groups to delayed-treatment groups. In this case, however, delayed-treatment groups were not aware that they would receive cash transfers up to two months prior. This has been shown to generate limited anticipatory effects in this group (Gertler et al., 2012).

2 Research Design and Data

We partnered with The AIDS Support Organization (TASO), a clinical delivery and support organization based in Uganada that provides care to over 100,000 Ugandans with HIV and their families. TASO operates throughout Uganda, with 54 public health facilities and 11 regional centers across the country (Bakanda et al., 2011a,b; Chu et al., 2013; Mills et al., 2011). Patients receive ART pills and are also offered voluntary monthly counseling sessions to help them and their families cope with the illness.

Participants were randomly assigned to one of four experimental arms, stratified by TASO center (Masindi or Soroti), gender identity, and age.[7] The four arms were as follows:

Transfer (T1): Individuals assigned to T1 were informed that they had been selected to receive a cash grant to improve their overall welfare, to spend as they wish, and that they would receive the money at their next monthly counseling session. They received no guidance on how they could or should spend the grant.

Transfer Plus Planning (T2): Individuals assigned to T2 were told that they had been selected to receive a cash grant at their next monthly counseling session, and that the grant was intended to improve their overall welfare, to spend as they wish. However, prior to receiving the transfer, they were required to attend two financial planning sessions held one week apart. These sessions provided information on how recipients *could* spend their transfer, and discussed the temptations and social pressure to share that they might face when they received the money. Individuals were then asked to formulate a spending plan, and discussed strategies for carrying out their plan successfully with an advisor. At the second planning session, participants received information on opportunities for investing in current or new income-generating activities, savings vehicles, and potential ways to address emergencies. They were then asked to review and revise their original (non-binding) spending plan if they wished to do so.

Expectations of Future Transfer (T3): Individuals assigned to T3 were told that they would receive a grant similar to the one being given to individuals in the T1 and T2 treatments arms, but that they would receive the money in approximately one year. This group received their grant shortly after the 11-month survey, following the same procedures that were used to deliver grants to indivuals in T1. They additionally had the option to attend the financial information sessions offered to participants in T2.

[7] We partitioned the sample into three age groups: 18-35, 36-50, and 51-65 years old.

Control: Individuals assigned to the control group were informed that they would not receive a grant.

All grant recipients received 350,000 Ugandan shillings (UGX; equivalent to USD$135 nominal or USD$337 PPP in 2013).[8] This amount corresponded to two months of the average household income.

2.1 Recruitment, Data Collection, and Attrition

We recruited over two thousand participants aged 18 to 60 who were enrolled in one of two TASO clinics located in the rural districts of Masindi in the west and of Soroti in the east.[9,10] Participants were recruited from TASO clinics, from community drug distribution points run by TASO, and through home visits. A maximum of one TASO client per household was enrolled in the study. Recruitment took place between October 2013 and May 2014. Before completing the baseline survey, participants were informed that some study participants would receive a cash transfer.

In total, 2,170 individuals completed the initial baseline survey and were randomly assigned to treatment. We conducted four additional surveys: a short, high-frequency panel comprising three surveys spanning the period from immediately before treatment (i.e. immediately before and after individuals assigned to T1 and T2 received grants) to one month after treatment, plus an endline survey eleven months after treatment. The first high-frequency survey was conducted between one to two weeks before treatment assignments were announced, and the second and third high-frequency surveys were conducted three and six weeks thereafter. The first follow-up survey provides updated pre-treatment data to complement our main baseline, such as scale and scope of income-generating activities immediately prior to grant disbursement. The second and third follow-up surveys allow examining immediate use of the funds. Our analysis at midline (endline) focuses on individuals who completed the midline (endline) survey. However, our results are robust to focusing on the sample comprising the 90.9% of baseline respondents ($N = 1973$) who completed *all* survey rounds.

In Table 1, we present summary statistics for the whole sample and at the treatment arm level. The last column tests for and finds no statistically significant differences in baseline characteristics across arms. Each treatment arm contains just under 550 participants. 69 percent of study participants are female, reflecting the composition of TASO's client base.[11] Approximately half are

[8]The average exchange rate for 2013 was 2584.88 UGX to a USD$ or 1036.87 UGX to a USD$. A USD$ of 2013 is approximately worth 1.35 USD$ in 2024.

[9]This age group ranges from the legal age of maturity to the retirement age.

[10]The Masindi center provides care to over 3,800 patients from that district and the surrounding districts of Buliisa, Hoima, Nakasongola, and Kibale. The Soroti center is larger with over 5,900 patients from the Soroti, Kumi, Katakwi, Amuria and Kaberamaido Districts.

[11]In Africa, women are 2.3 times more likely to contract HIV from men, than men from women from sexual relations,

married, with 8.4% in polygynous unions. The average age among participants is just over 41 years old, and the average level of educational attainment is about 5 years of schooling.

and as much as 60% of people infected by the virus are women (Magadi, 2011).

Table 1: Summary Statistics by Treatment Arm

	Full Sample	Control	Grant (T1)	Grant + Planning (T2)	Grant, Delayed 1-Year (T3)	Test of Equality p-value
	(1)	(2)	(3)	(4)	(5)	(6)
Obs. at baseline	2170	548	536	544	542	
Female	69.1%	69.0%	69.2%	69.1%	69.2%	1.00
Married	51.6%	51.1%	52.8%	50.2%	52.2%	0.61
Polygynous	8.4%	8.8%	9.0%	8.1%	7.7%	0.77
Catholic	37.3%	39.2%	37.1%	36.8%	36.0%	0.92
Protestant	45.5%	44.0%	45.0%	46.7%	46.3%	0.83
Age	41.1	41.1	41.1	41.0	41.2	0.59
	(8.6)	(8.7)	(8.8)	(8.7)	(8.3)	
Education	05.0	05.2	04.8	05.0	05.0	0.69
	(3.8)	(4.0)	(3.8)	(3.8)	(3.6)	
Working for pay	29.6%	29.0%	28.1%	29.7%	31.7%	0.43
Self employed	43.3%	42.3%	45.4%	43.1%	42.5%	0.60
Hours worked	19.5	19.6	19.7	19.9	18.8	0.67
	(25.1)	(25.7)	(25.5)	(25.3)	(23.9)	
HH owns business	81.7%	83.8%	80.6%	79.8%	82.7%	0.45
Savings	76.7%	77.7%	74.5%	77.1%	77.3%	0.50
Borrowing	86.5%	87.6%	87.1%	87.2%	84.0%	0.27
Formal savings	15.8%	17.5%	14.8%	15.9%	14.8%	0.86
Formal borrowing	68.7%	67.8%	70.4%	67.0%	69.8%	0.43
Severe food insecure	61.5%	62.3%	63.5%	61.2%	59.0%	0.24
Joint test of prediction, p-value		0.77	0.84	0.96	0.32	

Note: Standard deviations of non-binary outcomes are reported in parentheses. Whether individuals are working, self-employed, and their hours worked relate to the week prior to the survey. The last column presents the p-values of a F-test of equality across arms. The last row presents the p-values of joint F-tests indicating whether all the listed variables are predictive of the group assignation.

At baseline, most respondents were either working for pay (29.6%) or self-employed (43.3%), with a small fraction doing both (9%). Overall, 85% of people in the sample and their household were engaged in some form of income-generating activity. If we also take into account unpaid and domestic work, 97.5% of individuals were economically active. We find that individuals were working 19.5 hours a week on average. The vast majority of participants, 81.7%, were in a household owning at least one business. Almost all respondents were involved in the credit market in some way. At baseline, over 96.5% had either some savings or some outstanding loans, and the vast majority had either formal savings or formal loans borrowing (either through banks or through village credit groups). Thus, households were not completely credit-constrained prior to the interventions.

Most respondents (61.5%) were experiencing severe food insecurity at baseline, in spite of their access to savings and credit. Looking at the components of food insecurity index, we find that 57.3% of the households had no food to eat for at least a full day over the four weeks prior to the baseline survey, and 31.5% of households had no food for three or more days. 49.4% of households had members going to bed hungry for at least a night and 10.5% had members who didn't eat for at least a full day and a full night over that period. Typically, households were eating grains, roots, nuts, and vegetables 4-5 days a week; fruits, fat and oils, and sugars 3-4 days a week; and meat and dairy products only 2 days a week. Together with the fat and oils food group, meat and dairy constitute key food groups for people with HIV/AIDS as they allow them to build up energy reserves necessary to perform daily activities (World Bank, 2007). Consequently, if cash transfers lead participants to eat more of these food groups, then they could see a rise in their productivity.

Overall, we have little non-compounding attrition; 1.7% at midline and 4.7% at endline.[12] In Table A1 of Appendix A, we regress midline and enline survey completion on the treatment assignment dummies. All point estimates are very small and insignificant at the 5% level. Participants in the expectation group are perhaps 2% more likely to complete endline than the control group, but the coefficient is only marginally significant with an unadjusted p-value of 0.06. In Table A2, we regress midline and endline participation on the same demographic characteristics as above and find that they do not jointly explain the dependent variables.

Between June 2012 and June 2013, the government conducted its National Household Survey (UNHS), which enables a rough comparison between our sample and the Ugandan population. Although we do not have direct access to the UNHS data, many relevant details are available in a comprehensive report by the countrys Bureau of Statistics (see UBOS (2013)). This allows

[12] 24 respondents (1%) completed the second follow-up survey but not the third, and 8 respondents (0.4%) completed the third follow-up survey but not the second. For these respondents, we use the available survey round to construct all midline outcome variables. Unfortunately, 1% of the original participants died during the course of the study. We do not attempt to survey the family members of those who passed away, so they are counted among the attritors.

us to make point estimate comparisons, as detailed in Appendix A, though we are unable to assess statistical significance.[13] The most notable differences are observed in the age distribution. Since our sample focuses on the working-age population and reflects the effects of the HIV/AIDS epidemic, it includes fewer individuals in the 18-24 and 60-plus age groups and a higher proportion of individuals in the 40-59 age group compared to the general population. While differences are present in other variables, our sample remains broadly comparable to the national population in terms of household head income, household expenditure, asset ownership, and dietary diversity.The distribution of educational attainment is similar across levels of education; however, our sample contains fewer individuals with no schooling or secondary education and a higher proportion of individuals with primary education. As a result, literacy rates are slightly lower in our sample. Additionally, the proportion of individuals working for pay or profit is higher in our sample for both women and men compared to the national averages.

3 Empirical Strategy and Results

To estimate the impacts of the three interventions, we adopt the following ANCOVA specification:

$$y_{i,t} = \beta_0 + \beta_1 T_{1,i} + \beta_2 T_{2,i} + \beta_3 T_{3,i} + \gamma y_{i,t=0} + \delta_{strata} + \varepsilon_{i,t}, \tag{1}$$

where $y_{i,t}$ is the dependent variable for participant i at time $t \in 1\,month,\ 12\,months$; $T_{1,i}$, $T_{2,i}$, and $T_{3,i}$ are indicators for the unstructured transfer group, the planning with transfer group, or the expectations group, respectively; $y_{i,t=0}$ is the value of dependent variable at baseline, if available; and δ_{strata} are strata fixed effects. In our main results, we report Eicker-Huber-White standard errors and apply the Benjamini-Hochberg (BH) correction to the p-values to further account for multiple hypotheses tests.

3.1 Impacts After One Month

3.1.1 Immediate Transfers

In Table 2, we present midline results, constructed from the second and third rounds of the high-frequency panel (surveys conducted one and four weeks after treatment, respectively). At that point, participants in treatment groups T1 and T2 had received transfers, while participants in the

[13] Whenever possible and relevant, we compare our sample to the rural population, as the individuals in our sample reside in rural areas.

expectations group anticipated receiving transfers 11 months in the future. We report impacts on nine main outcomes. We consider four measures of involvement in income-generating activities that capture the impacts of treatment on the economic activities of individuals and households: hours worked by the respondent, which is the sum of paid work hours and hours of own account work; total business expenditures across all enterprises operated by household members; total business profits; and a count of the number of distinct IGAs the household was involved in. We capture overall household welfare by measuring food security, dietary diversity, and total household expenditure. Finally, we calculate the total amount saved and the total amount owed by the household. To account for outliers and misreporting, we winsorize the top and bottom 1% of values for these continuous variables.

Results in Table 2 demonstrate that cash grants had large impacts on households wellbeing and involvement in IGAs, and that the impacts of T1 (cash grants) and T2 (cash grants plus additional financial planning support) were broadly similar. Individuals assigned to T1 work approximately 3.6 hours more, relative to the control group, while those assigned to T2 work 6 hours more (BH q-values <0.01 in both cases).[14] Compared to the control group, this represents a 21-37% increase in work hours. Thus, even a large unconditional cash transfer does not discourage work, consistent (Banerjee et al., 2017). Respondents assigned to the two contemporaneous-transfer groups also have higher business expenditures and business profits in the month after they received their grants. Total business expenditures increase by 78% for the T1 group and by 71% for the T2 group (BH adjusted p-values <0.01). Both groups also see an increase in business profits of 48.3% for T1 (29,000 UGX, BH q-value <0.01) and of 62.6% for T2 (38,000 UGX, BH q-value <0.01). In addition, approximately one in three households in both groups increase the number of IGAs that they are involved in (16.7% increase in T1 and 19.5% increase in T2, BH q-values <0.01 in both cases).

[14]The difference between the impacts of T1 and T2 is marginally statistically significant (unadjusted p-value 0.06).

Table 2: OLS Intent to Treat Estimates One Month Post T1/T2 Grants and Eleven Months Prior to T3 Grants

	Work Hours	Business Expend.	Business Profits	IGA Count	Food Security Index	Dietary Diversity Index	HH Expend.	Total Saved	Total Owed
	(1)	(2)	(3)	(4)	(4)	(6)	(7)	(8)	(9)
Grant (T1)	3.55***	174.36***	29.14***	0.29***	0.27***	0.25***	99.56***	73.05***	-26.77
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.25)
	[0.00]	[0.00]	[0.00]	[0.00]	[0.00]	[0.00]	[0.00]	[0.00]	[0.28]
Grant +	6.01***	158.36***	37.75***	0.34***	0.27***	0.30***	70.99***	79.73***	-40.53*
Planning	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.06)
(T2)	[0.00]	[0.00]	[0.00]	[0.00]	[0.00]	[0.00]	[0.00]	[0.00]	[0.08]
Grant,	2.91**	-10.05	17.10**	0.08	0.08*	0.11**	13.05	-0.54	-37.55*
Delayed	(0.01)	(0.71)	(0.03)	(0.10)	(0.07)	(0.03)	(0.32)	(0.97)	(0.05)
1-Year (T3)	[0.02]	[0.73]	[0.04]	[0.12]	[0.09]	[0.04]	[0.34]	[0.97]	[0.06]
Pr(T1 = T2)	(0.06)	(0.65)	(0.39)	(0.30)	(0.92)	(0.33)	(0.06)	(0.64)	(0.52)
Pr(T3 = T1)	(0.60)	(0.00)	(0.19)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.57)
Pr(T3 = T2)	(0.02)	(0.00)	(0.02)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.86)
R-squared	0.37	0.43	0.25	0.34	0.37	0.23	0.32	0.57	0.59
Control Mean	16.37	223.61	60.28	1.72	0.15	0.18	210.57	131.49	221.92
Control S.D.	22.95	600.18	132.00	0.97	0.93	0.93	262.23	339.32	489.09
Observations	2133	2133	2133	2133	2133	2133	2133	2133	2133

Note: ***, **, and * indicate statistical significance at the 1%, 5%, and 10% level, respectively, after Benjamini-Hochberg (BH) corrections of the p-values to account for multiple hypotheses tests. We report regression coefficients, the associated Eicker-Huber-White p-values in parentheses, and BH-adjusted p-values in square brackets. We regress the various outcomes of interests on dichotomous variables for whether participants are in the first treatment arm (T1), second treatment arm (T2), or last treatment arm (T3), leaving the control group as the excluded group. We also include strata fixed effects and control for the outcomes at baseline in all regressions. The Income-Generating Activity (IGA) count captures the number of sources of income of the participant's households. Work hours are the weekly hours worked for wages and in the household's business(es) repported for the week prior to the survey. Total expenditure or household expenditure, business expenditure, business profits, total saved, and total owed are all measured in thousands of UGX. The grants were 350,000 UGX (USD$135 nominal or USD$337 in 2013). The average exchange rate for 2013 was 2584.88 UGX to a USD$ or 1036.87 UGX to a USD$. A USD$ of 2013 is approximately worth 1.35 USD$ in 2024.

Both T1 and T2 also increased food consumption. We observe a 0.3 standard deviation (SD) increase in food security and dietary diversity in both groups, with BH-adjusted p-values well below 1%. Participants also eat more of the foods important for productivity, especially for people with HIV/AIDS (World Bank, 2007). Online Appendix Table C3 demonstrates that both T1 and T2 had large positive impacts on consumption of meat and fats – though these treatments also increased consumption of sweets. This increase in protein and fat consumption may play a key role in explaining the increase in work hours of these participants, as we explore further below.

The two contemporaneous-transfer groups also have higher household expenditures after receiving the transfer. Participants in T1 spend 47.3% (approximately 100,000 UGX, BH q-value <0.01) more on household expenditures, while those in the financial-planning group (T2) increase household spending by 33.7% (71,000 UGX, BH q-value <0.01). Respondents in T1 and T2 also have 55.6% and 60.6% more, respectively, in total household savings relative to the control group following treatment (both BH q-values <0.01). While not significant for T1, the point estimates on the household debt suggest a decrease of 12.1% and 18.3% in the total amount owed by participants in T1 and T2, respectively (BH q-values 0.29 and 0.08, respectively). Overall, participants in T1 and T2 eat more and better, they consume more, work more, invest in their businesses, make more profit from these businesses, and save more.

Summing impacts on household and business expenditures, we find that participants in T1 increase their spending by approximately 274,000 UGX, which represents 78.3% of the transfer size. Adding these changes in expenditures to impacts on savings and borrowing, we can account for 106% of the amount transferred in Y1 and an oddly exact 100% of the amount transferred in T2 – though estimates of the change in household spending and assets are measured with error, and the increase in business profits resulting from the transfer may create a multiplier effect.

3.1.2 Expectations of Future Transfers

Next, we focus on the expectations group (T3) that had yet to receive the transfer at the time of the midline surveys. Though this group had yet to receive any funds, we observe meaningful impacts on several outcomes, typically around 30-50% the size of the adjustments made by participants in T1 and T2. In particular, food security and dietary diversity increase by approximately 0.1 SD (BH q-values 0.09 and 0.04, respectively). Similar to participants in T1, people in the expectations group work 2.9 additional hours per week (17.8% increase, BH q-value 0.02) and their business profit increases by 17,000 UGX (28.4%, BH q-value 0.04). Also, similar to the other treatment groups, there is no evidence of dissaving for the expectation group. While savings don't increase, borrowing falls by 16.9% (37,500 UGX, BH q-value 0.06). Unlike the groups who received the grant by this point, participants in the expectation group see little change in household or business expenditures

or in their income generating activities. However, the point estimate on household expenditure is positive with the largest relative increase coming from food expenditure (15% increase), which is also associated with a 13.6% in the number of days meat is consumed (see Online Appendix Table C3, p-value 0.01). This suggests the the rising work hours and business profits help households eat more regularly and more diversely, given that net savings go up for this group.

3.2 Impacts After One Year

Endline surveys took place one year after treatment arms T1 and T2 received grants and just before the expectations group received theirs. After one year, groups that had already received the transfer (T1 and T2) still have higher food security (0.17SD and 0.2SD, BH q-values 0.08 and 0.03) and dietary diversity (0.4SD and 0.5SD, BH q-values <0.01) than the control group. They also have higher household expenditures (BH q-values <0.01), more savings (BH q-values both <0.01), and more durable assets (0.17SD and 0.1SD, respectively, BH q-value <0.01 for T1, 0.03 for T2). The mental health of individuals in T1 and T2 is also higher than at baseline (0.17SD, BH q-values 0.01). Thus, unconditional cash transfers improved households living conditions and wellbeing. Interestingly, though impacts on the total number of IGAs persist, impacts on hours worked are somewhat attenuated by endline: T1 is associated with a 1.43 increase in work hours which is not statistically significant (BH q-value 0.34) while T2 is associated with a marginally significant 2.37 hour increase in hours worked (BH q-value 0.1). Since individuals in the control group work, on average, 15.6 hours per week, we cannot rule out meaningful impacts on hours – but they appear less pronounced after one year than they did one month post-treatment. We see little change in housing conditions for any groups.

By endline, participants in the expectation group who still had yet to receive the grant adjust in a more similar way compared to participants in T1 and T2 than they did 11 months prior. They see a similar increase in food security (0.25SD, BH q-value 0.01), dietary diversity (0.26SD, BH q-value 0.01), work hours (2.7 hours, BH q-value 0.05), total household expenditure (23,000 UGX, BH q-value 0.04), and durable asset consumption (0.11SD, BH q-value 0.03). Once again, there is no evidence of dissaving for this group. As opposed to the other treatment groups however, the expectation group still sees little increase in its sources of profits or in mental health.

Table 3: OLS Intent to Treat Estimates One Year Post T1/T2 Grants and Prior to T3 Grants

	Work Hours	IGA Count	Food Security Index	Dietary Diversity Index	HH Expend.	Total Saved	Total Owed	Housing Conditions Index	Durable Assets Index	Mental Health Index
	(1)	(2)	(3)	(4)	(4)	(6)	(7)	(8)	(9)	(10)
Grant (T1)	1.43	0.22***	0.17*	0.39***	48.37***	75.78***	27.21	0.02	0.17***	0.17**
	(0.26)	(0.00)	(0.05)	(0.00)	(0.00)	(0.00)	(0.35)	(0.64)	(0.00)	(0.00)
	[0.34]	[0.00]	[0.08]	[0.00]	[0.00]	[0.00]	[0.42]	[0.69]	[0.00]	[0.01]
Grant +	2.37*	0.20***	0.20**	0.45***	35.53***	77.48***	9.73	-0.01	0.10**	0.17**
Planning	(0.06)	(0.00)	(0.02)	(0.00)	(0.00)	(0.00)	(0.72)	(0.87)	(0.01)	(0.00)
(T2)	[0.10]	[0.00]	[0.03]	[0.00]	[0.00]	[0.00]	[0.74]	[0.87]	[0.03]	[0.01]
Grant,	2.74*	0.04	0.25***	0.26**	22.80**	24.07	-20.78	-0.03	0.11**	0.09
Delayed	(0.03)	(0.45)	(0.00)	(0.00)	(0.02)	(0.08)	(0.40)	(0.32)	(0.01)	(0.12)
1-Year (T3)	[0.05]	[0.50]	[0.01]	[0.01]	[0.04]	[0.12]	[0.46]	[0.41]	[0.02]	[0.16]
Pr(T1 = T2)	(0.47)	(0.72)	(0.71)	(0.50)	(0.28)	(0.93)	(0.54)	(0.55)	(0.11)	(1.00)
Pr(T3 = T1)	(0.31)	(0.00)	(0.31)	(0.16)	(0.02)	(0.00)	(0.07)	(0.16)	(0.23)	(0.19)
Pr(T3 = T2)	(0.78)	(0.00)	(0.50)	(0.03)	(0.23)	(0.00)	(0.21)	(0.46)	(0.75)	(0.20)
R-squared	0.29	0.21	0.13	0.15	0.24	0.30	0.44	0.71	0.35	0.04
Control Mean	15.58	1.71	-1.15	7.78	130.18	96.33	249.38	0.09	-0.12	0.00
Control S.D.	24.04	0.95	1.49	1.54	184.45	231.17	513.38	1.05	0.81	1.00
Observations	2069	2069	2069	2068	2069	2069	2069	2069	2069	2069

Note: ***, **, and * indicate statistical significance at the 1%, 5%, and 10% level, respectively, after Benjamini-Hochberg (BH) corrections of the p-values to account for multiple hypotheses tests. We report regression coefficients, the associated Eicker-Huber-White p-values in parentheses, and BH-adjusted p-values in square brackets. We regress the various outcomes of interests on dichotomous variables for whether participants are in the first treatment arm (T1), second treatment arm (T2), or last treatment arm (T3), leaving the control group as the excluded group. We also include strata fixed effects and control for the outcomes at baseline in all regressions except for the mental health regression since the questions related to that variable were only asked at endline. The Income-Generating Activity (IGA) count captures the number of sources of income of the participant's households. Work hours are the weekly hours worked for wages and in the household's business(es) reported for the week prior to the survey. Total expenditure or household expenditure, business expenditure, total saved, and total owed are all measured in thousands of UGX. The grants were 350,000 UGX (USD$135 nominal or USD$337 in 2013). The average exchange rate for 2013 was 2584.88 UGX to a USD$ or 1036.87 UGX to a USD$. A USD$ of 2013 is approximately worth 1.35 USD$ in 2024.

3.3 Discussion

Our results suggest that immediate transfers have large, positive impacts on business and household outcomes, and we find no evidence that transfers discourage labor supply. More surprisingly, we find that the promise of future transfers also leads to meaningful immediate changes in food consumption and labor supply, and that these changes translate into longer-term impacts on many household outcomes that are almost as large as the effects of immediate transfers.

While a standard life-cycle model predicts that households expecting a future transfer might borrow to smooth consumption, we do not find any evidence that this mechanisms is at play. If anything, households in the expectations treatment appear to pay down their debt instead of borrowing against future income.

Our preferred model, presented in the next section, predicts that individuals who are *certain* of receiving a future transfer should adjust very similarly to those receiving a transfer immediately. The fact that we see large adjustments in the expectations group indicates that large part of the participants in this group believed in our promise. It is entirely possible that some didn't believe our promise or had some doubts as to weather they would actually receive the transfer. The model predicts no adjustment for the former and a smaller adjustment for the latter compared to those who believe that a transfer will come with probability one. Hence, when looking at the average responses in the expectation group, it is not surprising to see smaller adjustments in magnitude than in the groups that received an early transfer.

By endline, the adjustment in the expectation group even slightly exceeds the adjustment in other treatment groups when it comes to food security and work hours. As a result, using a group that as yet to receive a transfer but expects to receive one as a control group can severely bias the effects measured of a contemporaneous transfer. Since the sign of the adjustments for participants in the expectation group is typically the same as that of the other treatment group, but of lesser magnitude, this exercise would lead us to severely underestimate the effect of a contemporaneous cash transfer. For food security and work hours at endline, doing so would even yield negative point estimates and lead to erroneous conclusions. Hence, on a methodological standpoint, the existence of a pure control group can be critical for identification in such settings.

4 Theory

We begin by presenting a simple life-cycle model where infinitely lived individuals maximize their discounted expected utility in the spirit of Hall (1978). We will show that the basic life-cycle model and certain extensions fail to deliver key predictions, especially with regards to the effect of transfers on work hours. Then, we propose an extension of the model supported by the data.

In the model, individuals derive utility from consumption, C, and leisure. Consistent with the summary statistics, we assume that individuals can save and borrow which allows them to transfer wealth across periods. In the basic model, labor income does not depend on labor productivity. For simplicity, labor income is given by work hours times a fixed hourly wage.

Combining these elements, we obtain the following intertemporal maximization problem where individuals maximize at time t their current and future expected utility by choosing their stream of consumption, work hours, and savings for the current and future periods (denoted by $\{C_t\}, \{L_t\}$, and $\{S_{t+1}\}$) :[15]

$$\max_{\{C_t\},\{L_t\},\{S_{t+1}\}} E_t[U] = E_t\{\sum_{s=0}^{\infty} \beta^s [ln(C_{t+s}) + V(\bar{L} - L_{t+s})]\} \tag{2}$$

$$s.t.\ \ E_t\{\sum_{s=0}^{\infty} (\frac{1}{1+r})^s [S_{t+s+1} + PC_{t+s} + Qm_{t+s} = \underbrace{(1+r)S_{t+s} + W_{t+s}L_{t+s} + T_{t+s}}_{Wealth_{t+s}}]\}$$

In the maximization problem, β is the discount rate, $V(\cdot)$ is the utility of leisure. Leisure is the difference between available hours $\bar{L}$ and work hours. In particular, we assume that the marginal utility of leisure is decreasing such that $V(\cdot) > 0$ and $V'(\cdot) < 0$. For simplicity and tractability, the utility is additively separable and depends on the log of consumption. As a result, the marginal utility of consumption is also decreasing. As we can see from the first order conditions below, this choice entails that the marginal utility of wealth is decreasing in wealth.[16] S_{t+1} is the savings at the end of period t. P is the cost of consumption, which we assume to be constant in time without loss of generality. $r \geq 0$ is the real interest rate on savings that we also assume to be constant, and T is the cash transfer.

From the Lagrangian of the maximization problem, $\mathscr{L}$, we obtain the following First Order Conditions (FOC) for the key choice variables at time t:

[15]The expectation at time t takes into account the knowledge at this period (and previous periods) only. Hence, $E_t[T_t] = T_t$ for a transfer, T, received this period regardless of whether it is anticipated or a surprise because it is received at period t, regardless. However, $E_t[T_{t+1}] = T_{t+1}$ if an individual anticipate at t that a transfer at $t+1$ will occur. But $E_t[T_{t+1}] = 0$ if the individual does anticipate receiving a transfer in the future.

[16]The concavity of the consumption and leisure part of the utility ensure an interior solution.

$$\frac{\partial \mathscr{L}}{\partial C_t} = 0 : \ \frac{1}{C_t} = P\lambda_t \tag{3}$$

$$\frac{\partial \mathscr{L}}{\partial C_{t+1}} = 0 : \ E_t[\frac{1}{C_{t+1}}] = \frac{P}{\beta(1+r)} E_t[\lambda_{t+1}] \tag{4}$$

$$\frac{\partial \mathscr{L}}{\partial L_t} = 0 : \ V'(\cdot) = \lambda_t W_t \tag{5}$$

$$\frac{\partial \mathscr{L}}{\partial S_{t+1}} = 0 : \ E_t[\lambda_t] = E_t[\lambda_{t+1}] \tag{6}$$

In the system above, λ_t is the marginal utility of wealth. From the Euler equation, equation (6), we obtain $\lambda_t = E_t[\lambda_{t+1}]$ and from equations (3) and (4), we obtain $E_t[\frac{1}{C_{t+1}}] = \frac{1}{\beta(1+r)}\frac{1}{C_t}$. Therefore, from the savings' FOC, we obtain the smoothing condition common to unconstrained intertemporal models, stating that the expected present value of the marginal utility of consumption and that the expected marginal utility of wealth must be equal across periods. It is this desire to smooth consumption and wealth across periods that drives individuals to reoptimize following a wealth shock like a cash transfer.

Next, we investigate the effect of a transfer at time t on the variables of the model. Differentiating equation (3) with respect to T_t, yields:

$$\frac{\partial}{\partial T_t}(\frac{1}{C_t}) = P\frac{\partial \lambda_t}{\partial T_t} \leq 0, \tag{7}$$

which is achieved by increasing consumption. Doing the same for the labor FOC, yields:

$$\frac{\partial}{\partial T_t} V'(\bar{L} - L_t) = W_t \frac{\partial \lambda_t}{\partial T_t} \leq 0 \tag{8}$$

Since the marginal utility is decreasing in leisure, leisure must increase. Or, equivalently, labor hours must decrease. Given this, it is straightforward to show that the additional consumption is fueled by using the transfer for an immediate transfer, which is is accompanied by an increase in savings to fuel future consumption. For an expected future transfer, the basic model predicts that current increase in consumption can only be done by dissaving since labor hours fall and the transfer has yet to be received. Clearly, this basic structure does not match the empirical findings. Indeed, recall that we find a contemporaneous increase in labor hours and net savings for all treatment groups.

Health may be an important dimension for people in settings like ours. Next, we consider a case where each period, individuals can invest in their health stock, M_t. We, first, consider two separate cases where (1) the health stock is an element of the individual's utility, and (2) where the

health stock improves the probability of survival in future periods. However, because labor income is not affected by the health stock, the model still predicts a contemporaneous decrease in labor which is again inconsistent with our findings. This is not to say that health is not preponderant here as we further explore below.[17] Of course, other models can generate an increase in work hours following transfers. For example, Banerjee et al. (2015) propose a lumpy durable consumption model where borrowing constrained individuals borrow as much as they can. Then, they use what they borrowed, all of the transfer and they work more to purchase a lumpy durable. However, we find that individuals in any treatment arms do not buy more expensive durables as a result of treatment, and if anything, point estimates suggest a decrease in borrowing in all treated groups. Therefore, these results allow us to rule out such constrained models.

The key challenge in generating positive labor hour responses in unconstrained models comes from the assumption that leisure is a normal good. Hence, a positive income effect in the form of a cash transfer puts a downward pressure on labor supply. Without changing this assumption on leisure or by imposing constraints, we need a channel by which labor demand can increase in response to a positive income shock, which can in turn lead to an increase in equilibrium labor hours.

To do so, we first allow labor income to be a function of the product of labor. So, rather than earning a fixed wage per hours worked, this structure could represent more closely piece-rate work arrangements where individuals are paid for their output, or where individuals are self-employed and earning a revenue based on the output of their businesses.[18] The latter idea fits our context well since over 80% of people and their households own at least one form of business. Moreover, most personal businesses involve agricultural work and animal husbandry requiring physical work and where the revenue depends heavily on the output that can be produced in a set amount of time. Hence, the productivity of labor hours put in these businesses likely matters quite a bit for the revenue they generate. Going back to individuals' health stock, extensive research shows that physical health and labor productivity, especially in physically demanding work, are intrinsically linked (e.g. Black et al., 2013). Hence, we believe that in this context, someone's health stock can affect their labor productivity. To provide evidence of this, Figure B1 in Appendix B demonstrates that dietary diversity and food security are both positively and strongly correlated with work hours, profit, and profit per work hour in own businesses.

[17] If labor income is given by $W_t L_t$ and $U_t = ln(C_t) + g(M_t) + V(\bar{L} - L_t)$ with $g_M(\cdot) > 0$ and $g_{MM}(\cdot) < 0$. Then, the first order condition for labor is given by $V'(\cdot) = \lambda_t W_t$. Taking the derivative with respect to T_t or T_{t+1} yields a decrease in L_t. The same FOC for labor is obtained if we assume the same functional form for labor income and that survival is endogenous and depends on M. Conditional on surviving to period t, the discounted sum of current and future expected utilities is $E_t\{[ln(C_t) + V(\bar{L} - L_t)] + \sum_{s=1}^{\infty} \phi(M_{t+s-1})\beta^s [ln(C_{t+s}) + V(\bar{L} - L_{t+s})]\}$. $\phi(M_t)$ is the probability of survival at period $t+1$ with $\phi_M > 0$, $\phi_{MM} < 0$, $\phi(0) = 0$, $\lim_{M \to \infty} \phi(M) \leq 1$, and $\lim_{M \to 0} \phi_M(M) < \infty$.

[18] The analysis that follows would also carry through if individuals were paid per hour, but where wages would increase with their productivity.

This, we let the labor income take the following shape, $W \cdot f(L,M)$, where $f(\cdot)$ is the product of labor, L is the work hours, and M is a productive asset that we think of as physical health, but could represent other variables affecting labor productivity.[19] This way, employment earnings can depend on investment in health.[20] Note that we treat health as a stock variable with the investment in health at time t, m_t, contributing to the stock, M_t, at period t as well such that $M_t = m_t + \delta M_{t-1}$. $0 \leq \delta \leq 1$ is a depreciation factor. We assume that the marginal product of labor and of health are decreasing and we allow for health to be productive. In other words, we assume $f_L(\cdot) > 0,\ f_{LL}(\cdot) < 0,\ f_M(\cdot) \geq 0,\ f_{MM}(\cdot) \leq 0,\ f_{LM}(\cdot) \geq 0$. As mentioned earlier, M could be any asset improving the marginal product of labor. We believe that the stock of health plays a key role here given the type of work done by participants in the study. Moreover, since most participants are self-employed, increases in production inputs other than own labor would yield an increase in the MPL for a broad array of production functions. This is the case for CES production functions where the elasticity of substitution is less than infinity (i.e., if we exclude perfect substitutes, for example). In fact, the results are consistent with both health and own-business inputs being productivity enhancing. For all transfer groups, we see an increase in health investment in the form of better nutrition and for the contemporaneous transfer groups, we also observe an increase in business inputs. In both cases, we also see an increase in work hours, accompanied by an increase in own business profits.

Combining these elements, we obtain the following problem, where m_t is the amount invested in the productive asset and Q is its cost.

$$\max_{\{C_t\},\{L_t\},\{m_t\},\{S_{t+1}\}} E_t[U] = E_t\{\sum_{s=0}^{\infty} \beta^s [ln(C_{t+s}) + V(\bar{L} - L_{t+s})]\} \tag{9}$$

$$s.t.\ \ E_t\{\sum_{s=0}^{\infty} (\frac{1}{1+r})^s [S_{t+s+1} + PC_{t+s} + Qm_{t+s} = \underbrace{(1+r)S_{t+s} + W_{t+s} f(L_{t+s}, M_t) + T_{t+s}}_{Wealth_{t+s}}]\}$$

The problem yields the following FOCs:

[19] We can also think of the participant's self-employment income as being the output generated by their business times a markup. This formulation for entrepreneurs is similar in spirit to Iacoviello (2005), except that entrepreneurs are both demander and supplier or work here.

[20] If $f(L,M) = L$, then we go back to a traditional framework where individuals are working for pay and are paid a wage per hours of work.

$$\frac{\partial \mathscr{L}}{\partial C_t} = 0: \ \frac{1}{C_t} = P\lambda_t \tag{10}$$

$$\frac{\partial \mathscr{L}}{\partial C_{t+1}} = 0: \ E_t[\frac{1}{C_{t+1}}] = \frac{P}{\beta(1+r)} E_t[\lambda_{t+1}] \tag{11}$$

$$\frac{\partial \mathscr{L}}{\partial L_t} = 0: \ V'(\cdot) = \lambda_t W_t f_L(\cdot) \tag{12}$$

$$\frac{\partial \mathscr{L}}{\partial m_t} = 0: \ E_t[\lambda_t W_t f_M(\cdot) + \frac{\delta}{1+r}\lambda_{t+1} W_{t+1} f_M(\cdot) + (\frac{\delta}{1+r})^2 \lambda_{t+2} W_{t+2} f_M(\cdot) + ... - \lambda_t Q] = 0$$

$$\lambda_t W_t f_M(\cdot) = \lambda_t Q - \sum_{s=1}^{\infty} (\frac{\delta}{1+r})^s E_t[\lambda_{t+s} W_{t+s} f_M(L_{t+s}, M_{t+s})] \tag{13}$$

$$\frac{\partial \mathscr{L}}{\partial m_{t+1}} = 0: \ E_t[\lambda_{t+1} W_{t+1} f_M(\cdot)] = E_t[\lambda_{t+1}] Q - \sum_{s=2}^{\infty} (\frac{\delta}{1+r})^{s-1} E_t[\lambda_{t+s} W_{t+s} f_M(L_{t+s}, M_{t+s})] \tag{14}$$

$$\frac{\partial \mathscr{L}}{\partial S_{t+1}} = 0: \ E_t[\lambda_t] = E_t[\lambda_{t+1}] \tag{15}$$

Plugging equation (14) in equation (13), we obtain $\lambda_t W_t f_M(\cdot) = \lambda_t Q - \frac{\delta}{1+r} E_t[\lambda_{t+1}] Q$. Then, using the savings FOC, we can write

$$f_M(L_t, M_t) = \underbrace{(1 - \frac{\delta}{1+r})}_{0 \leq \rho \leq 1} \frac{Q}{W_t} \tag{16}$$

Next, we investigate the effect of a transfer at time t on the variables of the model. Differentiating equation (10) with respect to T_t, yields an increase in consumption just like before since the consumption FOC is the same as in the basic model. From equation (16), we obtain:

$$\underbrace{\frac{f_{ML}(\cdot)}{-f_{MM}(\cdot)}}_{\gamma \geq 0} \frac{\partial L_t}{\partial T_t} = \frac{\partial m_t}{\partial T_t} \tag{17}$$

Equation (17) shows that labor hours and investment in the productive asset comove. Taking the derivative of equation (12) and plugging in equation (17), we obtain the following:

$$[\ \overbrace{\underbrace{\lambda_t W_t \gamma f_{LM}(\cdot)}_{\geq 0}}^{\substack{\text{Increase in utility from} \\ \text{1 unit of investment}}} + \overbrace{\underbrace{(V''(\cdot) + \lambda_t W_t f_{LL}(\cdot))}_{\leq 0}}^{\substack{\text{Increase in the disutility of } \gamma \\ \text{additional work hours}}}] \frac{\partial L_t}{\partial T_t} = \underbrace{-\frac{\partial \lambda_t}{\partial T_t} W_t f_L(\cdot)}_{\geq 0} \tag{18}$$

The first element in square brackets on the left-hand side captures the gains in utility for working one additional hour. As mentioned before, when m increases by unit, L increases by $\gamma \geq 0$ hours.

This added investment raises the marginal product of labor. Hence, $W_t \gamma f_{LM}(\cdot)$ is the added work income stemming from the added investment. Multiplying this quantity by the marginal utility of wealth converts this gain in utility units. The second element in the square brackets represents the loss in utility from one additional work hour. $V''(\cdot)$ is the utility lost from a reduction in leisure. $\lambda_t W_t f_{LL}$ is the income lost (converted in utils) due to the concavity of the marginal product of leisure, relative to case where the marginal product is constant.

We can see that if the increase in the marginal product of labor from additional investment in a productive asset, like one's physical health, outweighs the added cost of working more, individuals will invest in the asset and will work more. Otherwise, work hours and investment in the asset will fall. Hence, our model can allow for work hours to increase in response to a transfer. To be more precise on the mechanism, it is important to notice that now, not only labor supply can change, but also labor demand. Leisure is a normal good. Hence, the income effect associated with a transfer would lead to a downward shift in the individual's labor supply curve as before. However, if their own work hours become more productive, the labor demand curve increases. As a result, if the labor demand increase outweighs the fall in supply, *equilibrium* work hours will increase.

Moreover, because of the smoothing condition, we expect the variables above will move the same way following an expected future transfer.[21] From the budget constraint, we can show that if work hours increases, then savings may increase, decrease, or stay the same following a contemporaneous or a future transfer. For example, if the number of work hours increase generates a relatively small increase in earnings, an individual may dissave to smooth consumption in prevision of a future transfer. However, if the increase in earnings is large, the person may be able to both smooth consumption and increase savings. If work hours fall, then she will dissave to be able to smooth consumption in prevision of a future transfer and will save to pass wealth in future periods if the transfer in contemporaneous. Table 4 below summarizes the predictions of the model.

What drives the movements in the choice variables here is the consumers' desire to smooth wealth and consumption across periods. In particular, we observe a clear increase in contemporaneous work hours both from a contemporaneous transfer and a future transfer in the data. This means that the participants' desire to smooth must be sufficient to outweigh the increase in work disutility. We believe that this is quite possible given the fact that 7 out of 10 participants are working (for pay or self-employed) and that they only work 20 hours per week on average at baseline. However, we consider alternative channels below.

[21] This is given by equation (15). Indeed, given that the marginal utilities of wealth must be equal in expectation across periods, a transfer today versus the same transfer in the future will have the same effect on wealth if this future transfer is expected with certainty. As mentioned before, if there is some uncertainty around whether the future transfer will actually be received, adjustments will be smaller in magnitude, compared to an immediate transfer.

Table 4: Model Predictions

Gains in MPL> loss from extra work		Gains in MPL< loss from extra work		$f(L,M)=L$ Hall(1978)	
$T_t \uparrow$	$T_{t+1} \uparrow$	$T_t \uparrow$	$T_{t+1} \uparrow$	$T_t \uparrow$	$T_{t+1} \uparrow$
$C_t \uparrow$	$C_t \uparrow$	$C_t \uparrow$	$C_t \uparrow$	$C_t \uparrow$	$C_t \uparrow$
$L_t \uparrow$	$L_t \uparrow$	$L_t \downarrow$	$L_t \downarrow$	$L_t \downarrow$	$L_t \downarrow$
$M_t \uparrow$	$M_t \uparrow$	$M_t \downarrow$	$M_t \downarrow$	$M_t = 0$	$M_t = 0$
$S_{t+1} \uparrow\downarrow$	$S_{t+1} \uparrow\downarrow$	$S_{t+1} \uparrow$	$S_{t+1} \downarrow$	$S_{t+1} \uparrow$	$S_{t+1} \downarrow$

Note: The direction of arrows indicate the predicted change in the variables following a transfer in the current period or a transfer in a future period. An upward (downward) arrow indicates an increase (decrease). An upward and a downward arrow together indicate an indeterminate sign for the change in the variable. Finally, equality to 0 indicates that the variable remains equal to 0.

4.1 Psychological effect

One could think that the driving force may not only be the individuals' desire to smooth consumption and wealth, but also a psychological effect increasing productivity and stemming from better prospects about the future (Banerjee et al., 2020). Indeed, if the marginal product of labor increases due to a psychological effect, then we may observe similar movements as the model above would predict if the gains from investing in the asset and working more outweighs the cost of doing so. In particular, if we consider M_t as the *total* health of individuals, we could imagine mental health, $h(\cdot)$, to be a component of this variable. If current and anticipated future transfers lead individuals to be more hopeful about the future and better prospects affect mental health, then we could imagine that mental health may depend on the expectation of transfers. In particular, we could assume the following:

$$h(E_t[T_t + (\frac{1}{1+r})T_{t+1} + (\frac{1}{1+r})^2 T_{t+2} + ...]),$$

and

$$M_t = m_t + \delta M_{t-1} + h(\cdot),$$

where $E_t[\cdot]$ is the expectation at time t of the discounted sum of current and anticipated future transfers with $h_E(\cdot) > 0$. In this case, equation (17) becomes:[22]

[22]Note that if we assume that only a psychological effect affects the product of labor and there are no productive assets with $h(E_t[\cdot]) = E_t[\cdot]$, then the product of labor becomes $f(L_t, E_t[T_t + \frac{1}{1+r}T_{t+1} + (\frac{1}{1+r})^2 T_{t+2} + ...])$. In a static one-period model $f(\cdot) = f(L_t, T_t)$, consistent with Banerjee et al. (2020).

$$\frac{\overbrace{f_{ML}(\cdot)}^{\gamma \geq 0}}{-f_{MM}(\cdot)}\frac{\partial L_t}{\partial T_t} + \frac{\overbrace{f_{MM}(\cdot)h_E(\cdot)\frac{\partial E_t[\cdot]}{\partial T_t}}^{\xi \leq 0}}{-f_{MM}(\cdot)} = \frac{\partial m_t}{\partial T_t} \tag{19}$$

Then, equation (18) can be written as follows:

$$[\underbrace{\overbrace{\lambda_t W_t \gamma f_{LM}(\cdot)}^{\text{Increase in utility from 1 unit of investment}}}_{\geq 0} + \underbrace{\overbrace{(V''(\cdot)+\lambda_t W_t f_{LL}(\cdot))}^{\text{Increase in the disutility of } \gamma \text{ additional work hours}}}_{\leq 0}]\frac{\partial L_t}{\partial T_t} = \underbrace{-\frac{\partial \lambda_t}{\partial T_t} W_t f_L(\cdot)}_{\geq 0} - \underbrace{\xi \lambda_t W_t f_{LM}(\cdot)}_{\geq 0} \tag{20}$$

Equation (20) still yields that work hours increase whenever the increase in MPL from added investment outweighs the disutility of working more. What differs is that the product of labor is increasing in both investment in physical health and from better prospects about the future. Hence, an increase in work hours here may or may not be accompanied by an increase in investment in physical health. Indeed, equation (19) indicates that an increase in work hours may be accompanied by a decrease in physical health investment if the psychological effect of the transfer is sufficiently large.

While we certainly can't rule out the presence of a psychological effect of the transfers given that we observe an increase in health investment, we neither have strong evidence for it. We see an increase in an index of mental health for the treatment groups that received a contemporaneous transfer, but not a significant increase for the treatment group that is promised a transfer in the future. However, as we present below, one of the components of the index measures participants' prospect about their life five years ahead. There, we observe a 0.20SD (or 8.5%) increase for T1 and T2. There is a smaller increase of 0.12SD (or 5.1%) for individuals in the expectation group that is marginaly significant (non-adjusted p-value 0.05). On the other hand, people in this latter group does not appear to be more hopeful about their current state as the breakdown of our main effects show below.

5 Potential Mechanisms

To take into account the number of hypotheses to test, we aggregated multiple variables into the indexes analyzed above. To better understand the movements observed, we also look at the variables that compose the indexes and focus on the changes observed at endline unless stated otherwise.

Food Security- This index captures the extent to which household members went to bed hungry, did not eat for complete days, and did not have any food in the house during the 4 weeks prior to the survey. At midline, all treated individuals see a 13.4-32.8% decline in the number of days there

is no food at home (compared to the control group). T1 and T2 experience an approximate 35% drop in the number of days they went to bed hungry (see Table C1). By endline, all groups continue to report a 9.8-21.5% and 15.7-24.5% decline in the number of days they went to be hungry(see Table C2). This suggests that they eat more and more often.

Dietary diversity- This variable captures whether different foods were consumed in the 7 days prior to the survey such as cereal, nuts, vegetables, meat, etc. By enline, participants in the treatment groups see a 14-26.3% increase in their consumption of meat, 37.4-46.7% increase in dairy, and,for T1 and T2, 10.6-12.9% in their consumption of fats and/or oils, compared to the control group (see Table C4). These particular food groups are essential for people with HIV to build up energy reserves to complete their daily activities (World Bank, 2007). Not only do treated groups eat more and more often, but they eat more of the food groups that can improve their energy reserves, consistent with an increase in productivity from better health.

Business expenditures- Health may be an important driver of productivity, but so are business inputs considering that the majority of participants have their own businesses.[23] The broad category of business expenditures captures the amount spent on the business in the past three weeks such as rent, machines and tools, other inputs, transport, wages, and inventories. We find little change for treated participants in the expectation group. [24] Participants that did receive the transfer early spend 10,000-12,500 UGX (55-68%) more on rent, 4,000-5,800 UGX (56.7-81.3%) on machines and tools, 22,400-31,700 UGX (64-94.5%) on other inputs, 7,400-11,400 UGX (35.8-55.2%) on employee wages, and mostly on added inventories with the intention of reselling where expenditures increase by 90,400-98,300 UGX (79.5-86.3%) compared to the control group. When focusing on the changes in spending, it appears that participants in T1 and T2 build up their inventories of the goods they resell, they rent larger and/or better spaces, and increase their non-capital inputs as well as the number of and/or the skill-level of their employees as reflected by higher expenditures on wages and salaries. At least some of these investments are likely to improve the productivity of their businesses. Consistent with this, we find that revenues generated by the participants' businesses increase by 67.4% and 63.8% for T1 and T2, respectively (142,800 UGX and 135,200 UGX). While not significant, the point estimate on revenues is also positive for participants in T3 (17% or 36,100 UGX increase). From Table 3, we also found that business profits went up in all treatment groups by 48.3%, 62.6%, and by 28.4% for T1, T2, and T3, respectively.

Income-Generating Activities- To complement the previous analysis, we look at the different

[23]Note that the business expenditure module was only asked after one month.

[24]We see some indication of an increase on transport expenditures which captures spending on transport of products (final and intermediary), of employees, and for their own movements (p-value 0.04, see Table C5). For that category, point estimates for the three treatment groups range between 3,400-7,000 UGX, relative to the control group with the smallest increase for the expectation group. However, this category represents only about 7.8% of all business expenditures at baseline and falls to 4.7% at midline.

sources of profit the participants have at endline. Participants in T1 and T2 are 12.9% and 11.7% more likely to raise animals or grow crops for profit, and their number of other businesses increase by 21.2% and 11.5% m after treatment, compared to the control group (see Table C7). We find no effect for the expectation group.

Work hours- The variable measures the number of hours spent in paid employment and in self-employed work in the 7 days before the survey. We find that the increase in total work hours for the treatment groups is driven by a rise in self-employment hours (see Table C9). Self-employment represents over 60% of the participants work hours in all groups at baseline. Compared to the control group, treated individuals work 24.6-68.8% more on their own businesses after one month, and 16.6-32.3% more after one year.[25] This result is consistent with the modeling assumptions. In particular, we assumed that the labor income was the product of a wage and the *product of labor* rather than a wage times the number of hours worked. The latter corresponds more closely to employment paid per hour where the labor income only increases in the number of hours worked, but not in how productive those hours are. We saw in the model section that this modeling assumption would predict a fall in work hours and no change in productive assets following a contemporaneous or the promise of a future transfer. In fact, the point estimate on the number of hours worked for a wage is negative for T1 and T2. Allowing the labor income to depend on the work output represents more closely self-employment where the self-employed can earn more by producing more and not necessarily and solely by working more. Hence, if there is a way to increase productivity by way of a productive asset, a contemporaneous or the promise of a future transfer can lead self-employed individuals to invest in that asset to increase their productivity and work more if the rise in labor income from added production exceeds the disutility of working more which is in line with our findings.

Taken together, these results suggest that the self-employed work hours of the treated participants do appear to be more productive. Participants in T1 and T2 eat more often and eat foods important to improve one's energy reserves. They grow their businesses and work more in these businesses and while they spend more on building the businesses, they experience a larger increase in business revenues leading them to increase their profits. Participants in the expectation group do not see any large changes that would suggest a growth in the scale of their businesses. Yet, they work more in their businesses and also generate more profits. However, they do eat more and better foods like the other treated participants, suggesting that better health also raises the productivity of self-employed hours.

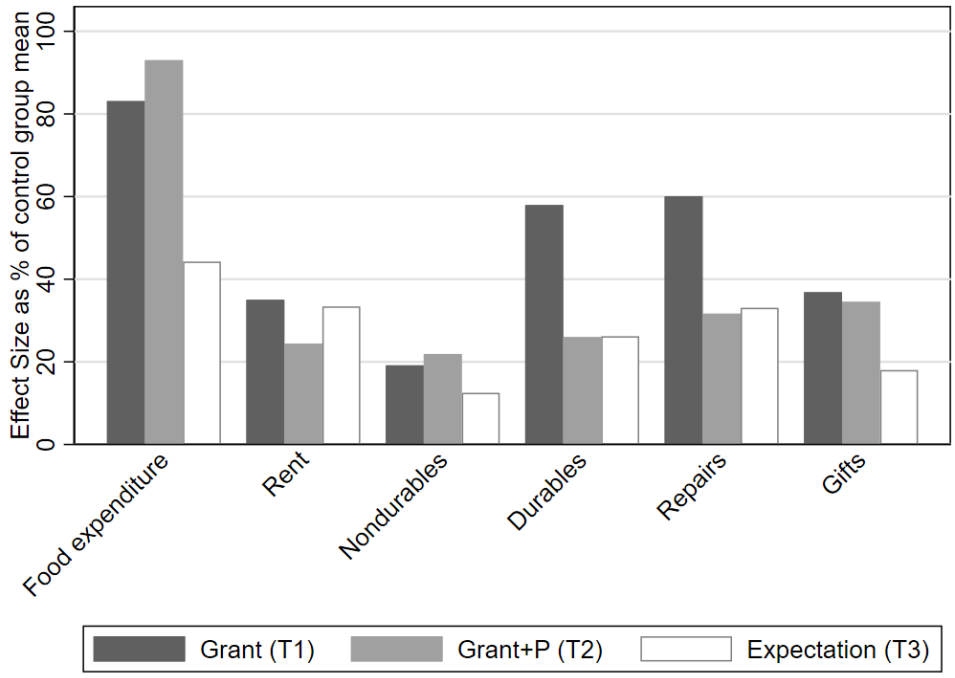
Mental Health- As mentioned in subsection 4.1, it is possible that receiving or expecting to receive cash transfers also encourages individuals to work more. The main results suggest an

[25]There is a decrease in hours work for wage and spent searching for work for T1 at midline, but not at endline.

improvement in mental health for participants that did receive the transfer, but not necessarily for participants in the expectation group. The mental health index is the combination of four variables: a measure of self-esteem, a measure of the participants' locus of control, capturing the beliefs in their own ability to control what happens in their lives, measures of perception of current and of future well-being. No clear patterns emerge for the first two variables. The point estimates are negative and very small for T1, while they are positive and larger (but still small) for T2, and of opposite signs for T3 (see Table C10). There is more to be said for the variables measuring the perception of well-being. The point estimate for the perception of well-being at the time of the survey is positive for all treated groups with an increase 0.18SD for T1, and smaller and statistically insignificant for T2, and T3. Yet, the perceived well-being five years ahead increases for all treated groups by approximately 0.2SD (or approximately 8.2%) for T1 and T2 (unadjusted p-value <0.01, and 0.12SD (or 4.9%) for T3, but marginally significant (unadjusted p-value 0.05). Hence, there is some support for the hypothesis that receiving or expecting a transfer can impact certain aspects of mental health and that this increase can lead individuals to work more. However, the support is not extremely clear either given the mixed results on self-esteem and locus of control. It is also important to reiterate that unlike other outcomes, the mental health variables were only measured at endline. Hence, we do not control for baseline mental health which could differ between groups.

Household expenditures- Next, we break down the total household expenditure variable into its components. We find that participants in treatment groups see a significant increase in food, nondurables, rent, durables (see next paragraph), dwelling, dwelling repairs (for T1), and gift expenditures (for T1 and T2), as shown in Figure 1 (see Table C12). Nondurables essentially capture goods that are not permanent other than foods such as expenditure on cleaning products, toilet paper, cosmetics, etc. The effect sizes range from 17.5% to 23.5%. We see no change on clothing or schooling expenditures, but the point estimates are positive. Consistent with the improvements in food security and dietary diversity, we observe large relative increase in food expenditure of 83% for T1, 93% for T2, and 44.3% for T3 (3,800, 4,300, and 2,000 UGX). Participants also report spending more on rent (and to repair their dwellings for T1) suggesting an improvement in certain aspects of their living conditions as we investigate next. Participants in T1 and T2 give out more money to religious institutions, charity, family and friends. Taken together, the results point out to a clear increase in spending and consumption for individuals in the treated groups.

Figure 1: Household Expenditure Effect Sizes in Percent of the Control Mean After Twelve Months



Housing Conditions and Durables- In the main results above, we found that rent increased for all treatment groups. However, as C13 shows we find no changes clear changes in the number of rooms per household members or in the dwelling materials we measured. It is entirely possible that the improvement was made on other aspects of the dwelling since we measured only a few aspects.

We also saw that durable assets increased for all treated groups. The results on household expenditures indicate that most of the purchases of these goods take place by midline for T1 and T2, while it appears more spread out for T3. We further investigate which durable goods the treated participants and their households purchased. 75% of households own one or more cellphones at baseline. Seven out of ten households own a at least one radio. In the treatment groups, we find that approximately one in ten households purchase an additional cellphone (12.4%). About the same number of households purchase a(n additional) radio (10.2%). For T2 and T3, we observe little other meaningful changes in other durables such as cars, motorcycles, bicycles, or in dwelling material. This suggests that for the treatment groups, the increase in durable spending is largely coming from phone and radio purchases rather than pricier durable purchases. As we saw in the main results, participants in T1 tend to be less frugal compared to participants in T2 who received financial planning sessions. For the former group, 6.7% of participants and their households purchased a television, with one household purchasing a car. While a few households that had members participating in the first treatment arms purchase more expensive durables, it is not a

general observation among treated individuals. The reason that we point this out is that models of lumpy durables purchases can also generate increases in work hours. For example, Banerjee et al. (2015) suggest a model where households want to purchase expensive durable, but they are credit constrained and unable to do so even by working more. However, following a large transfer, they can borrow what they can, driving down their net savings, use the full amount of the transfer, and work more, and then buy the expensive durable good. As mentioned above this doesn't seem to emulate the general movements we observe given that durable purchases increase are centered around cheaper durables like phones and radios, and that households increase their net savings.

Saving and Borrowing- Indeed, we find that households with a member participating in any treatment group see a large increase in informal savings and that participants that received a transfer by endline also have more formal savings (see Table C16). Households with a member in T1 experience a two-fold increase in informal savings (98.6% increase or 24,200 UGX), save 61.4% more in banks (12,000 UGX) and 49.2% more in village savings accounts (15,700 UGX). For T2, we observe a 127.6% increase (31,300 UGX) in informal savings, a 59% increase in bank savings (11,600 UGX), and a 77.7% rise in village savings accounts (24,800 UGX). In the expectation group, we find an increase in informal savings of 41.5% (10,200 UGX). There is no significant increase in other savings devices, but the point estimates are positive. There is little change is savings in cooperative savings institutions. The patterns are similar one month after treatment assignment for savings. There are some nuances when it comes to borrowing patterns that vary in time (see Tables C17 and C18). One month after participants in T1 and T2 receive the transfer, we find a negative point estimate on the total amount borrowed in all treatment groups (statistically significant for T2 and T3). When looking at the amount borrowed by sources ranging from family members, banks, NGOs, to employers and shopkeepers, we find that no individual source drives the negative point estimate on the aggregate for T2 and T3. However, the point estimate on most sources of debt and borrowing are negative suggesting a general reduction in debt for this group. This is also true for participants in T1 who also see a significant decrease in the amount they ow in school fees. Given that savings increase, the results indicate an increase in net savings. By endline, participants in T1 and T2 received their transfer 12 months prior. The amount saved by households with a member participating in these groups is still much higher than it was before the experiments by roughly 75,800 and 77,500 UGX, respectively. This time however, the point estimate on the total amount borrowed becomes positive, but remains insignificant, and net savings are still increasing. When looking at the different sources of debt and borrowing, we find meaningful and significant increases of in-kind borrowing for the contemporaneous transfer groups at endline. Households with a participant in T1 also borrow more from family members, microfinance organizations and NGOs. At the same time, however, the point estimates remain negative for many of the other sources of borrowing and debt for these groups. In the expectation group, we see some evidence of an increase

in borrowing from family members and in-kind, with decrease in school fees owed and in wage advances (p-values above 0.07). Overall, the results indicate that total savings are increasing and total debt decreasing by endline in all treatment groups.

6 Conclusion

Promises of transfers or transfers done in installments may not affect recipients the same way as immediate lump-sum transfers since the expectation of upcoming cash flow may affect how recipients adjust in the present. We design an experiment in a low-income population in Uganda to test this hypothesis. We compare many outcomes of (1) participants who received an immediate cash transfer, (2) participants that are promised the same transfer in a year's time, to that of a control group that did not receive and was was promised a transfer. We compare the outcomes of these groups one month and 12 months after treatment assignation. Note that the participants who had been promised a future transfer had not received it at the time of the endline survey.

The participants that received an immediate transfer adjusted by increasing their household consumption spending, their work hours, their health through better food and more frequent food consumption, expenditure in their household businesses, and in their net savings. This is true both one month after and 12 months after receiving the transfer. They also saw an increase in the profits generated by their businesses which was measured after one month. Participants who were promised a future transfer also adjust by increasing their health through food consumption, their work hours, and see an increase in their business profits, and by endline, their overall household consumption spending also rises. The increases in the indexes measuring food diversity and food security, as well as consumption spending for this expectation group are 30-50% the size of the adjustment made by participants that received the immediate transfer. By endline, the adjustment in work hours is roughly the same in all treatment groups. This shows that both immediate transfers, but also the promise of future cash transfers, are both powerful tools in helping low-income individuals improve their livelihood. It also comes as warning when designing and evaluating policies or experiments where a group is used as control and participants in this group are promised future benefits. In our case, comparing the outcomes of participants that received an immediate transfer to those that were promised a future one would lead us to severely bias estimated the effect of immediate cash transfers on all the outcomes listed above.

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ONLINE APPENDIX

A Attrition and Demographics

Table A1: Attrition by Treatment Arm

	COMPLETED MIDLINE (1)	COMPLETED ENDLINE (2)
Grant (T1)	0.01	0.01
	(0.43)	(0.64)
Grant + Planning (T2)	0.00	0.00
	(0.90)	(0.82)
Grant, Delayed 1-Year (T3)	0.01	0.02
	(0.41)	(0.06)
Observations	2170	2170

Note: We report coefficient regressions and p-values in parentheses for heteroskedasticity-robust standard errors. We regress whether individuals completed the midline or endline survey in Column (1) and Column (2), respectively, on dummies indicating the treatment arm they were assigned to. We include Strata fixed effects in both regressions.

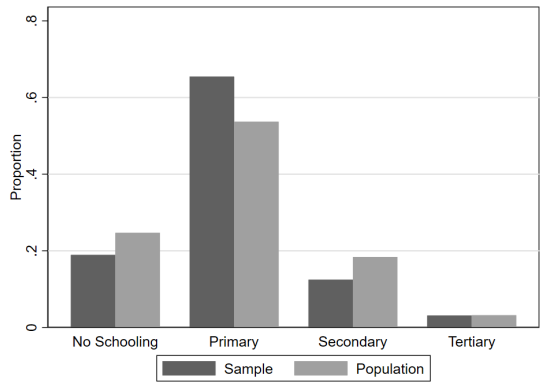
Table A2: Attrition and Demographics

	Completed Midline (1)		Completed Endline (2)	
Female	0.04	(0.33)	0.07	(0.17)
Married	0.00	(0.82)	0.01	(0.45)
Polygynous	0.01	(0.15)	0.01	(0.46)
Catholic	0.01	(0.52)	0.01	(0.63)
Protestant	0.01	(0.41)	0.00	(0.77)
Age	0.00	(0.30)	0.00	(0.16)
Education	-0.00	(0.27)	0.00	(0.86)
Working for pay	0.01	(0.01)	0.01	(0.47)
Self employed	0.00	(0.46)	0.01	(0.36)
Hours worked	-0.00	(0.65)	0.00	(0.48)
HH owns business	0.00	(0.62)	0.02	(0.13)
Savings	0.00	(0.65)	0.01	(0.31)
Borrowing	-0.00	(0.62)	0.02	(0.25)
Formal savings	-0.00	(0.80)	-0.00	(0.90)
Formal borrowing	-0.01	(0.19)	-0.00	(0.66)
Severe food insecure	0.01	(0.09)	0.00	(0.97)
Joint test of prediction, p-value	0.22		0.13	
Observations	2071		2071	

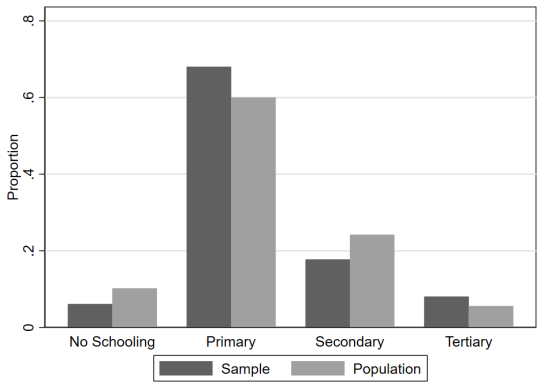
Note: We report coefficient regressions and p-values in parentheses heteroskedasticity-robust standard errors. We regress whether individuals completed the midline or endline survey in Column (1) and Column (2), respectively, on demographics and Strata fixed effects. The last row presents the p-values of joint F-tests of significance for the demographics listed in the table.

Figure A1: Sample Comaprison with UNHS 2012-2013

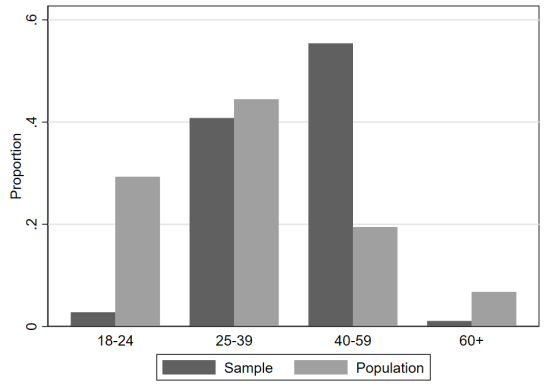
(a) Female Education



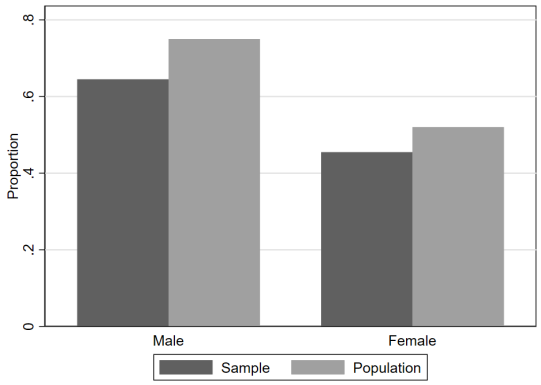
(b) Male Education



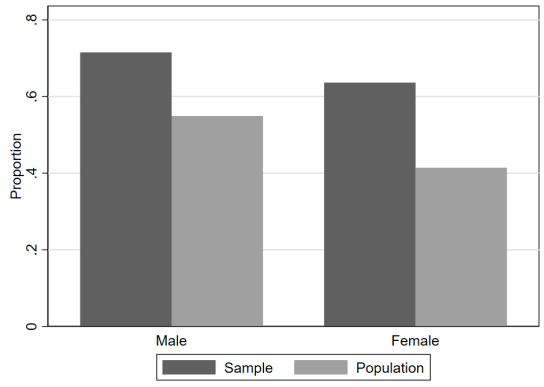
(c) Age Distribution



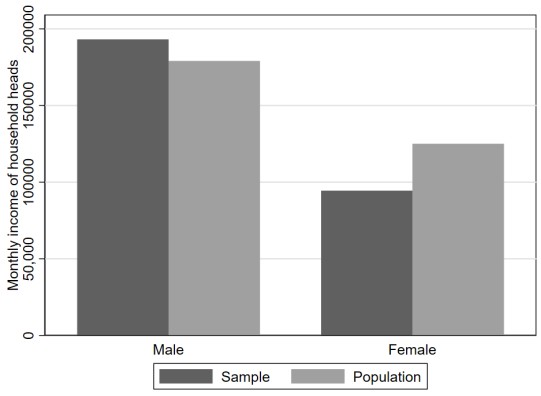
(d) Literacy



(e) Proportion Working for Pay



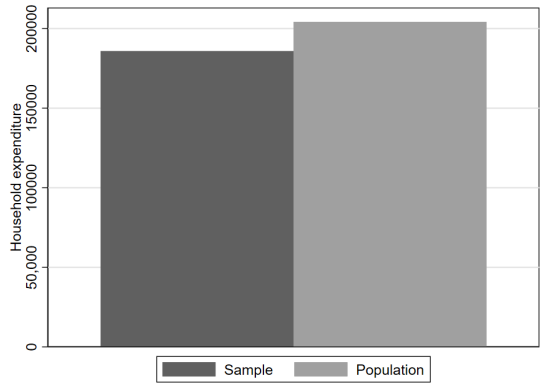
(f) Income of Household Head



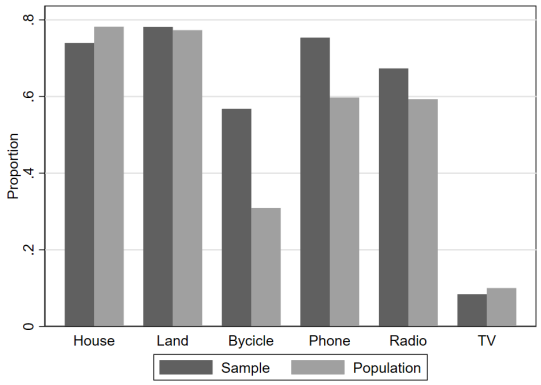
Note: In Figure A1a and A1b, we present the proportion of females and males, respectively, with different levels of education in our sample and in the whole population (see Table 3.3 of UBOS (2013)). Figure A1c presents the age distribution of adults (18 years old or above) in our sample and in the rural population (see Table 2.3 of UBOS (2013)). Figure A1d presents literacy rates compared to the rural population (see Table 3.2 of UBOS (2013)). The proportion of individuals working for pay or profit compared to the whole population is presented in Figure A1e (see Figure 4.2 of UBOS (2013)). Figure A1f presents the distribution of monthly nominal income of household heads in UGX by gender compared to that in the rural population (see Table 7.2 of UBOS (2013)). In all figures, we use information at baseline in our sample.

Figure A2: Sample Comaprison with UNHS 2012-2013, Continued

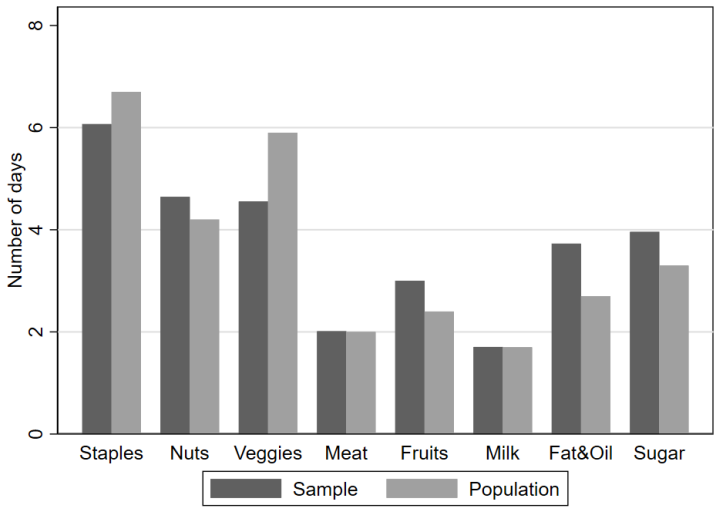
(a) Household Expenditure



(b) Household Asset Ownership



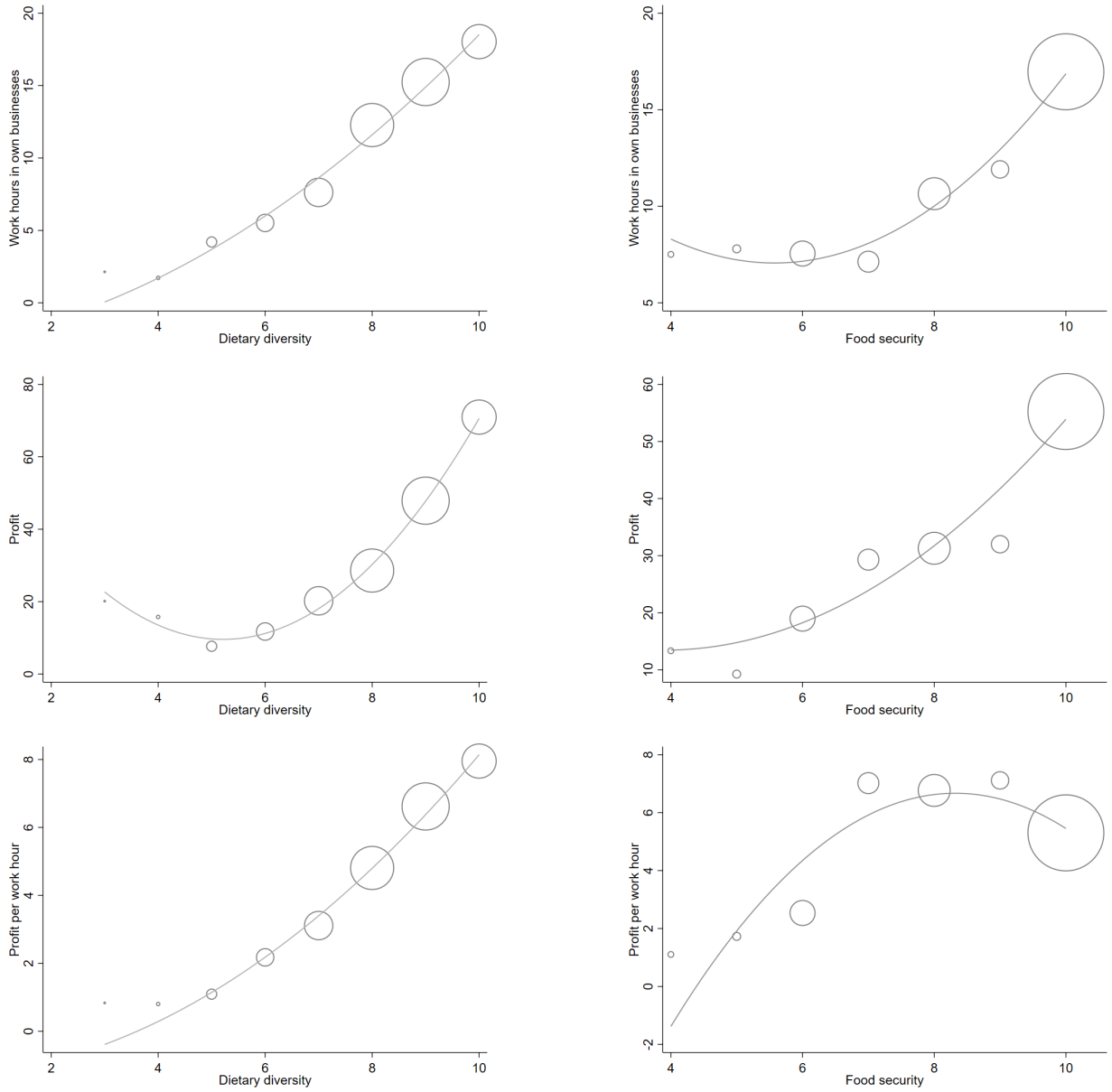
(c) Dietary Diversity



Note: In Figure A2a we present monthly household expenditures in UGX compared to the rural population (see Table 6.1 of UBOS (2013)). In Figure A2b we present ownership of different goods of households in our sample compared to households in the whole population (see Table 7.8 of UBOS (2013)). In Figure A2c the number of days households ate different foods compared to the rural population (see Table 8.2 of UBOS (2013)). Staples refer to cereals and tubers. In all figures, we use information at baseline in our sample.

B Correlations with Food Security and Dietary Diversity

Figure B1: Correlations of Work Hours, Profit, Profit per Work Hour in Own-Businesses with Dietary Diversity and Food Security



Note: We plot, in order, the average work hours, profit and profit per work hours in own businesses by values of the dietary diversity (left figures) and food security indexes (right figures) at baseline. The size of the circles is proportional to the number of individuals at those value of the indexes. We also include a quadratic fit based on the entire baseline data, rather than just the plotted averages.

C Tables

Table C1: OLS Intent to Treat Estimates One Month Post T1/T2 Grants for Food Security

	Grant	Grant+ Planning	Grant Delayed 1-Year	Control	Tests of Equality			
	(T1)	(T2)	(T3)	(T0)	T1=T2	T1=T3	T2=T3	N
Statistics / Variables	Beta (p-value)	Beta (p-value)	Beta (p-value)	Mean (SD)	(p-value)	(p-value)	(p-value)	
				Panel A: Primary Results				
Food Security	0.27	0.27	0.08	0.15	(0.92)	(0.00)	(0.00)	2133
	(0.00)	(0.00)	(0.07)	(0.93)				
				Panel B: Components				
No food at home	-0.21	-0.22	-0.09	0.67	(0.75)	(0.00)	(0.00)	2132
	(0.00)	(0.00)	(0.03)	(0.83)				
Went to sleep hungry	-0.23	-0.21	-0.03	0.65	(0.60)	(0.00)	(0.00)	2132
	(0.00)	(0.00)	(0.44)	(0.84)				
Did not eat for a day	-0.03	-0.04	-0.02	0.08	(0.49)	(0.63)	(0.19)	2133
	(0.12)	(0.02)	(0.23)	(0.34)				

Note: Panel A reproduces the results of Table 2. Eicker-Huber-White p-values are in parentheses. Panel B presents the treatment effect on each component of the index separately (p-values in parentheses). The dependent variables are: (1) How often there was no food at home in the 4 weeks prior to the survey; (2) How often members of the households went to bed hungry; (3) How often members of the households did not eat for 24 hours. In column (T0), we present the average value of the variable in the control group at baseline and its standard deviation in parentheses. We regress the various outcomes of interests on dichotomous variables for whether participants are in the first treatment arm (T1), second treatment arm (T2), or last treatment arm (T3), leaving the control group as the excluded group. We also include strata fixed effects and control for the outcomes at baseline in all regressions. Under the "Test of Equality" columns, we present the heteroskedasticity-robust p-values of t-tests of equality between the coefficients of different treated groups.

Table C2: OLS Intent to Treat Estimates One Year Post T1/T2 Grants for Food Security

	Grant	Grant+ Planning	Grant Delayed 1-Year	Control	Tests of Equality			
	(T1)	(T2)	(T3)	(T0)	T1=T2	T1=T3	T2=T3	N
Statistics / Variables	Beta (p-value)	Beta (p-value)	Beta (p-value)	Mean (SD)	(p-value)	(p-value)	(p-value)	
				Panel A: Primary Results				
Food Security	0.17	0.20	0.25	-1.15	(0.71)	(0.31)	(0.50)	2069
	(0.05)	(0.02)	(0.00)	(1.49)				
				Panel B: Components				
No food at home	-0.05	-0.07	-0.11	0.51	(0.65)	(0.23)	(0.44)	2067
	(0.24)	(0.10)	(0.02)	(0.78)				
Went to sleep hungry	-0.09	-0.11	-0.14	0.57	(0.61)	(0.23)	(0.50)	2065
	(0.04)	(0.01)	(0.00)	(0.78)				
Did not eat for a day	-0.02	-0.01	-0.01	0.07	(0.90)	(0.53)	(0.62)	2067
	(0.32)	(0.38)	(0.65)	(0.29)				

Note: Panel A reproduces the results of Table 3. Eicker-Huber-White p-values are in parentheses. Panel B presents the treatment effect on each component of the index separately (p-values in parentheses). The dependent variables are: (1) How often there was no food at home in the 4 weeks prior to the survey; (2) How often members of the households went to bed hungry; (3) How often members of the households did not eat for 24 hours. In column (T0), we present the average value of the variable in the control group at baseline and its standard deviation in parentheses. We regress the various outcomes of interests on dichotomous variables for whether participants are in the first treatment arm (T1), second treatment arm (T2), or last treatment arm (T3), leaving the control group as the excluded group. We also include strata fixed effects and control for the outcomes at baseline in all regressions. Under the "Test of Equality" columns, we present the heteroskedasticity-robust p-values of t-tests of equality between the coefficients of different treated groups.

Table C3: OLS Intent to Treat Estimates One Month Post T1/T2 Grants for Dietary Diversity

	Grant	Grant+ Planning	Grant Delayed 1-Year	Control	Tests of Equality			
	(T1)	(T2)	(T3)	(T0)	T1=T2	T1=T3	T2=T3	N
Statistics / Variables	Beta (p-value)	Beta (p-value)	Beta (p-value)	Mean (SD)	(p-value)	(p-value)	(p-value)	
Panel A: Primary Results								
Dietary Diversity	0.25	0.30	0.11	0.18	(0.33)	(0.00)	(0.00)	2133
	(0.00)	(0.00)	(0.03)	(0.93)				
Panel B: Components								
Days household ate cereals	0.22	0.33	0.04	4.64	(0.49)	(0.25)	(0.07)	2133
	(0.17)	(0.04)	(0.81)	(2.84)				
Days household ate tubers	-0.06	-0.05	0.11	5.63	(0.91)	(0.19)	(0.21)	2133
	(0.63)	(0.70)	(0.38)	(2.20)				
Days household ate nuts	0.13	0.08	-0.10	4.47	(0.66)	(0.04)	(0.09)	2133
	(0.27)	(0.47)	(0.36)	(2.37)				
Days household ate vegetables	-0.13	-0.14	-0.09	5.76	(0.95)	(0.69)	(0.63)	2133
	(0.23)	(0.18)	(0.39)	(1.90)				
Days household ate meat	0.59	0.60	0.27	1.99	(0.91)	(0.00)	(0.00)	2133
	(0.00)	(0.00)	(0.01)	(1.79)				
Days household ate fruit	0.10	0.08	0.22	4.96	(0.88)	(0.34)	(0.28)	2133
	(0.39)	(0.49)	(0.08)	(2.60)				
Days household ate dairy	0.28	0.27	0.11	1.74	(0.95)	(0.20)	(0.23)	2133
	(0.04)	(0.05)	(0.44)	(2.61)				
Days household ate fats or oils	0.45	0.43	0.20	3.57	(0.86)	(0.05)	(0.08)	2133
	(0.00)	(0.00)	(0.13)	(2.63)				
Days household ate sweets	0.36	0.51	-0.05	4.08	(0.30)	(0.01)	(0.00)	2133
	(0.01)	(0.00)	(0.74)	(3.00)				
Days household ate spices	-0.04	-0.09	-0.09	6.87	(0.41)	(0.47)	(0.91)	2133
	(0.42)	(0.10)	(0.12)	(0.85)				
Days household consumed soda	0.11	0.12	0.07	0.38	(0.83)	(0.57)	(0.44)	2133
	(0.10)	(0.06)	(0.29)	(1.05)				
Days household consumed alcohol	0.03	0.05	-0.04	0.13	(0.62)	(0.16)	(0.04)	2133
	(0.63)	(0.27)	(0.28)	(0.76)				

Note: Panel A reproduces the results of Table 2. Eicker-Huber-White p-values are in parentheses. Panel B presents the treatment effect on each component of the index separately (p-values in parentheses). The dependent variables are the number of days during the 7 days prior to the survey that certain food groups were consumed. In column (T0), we present the average value of the variable in the control group at baseline and its standard deviation in parentheses. We regress the various outcomes of interests on dichotomous variables for whether participants are in the first treatment arm (T1), second treatment arm (T2), or last treatment arm (T3), leaving the control group as the excluded group. We also include strata fixed effects and control for the outcomes at baseline in all regressions. Under the "Test of Equality" columns, we present the heteroskedasticity-robust p-values of t-tests of equality between the coefficients of different treated groups.

Table C4: OLS Intent to Treat Estimates One Year Post T1/T2 Grants for Dietary Diversity

	Grant	Grant+ Planning	Grant Delayed 1-Year	Control	Tests of Equality			
	(T1)	(T2)	(T3)	(T0)	T1=T2	T1=T3	T2=T3	N
Statistics / Variables	Beta (p-value)	Beta (p-value)	Beta (p-value)	Mean (SD)	(p-value)	(p-value)	(p-value)	
				Panel A: Primary Results				
Dietary Diversity	0.39	0.45	0.26	7.78	(0.50)	(0.16)	(0.03)	2068
	(0.00)	(0.00)	(0.00)	(1.54)				
				Panel B: Components				
Days household ate cereals	0.13	0.18	-0.04	3.26	(0.76)	(0.29)	(0.17)	2068
	(0.43)	(0.27)	(0.80)	(2.90)				
Days household ate tubers	-0.00	0.06	0.04	5.84	(0.61)	(0.76)	(0.84)	2068
	(1.00)	(0.60)	(0.75)	(1.95)				
Days household ate nuts	-0.31	-0.24	-0.16	5.13	(0.53)	(0.21)	(0.53)	2068
	(0.01)	(0.04)	(0.16)	(2.10)				
Days household ate vegetables	0.28	0.26	0.14	4.93	(0.88)	(0.28)	(0.36)	2067
	(0.03)	(0.05)	(0.28)	(2.45)				
Days household ate meat	0.47	0.47	0.25	1.79	(0.99)	(0.05)	(0.04)	2066
	(0.00)	(0.00)	(0.02)	(1.78)				
Days household ate fruit	0.28	0.16	0.19	3.55	(0.43)	(0.53)	(0.85)	2066
	(0.08)	(0.33)	(0.24)	(3.00)				
Days household ate dairy	0.48	0.50	0.40	1.07	(0.92)	(0.60)	(0.53)	2066
	(0.00)	(0.00)	(0.00)	(2.23)				
Days household ate fats or oils	0.38	0.46	0.25	3.57	(0.59)	(0.37)	(0.16)	2066
	(0.01)	(0.00)	(0.08)	(2.69)				
Days household ate sweets	0.65	0.54	0.32	3.96	(0.49)	(0.03)	(0.14)	2066
	(0.00)	(0.00)	(0.04)	(2.95)				
Days household ate spices	-0.10	-0.06	-0.07	6.75	(0.68)	(0.72)	(0.97)	2068
	(0.24)	(0.42)	(0.40)	(1.22)				
Days household consumed soda	0.24	0.09	0.08	0.24	(0.02)	(0.02)	(0.85)	2066
	(0.00)	(0.10)	(0.16)	(0.78)				
Days household consumed alcohol	0.03	0.00	0.11	0.10	(0.51)	(0.17)	(0.03)	2064
	(0.46)	(0.93)	(0.03)	(0.64)				

Note: Panel A reproduces the results of Table 3. Eicker-Huber-White p-values are in parentheses. Panel B presents the treatment effect on each component of the index separately (p-values in parentheses). The dependent variables are the number of days during the 7 days prior to the survey that certain food groups were consumed. In column (T0), we present the average value of the variable in the control group at baseline and its standard deviation in parentheses. We regress the various outcomes of interests on dichotomous variables for whether participants are in the first treatment arm (T1), second treatment arm (T2), or last treatment arm (T3), leaving the control group as the excluded group. We also include strata fixed effects and control for the outcomes at baseline in all regressions. Under the "Test of Equality" columns, we present the heteroskedasticity-robust p-values of t-tests of equality between the coefficients of different treated groups.

Table C5: OLS Intent to Treat Estimates One Month Post T1/T2 Grants for Business Expenditures

	Grant	Grant+ Planning	Grant Delayed 1-Year	Control	Tests of Equality			
	(T1)	(T2)	(T3)	(T0)	T1=T2	T1=T3	T2=T3	N
Statistics / Variables	Beta (p-value)	Beta (p-value)	Beta (p-value)	Mean (SD)	(p-value)	(p-value)	(p-value)	
				Panel A: Primary Results				
Business Expenditure	174.36	158.36	-10.05	223.61	(0.65)	(0.00)	(0.00)	2133
	(0.00)	(0.00)	(0.71)	(600.18)				
				Panel B: Components				
Business revenue	142.84	135.15	36.10	211.78	(0.85)	(0.01)	(0.00)	2133
	(0.00)	(0.00)	(0.22)	(586.57)				
Business rent expenditures	12.51	10.14	3.11	18.41	(0.55)	(0.01)	(0.04)	2133
	(0.00)	(0.00)	(0.32)	(52.82)				
Inputs expenditures	31.70	22.44	3.73	35.04	(0.24)	(0.00)	(0.00)	2133
	(0.00)	(0.00)	(0.54)	(100.93)				
Equip expenditures	5.79	4.04	0.00	7.12	(0.43)	(0.00)	(0.04)	2133
	(0.01)	(0.04)	(1.00)	(30.49)				
Repairs expenditures	1.15	0.37	0.14	2.06	(0.17)	(0.06)	(0.64)	2133
	(0.03)	(0.47)	(0.77)	(8.16)				
Transport expenditures	7.06	5.80	3.41	7.78	(0.53)	(0.07)	(0.22)	2133
	(0.00)	(0.00)	(0.04)	(28.43)				
Wages expenditures	11.37	7.37	3.65	20.60	(0.27)	(0.02)	(0.27)	2133
	(0.00)	(0.03)	(0.26)	(56.53)				
Stock expenditures	90.43	98.25	-23.25	113.82	(0.75)	(0.00)	(0.00)	2133
	(0.00)	(0.00)	(0.20)	(399.02)				
Other expenditures	4.28	1.76	-0.93	11.69	(0.19)	(0.01)	(0.10)	2133
	(0.03)	(0.29)	(0.57)	(34.58)				

Note: Panel A reproduces the results of Table 2. Eicker-Huber-White p-values are in parentheses. Panel B presents the treatment effect on each component of the index separately (p-values in parentheses). The dependent variables are the amount spent in thousands of UGX over the 3 weeks prior to the survey on different goods and services. Each row of the second panel represents a regression on a different outcome. We report regression coefficients and the p-values in parentheses associated with the Eicker-Huber-White standard errors in columns T1, T2, and T3. In column (T0), we present the average value of the variable in the control group at baseline and its standard deviation in parentheses. We regress the various outcomes of interests on dichotomous variables for whether participants are in the first treatment arm (T1), second treatment arm (T2), or last treatment arm (T3), leaving the control group as the excluded group. We also include strata fixed effects and control for the outcomes at baseline in all regressions. Under the "Test of Equality" columns, we present the heteroskedasticity-robust p-values of t-tests of equality between the coefficients of different treated groups.

Table C6: OLS Intent to Treat Estimates One Month Post T1/T2 Grants for Income-Generating Activities

	Grant	Grant+ Planning	Grant Delayed 1-Year	Control	Tests of Equality			
	(T1)	(T2)	(T3)	(T0)	T1=T2	T1=T3	T2=T3	N
Statistics / Variables	Beta (p-value)	Beta (p-value)	Beta (p-value)	Mean (SD)	(p-value)	(p-value)	(p-value)	
Panel A: Primary Results								
IGA Count	0.29	0.34	0.08	1.72	(0.30)	(0.00)	(0.00)	2133
	(0.00)	(0.00)	(0.10)	(0.97)				
Panel B: Components								
Cashcrops and animal husbandry	0.13	0.11	0.03	1.23	(0.55)	(0.01)	(0.06)	2133
	(0.00)	(0.00)	(0.36)	(0.80)				
Number of other businesses	0.16	0.23	0.05	0.49	(0.04)	(0.00)	(0.00)	2133
	(0.00)	(0.00)	(0.08)	(0.59)				

Note: Panel A reproduces the results of Table 2. Eicker-Huber-White p-values are in parentheses. Panel B presents the treatment effect on each component of the index separately (p-values in parentheses). The dependent variables are: (1) Whether the participant's household grows crops and/oranimals for profits at the time of the survey; (2) The number of other businesses owned. In column (T0), we present the average value of the variable in the control group at baseline and its standard deviation in parentheses. We regress the various outcomes of interests on dichotomous variables for whether participants are in the first treatment arm (T1), second treatment arm (T2), or last treatment arm (T3), leaving the control group as the excluded group. We also include strata fixed effects and control for the outcomes at baseline in all regressions. Under the "Test of Equality" columns, we present the heteroskedasticity-robust p-values of t-tests of equality between the coefficients of different treated groups.

Table C7: OLS Intent to Treat Estimates One Year Post T1/T2 Grants for Income-Generating Activities

	Grant	Grant+ Planning	Grant Delayed 1-Year	Control	Tests of Equality			
	(T1)	(T2)	(T3)	(T0)	T1=T2	T1=T3	T2=T3	N
Statistics / Variables	Beta (p-value)	Beta (p-value)	Beta (p-value)	Mean (SD)	(p-value)	(p-value)	(p-value)	
				Panel A: Primary Results				
IGA Count	0.22	0.20	0.04	1.71	(0.72)	(0.00)	(0.00)	2069
	(0.00)	(0.00)	(0.45)	(0.95)				
				Panel B: Components				
Cashcrops and animal husbandry	0.11	0.14	0.04	1.19	(0.59)	(0.10)	(0.03)	2069
	(0.01)	(0.00)	(0.31)	(0.80)				
Number of other businesses	0.11	0.06	0.00	0.52	(0.22)	(0.00)	(0.06)	2069
	(0.00)	(0.07)	(0.99)	(0.57)				

Note: Panel A reproduces the results of Table 3. Eicker-Huber-White p-values are in parentheses. Panel B presents the treatment effect on each component of the index separately (p-values in parentheses). The dependent variables are: (1) Whether the participant's household grows crops and/oranimals for profits at the time of the survey; (2) The number of other businesses owned. In column (T0), we present the average value of the variable in the control group at baseline and its standard deviation in parentheses. We regress the various outcomes of interests on dichotomous variables for whether participants are in the first treatment arm (T1), second treatment arm (T2), or last treatment arm (T3), leaving the control group as the excluded group. We also include strata fixed effects and control for the outcomes at baseline in all regressions. Under the "Test of Equality" columns, we present the heteroskedasticity-robust p-values of t-tests of equality between the coefficients of different treated groups.

Table C8: OLS Intent to Treat Estimates One Month Post T1/T2 Grants for Time Use

	Grant	Grant+ Planning	Grant Delayed 1-Year	Control	Tests of Equality			
	(T1)	(T2)	(T3)	(T0)	T1=T2	T1=T3	T2=T3	N
Statistics / Variables	Beta (p-value)	Beta (p-value)	Beta (p-value)	Mean (SD)	(p-value)	(p-value)	(p-value)	
				Panel A: Primary Results				
Hours worked per week	3.55	6.01	2.91	16.37	(0.06)	(0.60)	(0.02)	2133
(Wage and self-employed labor)	(0.00)	(0.00)	(0.01)	(22.95)				
				Panel B: Components				
Wage labor	-1.65	-0.48	0.62	7.11	(0.14)	(0.00)	(0.19)	2133
	(0.02)	(0.55)	(0.43)	(14.63)				
Self-employed labor	5.06	6.36	2.27	9.24	(0.28)	(0.01)	(0.00)	2133
	(0.00)	(0.00)	(0.02)	(20.37)				
Domestic labor	-0.77	-0.70	-0.31	18.07	(0.92)	(0.51)	(0.56)	2133
	(0.28)	(0.30)	(0.65)	(14.40)				
Unpaid labor	0.03	0.09	-0.18	0.65	(0.78)	(0.21)	(0.13)	2133
	(0.85)	(0.65)	(0.27)	(3.12)				
Job search	-0.07	-0.04	-0.02	0.08	(0.10)	(0.01)	(0.23)	2133
	(0.00)	(0.05)	(0.47)	(0.44)				
Attending school	0.03	0.11	-0.00	0.10	(0.27)	(0.61)	(0.12)	2133
	(0.62)	(0.12)	(0.97)	(0.89)				

Note: Panel A reproduces the results of Table 2. Panel B presents the treatment effect on each component of the index and on other relevant time use variables separately. The dependent variables are the number of hours spent during the 7 days prior to the survey on different activities. In column (T0), we present the average value of the variable in the control group at baseline and its standard deviation in parentheses. We regress the various outcomes of interests on dichotomous variables for whether participants are in the first treatment arm (T1), second treatment arm (T2), or last treatment arm (T3), leaving the control group as the excluded group. We also include strata fixed effects and control for the outcomes at baseline in all regressions. Under the "Test of Equality" columns, we present the heteroskedasticity-robust p-values of t-tests of equality between the coefficients of different treated groups.

Table C9: OLS Intent to Treat Estimates One Year Post T1/T2 Grants for Time Use

	Grant	Grant+ Planning	Grant Delayed 1-Year	Control	Tests of Equality			
	(T1)	(T2)	(T3)	(T0)	T1=T2	T1=T3	T2=T3	N
Statistics / Variables	Beta (p-value)	Beta (p-value)	Beta (p-value)	Mean (SD)	(p-value)	(p-value)	(p-value)	
				Panel A: Primary Results				
Hours worked per week	1.43	2.37	2.74	15.58	(0.47)	(0.31)	(0.78)	2069
(Wage and self-employed labor)	(0.26)	(0.06)	(0.03)	(24.04)				
				Panel B: Components				
Wage labor	-0.37	-0.88	0.44	5.16	(0.51)	(0.33)	(0.10)	2069
	(0.65)	(0.26)	(0.60)	(14.10)				
Self-employed labor	1.72	3.35	2.42	10.36	(0.16)	(0.54)	(0.41)	2069
	(0.13)	(0.00)	(0.03)	(20.90)				
Domestic labor	-0.31	-0.87	-0.48	16.61	(0.39)	(0.80)	(0.54)	2069
	(0.63)	(0.18)	(0.47)	(13.22)				
Unpaid labor	0.07	0.11	-0.10	0.29	(0.72)	(0.08)	(0.04)	2069
	(0.50)	(0.31)	(0.26)	(1.63)				
Job search	0.01	-0.00	-0.00	0.04	(0.55)	(0.56)	(0.98)	2069
	(0.67)	(0.87)	(0.89)	(0.33)				
Attending school	0.05	0.04	0.00	0.07	(0.84)	(0.28)	(0.39)	2069
	(0.22)	(0.32)	(0.90)	(0.60)				

Note: Panel A reproduces the results of Table 3. Panel B presents the treatment effect on each component of the index and on other relevant time use variables separately. The dependent variables are the number of hours spent during the 7 days prior to the survey on different activities. In column (T0), we present the average value of the variable in the control group at baseline and its standard deviation in parentheses. We regress the various outcomes of interests on dichotomous variables for whether participants are in the first treatment arm (T1), second treatment arm (T2), or last treatment arm (T3), leaving the control group as the excluded group. We also include strata fixed effects and control for the outcomes at baseline in all regressions. Under the "Test of Equality" columns, we present the heteroskedasticity-robust p-values of t-tests of equality between the coefficients of different treated groups.

Table C10: OLS Intent to Treat Estimates One Year Post T1/T2 Grants for Mental Health

	Grant	Grant+ Planning	Grant Delayed 1-Year	Control	Tests of Equality			
	(T1)	(T2)	(T3)	(T0)	T1=T2	T1=T3	T2=T3	N
Statistics / Variables	Beta (p-value)	Beta (p-value)	Beta (p-value)	Mean (SD)	(p-value)	(p-value)	(p-value)	
				Panel A: Primary Results				
Mental Health	0.17	0.17	0.09	0.00	(1.00)	(0.19)	(0.20)	2069
	(0.00)	(0.00)	(0.12)	(1.00)				
				Panel B: Components				
Self-esteem	-0.02	0.08	0.08	0.00	(0.15)	(0.09)	(0.99)	2069
	(0.77)	(0.24)	(0.16)	(1.00)				
External locus of control	-0.00	0.11	-0.01	0.00	(0.07)	(0.85)	(0.05)	2069
	(0.96)	(0.08)	(0.82)	(1.00)				
Ladder of life (today)	0.18	0.09	0.04	0.00	(0.12)	(0.02)	(0.41)	2069
	(0.00)	(0.14)	(0.52)	(1.00)				
Ladder of life (in 5 years)	0.19	0.20	0.12	0.00	(0.96)	(0.18)	(0.18)	2069
	(0.00)	(0.00)	(0.05)	(1.00)				

Note: Panel A reproduces the results of Table 3. Eicker-Huber-White p-values are in parentheses. Panel B presents the treatment effect on each component of the index separately (p-values in parentheses). The dependent variables are: (1) Self-esteem and (2) locus of control of the participants, and (3) their optimism with regards to their life at the time of the survey; (4) Optimism about their life 5 years ahead. All dependent variables are normalized to be mean 0 and standard deviation 1 in the control group at endline since mental health related questions were only asked at endline. In column (T0), we present the average value of the variable in the control group at baseline and its standard deviation in parentheses. We regress the various outcomes of interests on dichotomous variables for whether participants are in the first treatment arm (T1), second treatment arm (T2), or last treatment arm (T3), leaving the control group as the excluded group. We also include strata fixed effects and control for the outcomes at baseline in all regressions. Under the "Test of Equality" columns, we present the heteroskedasticity-robust p-values of t-tests of equality between the coefficients of different treated groups.

Table C11: OLS Intent to Treat Estimates One Month Post T1/T2 Grants for Household Expenditures in 1000 UGX

	Grant	Grant+ Planning	Grant Delayed 1-Year	Control	Tests of Equality			
	(T1)	(T2)	(T3)	(T0)	T1=T2	T1=T3	T2=T3	N
Statistics / Variables	Beta (p-value)	Beta (p-value)	Beta (p-value)	Mean (SD)	(p-value)	(p-value)	(p-value)	
Panel A: Primary Results								
Household Expenditure	99.56	70.99	13.05	210.57	(0.06)	(0.00)	(0.00)	2133
	(0.00)	(0.00)	(0.32)	(262.23)				
Panel B: Components								
Food expenditures	3.43	3.50	1.95	12.97	(0.97)	(0.41)	(0.36)	2133
	(0.05)	(0.04)	(0.26)	(35.85)				
Rent expenditures	7.03	5.39	0.97	26.35	(0.51)	(0.01)	(0.05)	2133
	(0.00)	(0.02)	(0.63)	(42.39)				
Non-durables expenditures	6.34	6.26	2.23	40.72	(0.98)	(0.11)	(0.10)	2133
	(0.01)	(0.01)	(0.37)	(50.22)				
Durables expenditures	39.11	38.73	5.46	26.90	(0.96)	(0.00)	(0.00)	2133
	(0.00)	(0.00)	(0.22)	(74.76)				
Repairs expenditures	28.36	31.42	4.15	24.18	(0.66)	(0.00)	(0.00)	2133
	(0.00)	(0.00)	(0.34)	(72.21)				
Clothes expenditures	1.51	1.31	0.43	1.10	(0.77)	(0.07)	(0.12)	2133
	(0.01)	(0.02)	(0.35)	(7.19)				
Farming for subsistence exp.	10.09	12.93	0.34	11.41	(0.39)	(0.00)	(0.00)	2133
	(0.00)	(0.00)	(0.86)	(33.23)				
School expenditures	21.64	7.30	2.51	39.36	(0.01)	(0.00)	(0.30)	2133
	(0.00)	(0.12)	(0.61)	(86.81)				
Gift expenditures	3.15	-0.75	-0.17	28.58	(0.15)	(0.22)	(0.83)	2133
	(0.27)	(0.79)	(0.95)	(50.41)				
Other expenditures	25.90	7.32	3.57	41.70	(0.00)	(0.00)	(0.46)	2133
	(0.00)	(0.14)	(0.51)	(94.15)				

Note: Panel A reproduces the results of Table 2. Eicker-Huber-White p-values are in parentheses. Panel B presents the treatment effect on each component of the index separately (p-values in parentheses). The dependent variables are the amount spent over the 3 weeks prior to the survey on different goods and services in 1000 UGX (the average exchange rate for 2013 was 2584.88 UGX to a USD$ or 1036.87 UGX to a USD$.) In column (T0), we present the average value of the variable in the control group at baseline and its standard deviation in parentheses. We regress the various outcomes of interests on dichotomous variables for whether participants are in the first treatment arm (T1), second treatment arm (T2), or last treatment arm (T3), leaving the control group as the excluded group. We also include strata fixed effects and control for the outcomes at baseline in all regressions. Under the "Test of Equality" columns, we present the heteroskedasticity-robust p-values of t-tests of equality between the coefficients of different treated groups.

Table C12: OLS Intent to Treat Estimates One Year Post T1/T2 Grants for Household Expenditures in UGX

	Grant	Grant+ Planning	Grant Delayed 1-Year	Control	Tests of Equality			
	(T1)	(T2)	(T3)	(T0)	T1=T2	T1=T3	T2=T3	N
Statistics / Variables	Beta (p-value)	Beta (p-value)	Beta (p-value)	Mean (SD)	(p-value)	(p-value)	(p-value)	
Panel A: Primary Results								
Household Expenditure	48.37	35.53	22.80	130.18	(0.28)	(0.02)	(0.23)	2069
	(0.00)	(0.00)	(0.02)	(184.45)				
Panel B: Components								
Food expenditures	3.81	4.26	2.03	4.58	(0.66)	(0.06)	(0.03)	2069
	(0.00)	(0.00)	(0.02)	(12.54)				
Rent expenditures	4.67	3.25	4.45	13.33	(0.43)	(0.90)	(0.49)	2069
	(0.00)	(0.05)	(0.01)	(27.89)				
Non-durables expenditures	4.04	4.62	2.64	21.10	(0.74)	(0.38)	(0.21)	2069
	(0.02)	(0.01)	(0.08)	(28.63)				
Durables expenditures	8.71	3.91	3.94	15.04	(0.15)	(0.15)	(0.99)	2069
	(0.01)	(0.15)	(0.14)	(42.97)				
Repairs expenditures	8.24	4.34	4.54	13.72	(0.24)	(0.26)	(0.94)	2069
	(0.01)	(0.10)	(0.08)	(39.67)				
Clothes expenditures	-0.01	-0.02	-0.03	0.07	(0.87)	(0.62)	(0.73)	2069
	(0.66)	(0.54)	(0.35)	(0.55)				
Farming for subsistence exp.	2.78	1.95	0.86	6.67	(0.58)	(0.20)	(0.40)	2069
	(0.07)	(0.14)	(0.51)	(22.57)				
School expenditures	7.86	4.48	6.04	42.75	(0.56)	(0.76)	(0.78)	2069
	(0.18)	(0.43)	(0.29)	(98.12)				
Gift expenditures	4.74	4.44	2.32	12.87	(0.87)	(0.16)	(0.21)	2069
	(0.01)	(0.01)	(0.14)	(25.62)				
Other expenditures	8.40	8.50	6.54	43.18	(0.99)	(0.75)	(0.74)	2069
	(0.15)	(0.15)	(0.25)	(98.15)				

Note: Panel A reproduces the results of Table 3. Eicker-Huber-White p-values are in parentheses. Panel B presents the treatment effect on each component of the index separately (p-values in parentheses). The dependent variables are the amount spent over the 3 weeks prior to the survey on different goods and services in 1000 UGX (the average exchange rate for 2013 was 2584.88 UGX to a USD$ or 1036.87 UGX to a USD$.) In column (T0), we present the average value of the variable in the control group at baseline and its standard deviation in parentheses. We regress the various outcomes of interests on dichotomous variables for whether participants are in the first treatment arm (T1), second treatment arm (T2), or last treatment arm (T3), leaving the control group as the excluded group. We also include strata fixed effects and control for the outcomes at baseline in all regressions. Under the "Test of Equality" columns, we present the heteroskedasticity-robust p-values of t-tests of equality between the coefficients of different treated groups.

Table C13: OLS Intent to Treat Estimates One Year Post T1/T2 Grants for Housing Conditions

	Grant	Grant+ Planning	Grant Delayed 1-Year	Control	Tests of Equality			
	(T1)	(T2)	(T3)	(T0)	T1=T2	T1=T3	T2=T3	N
Statistics / Variables	Beta (p-value)	Beta (p-value)	Beta (p-value)	Mean (SD)	(p-value)	(p-value)	(p-value)	
Panel A: Primary Results								
Housing Conditions Index	0.02	-0.01	-0.03	0.09	(0.55)	(0.16)	(0.46)	2069
	(0.64)	(0.87)	(0.32)	(1.05)				
Panel B: Components								
Rooms per HH member	0.05	-0.01	0.00	0.53	(0.02)	(0.07)	(0.64)	2069
	(0.10)	(0.82)	(0.90)	(0.58)				
Household is the owner	0.03	0.01	0.01	0.73	(0.39)	(0.41)	(0.94)	2069
	(0.17)	(0.62)	(0.55)	(0.44)				
Iron roof	0.04	0.01	0.02	0.51	(0.22)	(0.20)	(0.97)	2069
	(0.03)	(0.39)	(0.32)	(0.50)				
Concrete walls	0.01	-0.01	-0.01	0.40	(0.53)	(0.31)	(0.72)	2069
	(0.70)	(0.79)	(0.51)	(0.49)				
Cement floor	0.00	-0.02	-0.02	0.38	(0.26)	(0.20)	(0.90)	2069
	(0.87)	(0.34)	(0.27)	(0.49)				
Household has electricity	0.01	0.01	0.00	0.14	(0.77)	(0.81)	(0.59)	2069
	(0.68)	(0.48)	(0.85)	(0.35)				
Household has its own latrine	0.02	0.01	0.04	0.52	(0.75)	(0.48)	(0.29)	2069
	(0.55)	(0.77)	(0.18)	(0.50)				
Water from protected source	0.02	0.03	0.03	0.90	(0.62)	(0.40)	(0.72)	2069
	(0.26)	(0.11)	(0.05)	(0.30)				

Note: Panel A reproduces the results of Table 3. Eicker-Huber-White p-values are in parentheses. Panel B presents the treatment effect on each component of the index separately (p-values in parentheses). The dependent variables consist of: (1) The number of rooms in the participant's dwelling at the time of the survey; (2) Whether they own the dwelling. Whether the dwelling has: (3) A roof made of iron or similar material; (4) Concrete walls; (5) Cement floors; (6) Electricity. Whether household members have (7) access to their own latrine, and (8) to a protected source of water. In column (T0), we present the average value of the variable in the control group at baseline and its standard deviation in parentheses. We regress the various outcomes of interests on dichotomous variables for whether participants are in the first treatment arm (T1), second treatment arm (T2), or last treatment arm (T3), leaving the control group as the excluded group. We also include strata fixed effects and control for the outcomes at baseline in all regressions. Under the "Test of Equality" columns, we present the heteroskedasticity-robust p-values of t-tests of equality between the coefficients of different treated groups.

Table C14: OLS Intent to Treat Estimates One Year Post T1/T2 Grants for Durable Assets

	Grant	Grant+ Planning	Grant Delayed 1-Year	Control	Tests of Equality			
	(T1)	(T2)	(T3)	(T0)	T1=T2	T1=T3	T2=T3	N
Statistics / Variables	Beta (p-value)	Beta (p-value)	Beta (p-value)	Mean (SD)	(p-value)	(p-value)	(p-value)	
Panel A: Primary Results								
Durable Assets Index	0.17	0.10	0.11	-0.12	(0.11)	(0.23)	(0.75)	2069
	(0.00)	(0.01)	(0.01)	(0.81)				
Panel B: Components								
Number of phones owned	0.12	0.12	0.12	1.23	(0.97)	(0.99)	(0.98)	2069
	(0.02)	(0.03)	(0.02)	(0.95)				
Number of radios owned	0.10	0.07	0.09	0.67	(0.48)	(0.83)	(0.64)	2069
	(0.01)	(0.05)	(0.02)	(0.68)				
Number of televisions owned	0.05	0.01	0.01	0.08	(0.04)	(0.04)	(0.91)	2069
	(0.01)	(0.34)	(0.44)	(0.29)				
Number of bicycles owned	0.06	0.05	0.03	0.64	(0.87)	(0.46)	(0.55)	2069
	(0.10)	(0.13)	(0.38)	(0.69)				
Number of motorcycles owned	0.01	-0.00	0.01	0.09	(0.50)	(0.98)	(0.49)	2069
	(0.58)	(0.91)	(0.56)	(0.29)				
Number of cars owned	0.02	0.00	0.01	0.01	(0.03)	(0.16)	(0.55)	2069
	(0.01)	(0.46)	(0.29)	(0.08)				

Note: Panel A reproduces the results of Table 3. Eicker-Huber-White p-values are in parentheses. Panel B presents the treatment effect on each component of the index separately (p-values in parentheses). The dependent variables consist of the number of durable goods owned by the participant and other household members at the time of the survey. In column (T0), we present the average value of the variable in the control group at baseline and its standard deviation in parentheses. We regress the various outcomes of interests on dichotomous variables for whether participants are in the first treatment arm (T1), second treatment arm (T2), or last treatment arm (T3), leaving the control group as the excluded group. We also include strata fixed effects and control for the outcomes at baseline in all regressions. Under the "Test of Equality" columns, we present the heteroskedasticity-robust p-values of t-tests of equality between the coefficients of different treated groups.

Table C15: OLS Intent to Treat Estimates One Month Post T1/T2 Grants for Savings in 1000 UGX

	Grant	Grant+ Planning	Grant Delayed 1-Year	Control	Tests of Equality			
	(T1)	(T2)	(T3)	(T0)	T1=T2	T1=T3	T2=T3	N
Statistics / Variables	Beta (p-value)	Beta (p-value)	Beta (p-value)	Mean (SD)	(p-value)	(p-value)	(p-value)	
				Panel A: Primary Results				
Total Saved	73.05	79.73	-0.54	131.49	(0.64)	(0.00)	(0.00)	2133
	(0.00)	(0.00)	(0.97)	(339.32)				
				Panel B: Components				
Bank savings	14.84	4.94	1.12	30.63	(0.16)	(0.03)	(0.45)	2133
	(0.02)	(0.36)	(0.80)	(136.45)				
SACCO savings	0.10	1.42	3.00	10.06	(0.60)	(0.29)	(0.55)	2133
	(0.97)	(0.57)	(0.27)	(53.35)				
Village Savings Account	10.12	15.18	-1.84	33.05	(0.29)	(0.01)	(0.00)	2133
	(0.02)	(0.00)	(0.66)	(77.81)				
Other savings	41.32	55.46	9.50	35.01	(0.06)	(0.00)	(0.00)	2133
	(0.00)	(0.00)	(0.08)	(99.65)				

Note: Panel A reproduces the results of Table 2. Eicker-Huber-White p-values are in parentheses. Panel B presents the treatment effect on each component of the index separately (p-values in parentheses). The dependent variables are the total amount saved in 1000 UGX at the time of the survey in: (1) Banks, (2) Savings and Credit Cooperative Organizations (SACCO); (3) Village savings accounts; (4) Informal savings. The average exchange rate for 2013 was 2584.88 UGX to a USD$ or 1036.87 UGX to a USD$. In column (T0), we present the average value of the variable in the control group at baseline and its standard deviation in parentheses. We regress the various outcomes of interests on dichotomous variables for whether participants are in the first treatment arm (T1), second treatment arm (T2), or last treatment arm (T3), leaving the control group as the excluded group. We also include strata fixed effects and control for the outcomes at baseline in all regressions. Under the "Test of Equality" columns, we present the heteroskedasticity-robust p-values of t-tests of equality between the coefficients of different treated groups.

Table C16: OLS Intent to Treat Estimates One Year Post T1/T2 Grants for Savings

	Grant	Grant+ Planning	Grant Delayed 1-Year	Control	Tests of Equality			
	(T1)	(T2)	(T3)	(T0)	T1=T2	T1=T3	T2=T3	N
Statistics / Variables	Beta (p-value)	Beta (p-value)	Beta (p-value)	Mean (SD)	(p-value)	(p-value)	(p-value)	
				Panel A: Primary Results				
Total Saved	75.78	77.48	24.07	96.33	(0.93)	(0.00)	(0.00)	2069
	(0.00)	(0.00)	(0.08)	(231.17)				
				Panel B: Components				
Bank savings	12.00	11.53	1.34	19.53	(0.94)	(0.07)	(0.06)	2069
	(0.04)	(0.04)	(0.79)	(88.83)				
SACCO savings	1.76	1.78	3.42	12.68	(1.00)	(0.68)	(0.67)	2069
	(0.65)	(0.64)	(0.36)	(65.28)				
Village Savings Account	15.67	24.75	6.60	31.87	(0.12)	(0.10)	(0.00)	2069
	(0.00)	(0.00)	(0.19)	(83.74)				
Other savings	24.15	31.26	10.17	24.50	(0.30)	(0.01)	(0.00)	2069
	(0.00)	(0.00)	(0.02)	(64.06)				

Note: Panel A reproduces the results of Table 3. Eicker-Huber-White p-values are in parentheses. Panel B presents the treatment effect on each component of the index separately (p-values in parentheses). The dependent variables are the total amount saved in 1000 UGX at the time of the survey in: (1) Banks, (2) Savings and Credit Cooperative Organizations (SACCO); (3) Village savings accounts; (4) Informal savings. The average exchange rate for 2013 was 2584.88 UGX to a USD$ or 1036.87 UGX to a USD$. In column (T0), we present the average value of the variable in the control group at baseline and its standard deviation in parentheses. We regress the various outcomes of interests on dichotomous variables for whether participants are in the first treatment arm (T1), second treatment arm (T2), or last treatment arm (T3), leaving the control group as the excluded group. We also include strata fixed effects and control for the outcomes at baseline in all regressions. Under the "Test of Equality" columns, we present the heteroskedasticity-robust p-values of t-tests of equality between the coefficients of different treated groups.

Table C17: OLS Intent to Treat Estimates One Month Post T1/T2 Grants for Borrowing in 1000 UGX

	Grant	Grant+ Planning	Grant Delayed 1-Year	Control	Tests of Equality			
	(T1)	(T2)	(T3)	(T0)	T1=T2	T1=T3	T2=T3	N
Statistics / Variables	Beta (p-value)	Beta (p-value)	Beta (p-value)	Mean (SD)	(p-value)	(p-value)	(p-value)	
Panel A: Primary Results								
Total Owed	-26.77	-40.53	-37.55	221.92	(0.52)	(0.57)	(0.86)	2133
	(0.25)	(0.06)	(0.05)	(489.09)				
Panel B: Components								
Family	-3.14	-5.75	-1.29	49.00	(0.78)	(0.84)	(0.69)	2133
	(0.69)	(0.54)	(0.89)	(158.70)				
Banks	0.64	3.80	-7.05	48.93	(0.86)	(0.53)	(0.47)	2133
	(0.97)	(0.84)	(0.59)	(308.84)				
Savings group	-8.04	-8.62	-3.66	38.09	(0.91)	(0.39)	(0.29)	2133
	(0.28)	(0.23)	(0.60)	(158.28)				
MFIs	8.77	-1.65	-2.88	20.42	(0.33)	(0.20)	(0.86)	2133
	(0.37)	(0.84)	(0.61)	(112.17)				
Moneylenders	1.56	-0.61	0.59	0.64	(0.26)	(0.64)	(0.13)	2133
	(0.43)	(0.14)	(0.51)	(9.52)				
NGOs	-0.70	-3.25	-1.06	6.35	(0.38)	(0.90)	(0.32)	2133
	(0.84)	(0.32)	(0.72)	(60.58)				
Age advances	4.81	0.74	-2.13	2.33	(0.60)	(0.36)	(0.08)	2133
	(0.54)	(0.74)	(0.29)	(43.40)				
School fees	-13.43	-9.35	-3.72	29.25	(0.44)	(0.07)	(0.34)	2133
	(0.05)	(0.19)	(0.63)	(206.87)				
Landlord	-6.24	-5.10	-7.88	15.71	(0.89)	(0.82)	(0.56)	2133
	(0.50)	(0.49)	(0.27)	(151.11)				
Airtime	-0.57	-0.42	-0.56	0.58	(0.18)	(0.83)	(0.21)	2133
	(0.31)	(0.46)	(0.32)	(12.93)				
Shopkeepers	-0.48	-0.52	0.05	1.45	(0.87)	(0.16)	(0.10)	2133
	(0.33)	(0.29)	(0.93)	(10.20)				
In-kind	-1.53	-1.80	-1.99	6.84	(0.91)	(0.80)	(0.93)	2133
	(0.58)	(0.53)	(0.42)	(52.17)				
Other	-0.53	5.85	-1.19	6.26	(0.45)	(0.77)	(0.40)	2133
	(0.84)	(0.49)	(0.64)	(48.11)				

Note: Panel A reproduces the results of Table 2. Eicker-Huber-White p-values are in parentheses. Panel B presents the treatment effect on each component of the index separately (p-values in parentheses). The dependent variables are the total amount borrowed in 1000 UGX at the time of the survey from different sources (the average exchange rate for 2013 was 2584.88 UGX to a USD$ or 1036.87 UGX to a USD$.) In column (T0), we present the average value of the variable in the control group at baseline and its standard deviation in parentheses. We regress the various outcomes of interests on dichotomous variables for whether participants are in the first treatment arm (T1), second treatment arm (T2), or last treatment arm (T3), leaving the control group as the excluded group. We also include strata fixed effects and control for the outcomes at baseline in all regressions. Under the "Test of Equality" columns, we present the heteroskedasticity-robust p-values of t-tests of equality between the coefficients of different treated groups.

Table C18: OLS Intent to Treat Estimates One Year Post T1/T2 Grants for Borrowing

	Grant	Grant+ Planning	Grant Delayed 1-Year	Control	Tests of Equality			
	(T1)	(T2)	(T3)	(T0)	T1=T2	T1=T3	T2=T3	N
Statistics / Variables	Beta (p-value)	Beta (p-value)	Beta (p-value)	Mean (SD)	(p-value)	(p-value)	(p-value)	
				Panel A: Primary Results				
Total Owed	27.21	9.73	-20.78	249.38	(0.54)	(0.07)	(0.21)	2069
	(0.35)	(0.72)	(0.40)	(513.38)				
				Panel B: Components				
Family	20.54	20.66	18.35	37.51	(0.99)	(0.86)	(0.88)	2069
	(0.03)	(0.11)	(0.07)	(120.66)				
Banks	-24.26	-15.26	-29.93	76.21	(0.70)	(0.77)	(0.52)	2069
	(0.34)	(0.57)	(0.22)	(506.53)				
Savings group	-1.52	8.48	1.32	35.61	(0.13)	(0.67)	(0.25)	2069
	(0.82)	(0.17)	(0.83)	(105.48)				
MFIs	35.31	4.21	18.81	27.14	(0.08)	(0.48)	(0.47)	2069
	(0.04)	(0.74)	(0.34)	(199.93)				
Moneylenders	1.12	-0.05	-0.44	1.52	(0.47)	(0.26)	(0.75)	2069
	(0.46)	(0.97)	(0.67)	(19.12)				
NGOs	2.36	0.54	0.37	1.70	(0.15)	(0.14)	(0.86)	2069
	(0.06)	(0.53)	(0.71)	(13.25)				
Age advances	-0.51	-1.18	-2.44	2.87	(0.65)	(0.14)	(0.15)	2069
	(0.76)	(0.43)	(0.05)	(28.07)				
School fees	2.33	1.83	-11.51	48.16	(0.95)	(0.03)	(0.06)	2069
	(0.76)	(0.81)	(0.09)	(139.05)				
Landlord	-5.01	1.23	-7.56	21.76	(0.54)	(0.74)	(0.24)	2069
	(0.60)	(0.89)	(0.29)	(137.97)				
Airtime	-0.01	0.02	0.02	0.10	(0.22)	(0.43)	(0.85)	2069
	(0.77)	(0.40)	(0.61)	(0.42)				
Shopkeepers	0.66	-0.76	0.24	3.89	(0.24)	(0.77)	(0.32)	2069
	(0.63)	(0.41)	(0.84)	(17.91)				
In-kind	8.65	5.93	2.56	1.24	(0.51)	(0.11)	(0.10)	2069
	(0.02)	(0.01)	(0.08)	(8.39)				
Other	-0.41	-1.10	-1.15	2.76	(0.63)	(0.59)	(0.97)	2069
	(0.80)	(0.48)	(0.45)	(28.83)				

Note: Panel A reproduces the results of Table 3. Eicker-Huber-White p-values are in parentheses. Panel B presents the treatment effect on each component of the index separately (p-values in parentheses). The dependent variables are the total amount borrowed in 1000 UGX at the time of the survey from different sources (the average exchange rate for 2013 was 2584.88 UGX to a USD$ or 1036.87 UGX to a USD$.) In column (T0), we present the average value of the variable in the control group at baseline and its standard deviation in parentheses. We regress the various outcomes of interests on dichotomous variables for whether participants are in the first treatment arm (T1), second treatment arm (T2), or last treatment arm (T3), leaving the control group as the excluded group. We also include strata fixed effects and control for the outcomes at baseline in all regressions. Under the "Test of Equality" columns, we present the heteroskedasticity-robust p-values of t-tests of equality between the coefficients of different treated groups.

D Data Appendix

D.1 Indexes

Food security: This index captures the extent to which household members went to bed hungry, did not eat for complete days, and did not have any food in the house during the 4 weeks prior to the survey. In particular, the following questions were asked:

- In the past 4 weeks, how often was there no food to eat of any kind in your house because of lack of money or resources to get food?
- In the past 4 weeks, how often did you or any household member go to sleep at night hungry because there was not enough food?
- In the past 4 weeks, how often did you or any household member go a whole day and night without eating anything at all because there was not enough food?

For each question, the individuals chose one of the four following answer choices: never, rarely (1-2 times during the last 4 weeks), sometimes (3-10 times), and often (more than 10 times). The score of the choices are 0,-1,-2, and -3, respectively. In the main analysis, we sum the scores across all 3 questions. Then, we normalize the total score to be mean 0 and standard deviation 1 in the control group at baseline.

Dietary diversity: This variable captures whether different foods were consumed in the 7 days prior to the survey. The following food items were included: (1) Cereals; grains and cereal products such as flours; (2) Roots, tubers and matooke bananas; (3) Nuts and pulses/legumes; (4) Vegetables; (5) Meat, fish and animal products such as eggs and dried meat; (6) Fruits; (7) Milk and dairy products; (8) Fats and oil; (9) Sugars, honey, and sugar products such as jams and sweets; (10) Spices including salt, condiments, and beverages. We asked if the food items were consumed (score=1) or not (score=0). In the main analysis, we sum the scores across all 10 food items. Then, we normalize the total score to be mean 0 and standard deviation 1 in the control group at baseline.

Income-Generating Activities: This index essentially captures the number of sources of income of the participants' household. We asked whether their household: (1) Grows crops for profits; (2) Raises animals for profits; (3) Number of other business(es) owned. The IGA count is the sum of these 3 variables.

Housing Conditions: This variable encompasses the dwelling quality of the participants and their household. To capture the quality of the participant's dwelling, we ask (1) The number of rooms there are in the dwelling that we divide by the number of members; (2) Whether the household owns the dwelling; (3) Whether the dwelling has a roof made of iron or similar sturdy material; (4) Whether it has concrete walls,(5) concrete floors, and (6) electricity; (7) Whether the household has its own latrine and (8) has access to water from a protected source such as a protected well or a protected spring. To construct the index, we first do a Principal Component Analysis (PCA) at baseline and define the raw index as the first component (see Filmer and Pritchett (2001)). At endline, we compute the raw index using the loadings of the first component at baseline. Then, we normalize the raw index to be mean 0 and standard deviation 1 in the control group at baseline.

Durable Assets: This index captures the asset ownership of the participant and their household. We ask how many: (1) Phones, (2) radios, and (3) televisions their household owns. We also ask how many: (4) Bicycles, (5) motorcycles, and (6) cars they possess. We perform the same PCA procedure as above to define index.

Mental Health: We measure the participant's: (1) Self-esteem using Rosenburg's 5-point scale; (2) Rotter's locus of control which measures the participant's beliefs in being able to influence the events that happen in their lives; (3) Optimism today, and (4) optimism in 5 years. Optimism is measured using Cantril's ladder where participants are asked where they see their life today and in 5 years on a scale of 0-10 with 10 being the best possible life for them. Questions related to mental health were only asked at endline. The mental health index is obtained by doing a PCA at endline and normalized to be mean 0 and standard deviation 1 in the control group at endline since the mental health questions were only asked then.

D.2 Continuous variables

Work hours time use: We asked the participants how they divided their active hours during the week (7 days) prior to each survey. We asked about hours spent: (1) On domestic tasks; (2) Working in their own busines(es) (self-employed work); (3) Working for pay other than self-employed work; (4) Volunteering; (5) Looking for work; (6) Attending school; (7) Doing other activities excluding leisure times. We define total work hours as the sum of self-employed work hours and hours worked

for pay.[26]

Household expenditures: In this module, we asked about household expenditures in the three weeks prior to the survey. We asked about expenditure on: (1) Food; (2) Rent; (3) Non-durables such as toilet paper, cleaning products and personal care items; (4) Durables such as bicycles, cars, furniture and appliances; (5) Clothes; (6) School fees and related expenditures; (7) Gifts and donations; (8) Equipment, inputs, and other expenditures related to subsistance farming; (9) Other expenditures. We sum the expenditures across all 9 categories to obtain the aggregate household expenditure.

Business expenditures: The broad category of business expenditures captures the amount spent on the household's business(es) in the three weeks prior to the survey. This excludes expenditures in subsistence farming and other subsistence activities. Participants were asked how much was spent on: (1) Rent for land and buildings; (2) Inputs of production such as fertilizer and other intermediary inputs; (3) New equipment such as tools, machines, and buildings; (4) Maintenance or repair of equipment; (5) Transportation of products, self and employees; (6) Salaries, wages and compensations to employees, excluding own pay; (7) Purchase of inventory for resell; (8) Other expenditures. We sum the expenditures across all 8 categories to obtain aggregate business expenditures. We also asked questions about business revenues and profits in this module.

Saving and Borrowing: We inquired about the participant's savings by asking how much total savings they had at the time of the survey: (1) In banks; (2) In Savings and Credit Cooperative Organizations (SACCO); (3) In village savings account; (4) In informal savings. The sum of all 4 categories, of which the first 3 are formal saving components, represent the overall amount saved.

In terms of borrowing, we ask the total amount owed at the time of the survey to different individuals and institutions. The borrowing sources considered are: (1) Family members; (2) Banks; (3) SACCO and village groups; (4) Microfinance institutions (MFIs); (5) Moneylenders; (6) NGOs; (7) Wage advances; (8) Advances on school fees; (9) Advances from landlords; (10) Phone airtime loans or advances; (11) Advances or credit from shopkeepers; (12) Value of in-kind debt; (13) Other debts. Overall borrowing is the sum of the amount owed across all categories.

[26] In the main analysis, we winsorize the top and bottom 1% of values of total work hours, total expenditures, total savings and borrowing to account for outliers. When looking at individual components of these aggregates, we use the winsorized values of these components, also winsorized at the top and bottom 1%.