Evaluating the sustainability of the productive effects of a universal cash transfer in rural Uganda: Do impacts on savings, investment, production and labour persist after program end?

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Abstract

The productive impacts of cash transfer (CT) programs have not been extensively analysed, but the related interest is rising, with the available evidence base pointing at rather positive findings. Nevertheless, the most important insight returned by the existing proofs is the disproval of one of the main criticisms drawn against UBI, and social assistance programs in general – namely, the hypothesis that CTs would disincentivize work.

Even less is known about the sustainability of CT impacts, as these are traditionally conceptualized as short-term social interventions. We conducted a quasi-experimental study of a universal unconditional cash transfer initiative – a UBI pilot – in rural Uganda to explore whether effects on savings, debt, investment, incomes, assets and labour allocation (if any) remain after the end of the transfer. Our findings highlight that, despite the concurrent outbreak of COVID-19, sustained impacts were recorded on, amongst others, savings, (agricultural) incomes and business ownership.

Keywords: cash transfers, basic income, savings, investment, labour, Uganda

1. Introduction

Cash transfers (CTs) are typically conceptualized as temporary interventions, with the main goals of alleviating monetary poverty and smoothing recipients' consumption patterns. As such, they are generally not intended to yield any other than 'protective' effects (Hajdu et al., 2020). Nevertheless, the available evidence has by now proved that CTs do positively impact a wide variety of outcomes – spanning food security, social capital, and women's empowerment (Bastagli et al., 2019; Kabeer et al., 2012). Most surprisingly, even though only a relatively small number of sources have sought to investigate them (Daidone et al., 2019), beneficial cash transfer effects on 'productive' outcomes (i.e., savings, investment, assets, labour force participation and incomes; Hajdu et al., 2020) were also detected (Daidone et al., 2019). The latter acknowledgement is especially surprising given that one of the most typical and common criticism to cash transfers, UBI, and social assistance in general, is the idea that they would disincentivize work (Baird et al., 2018; Gentilini et al., 2020). It is indeed often argued that, on a theoretical level, increases in disposable earnings and consumption security provided by an additional (and guaranteed) source of income could be associated with a decrease in labour supply and work effort (Baird et al., 2018; Bastagli et al., 2016). However, the existing evidence tends to disprove this claim: in most cases, in fact, the receipt of CTs is not associated with statistically significant changes in beneficiaries' work participation and intensity (Barrientos & Villa, 2013; O'Brien et al., 2013; Bastagli et al., 2019; Blattman et al., 2016). Even when significant reductions in the latter variables were computed, as a result of cash transfers, these impacts could be attributed to the role of the elderly, and of casual work (Ardington et al., 2009; Cheema et al., 2014; Kassouf & De Oliveira, 2012). Similar conclusions were reached by a systematic review of the effects of UBI on labour supply (de Paz-Báñez et al., 2020). In the case of child labour, the available proofs with statistically significant findings show decreases in both its prevalence and intensity – consistently with concomitant improvements in school attendance (Attanasio et al., 2010; Galiani & McEwan, 2014).

Positive CT repercussions on labour patterns might be spurred by – and are dependent on – beneficial effects on other productive proxies (Barrientos, 2012). In this sense, the available evidence tends to validate the theoretical supposition that a predictable income source can help recipients overcome liquidity, savings, and credit constraints, and by enabling investments, ultimately allow program participants to sustainably improve their livelihood conditions (Bastagli et al., 2019). While CT impacts on savings, ownership, and purchase of agricultural inputs and livestock are consistently positive (and often statistically significant; Daidone et al., 2014; Merttens et al., 2016), the direction of the effects on borrowing, assets, and business patterns is less clear, besides reliant on a smaller evidence base (Asfaw et al., 2014; Maluccio, 2010).

Given the capacity of CTs to spur productive outcomes, more recent debates have been reconsidering their ability to yield long-lasting and transformative effects on recipient communities (Daidone et al., 2015; Devereux & Sabates-Wheeler, 2004; Molyneux et al., 2016). Previously, in fact, it was often assumed that social cash transfers were not adequate tools, by themselves, to build permanent and sustainable livelihoods (Devereux & Sabates-Wheeler, 2015). Grounding on this misconception, asset-based approaches to social protection, such as 'graduation' programs (Devereux & Sabates-Wheeler, 2015; Hashemi & Umaira, 2011) arose, whereby cash is coupled with a combination of training, assets, savings, or credit (Roelen & Devereux, 2019). As a consequence, relatively little is known about the 'sustainability' of CT effects (i.e., persistence after program end; OECD, 2021), on any outcome area (deleted for blind review; deleted for blind review; Molina-Millán et al., 2019). Nevertheless, the few available sources have confirmed that even pure income transfers possess the capacity to foster investment in human capital and in productive assets (Barrientos, 2012), with sustained post-program impacts on proxies of savings, labour participation, and incomes (Hahn et al., 2018; Neidhöfer & Niño-Zarazúa, 2019; Oliveira & Chagas, 2020). Producing additional related evidence is fundamental, when taking into account that the strengthened productive capacity offered by CTs could even lead recipients to attain sustained

growth in incomes (Barrientos, 2012), and ultimately, to 'graduate' from programs, namely, to permanently escape the 'poverty trap' (Daidone et al., 2015; Sabates-Wheeler & Devereux, 2013) – even without the provision of complementary interventions alongside cash. In this context, we followed a universal unconditional mobile cash transfer (UCT) initiative – a UBI experiment – which took place in Uganda between 2017 and 2019, through three different data collection rounds. The last survey, conducted in 2021, approximately two years after the end of the transfer, allowed us to investigate whether previously observed CT impacts on productive outcomes were sustained over time, or not.

The rest of the document is structured as follows: Section 2 introduces the main concepts used in the study besides formulating specific research questions and hypotheses. Section 3 presents the context of the program, and the study's methodology. Section 4 discusses the results of the sustainability analysis. Finally, Section 5 concludes and identifies some limitations and implications for future research.

2. Literature review

2.1 The productive effects of cash transfers

While cash transfers are generally only intended to be *protective* interventions aimed at consumption smoothing and risk mitigation, some recent studies have begun to explore their *productive* effects as well (Hajdu et al., 2020). 'Productive impacts' of CTs refer to beneficial consequences on the outcomes that can facilitate poor households in improving their long-term living standards and livelihoods (Davis et al., 2016; Handa et al., 2018). Despite broadly relating to a wide arrange of variables – including time use, labour, access to land, credit, insurance, savings, social networks, and migration (Handa et al., 2018) – the term mainly encompasses labour allocation, asset investment, and risk-coping strategies (Covarrubias et al., 2012). Drawing upon Bastagli et al. (2019)'s framework to study CT effects, our research distinguishes between ***savings, investment and production*** (including involvement in business and enterprise) and ***employment*** (e.g., labour force participation and its intensity, labour income, child labour, migration; *Figure 1*).

Figure 1. Outcome domains of interest, extracted from Bastagli et al. (2019)

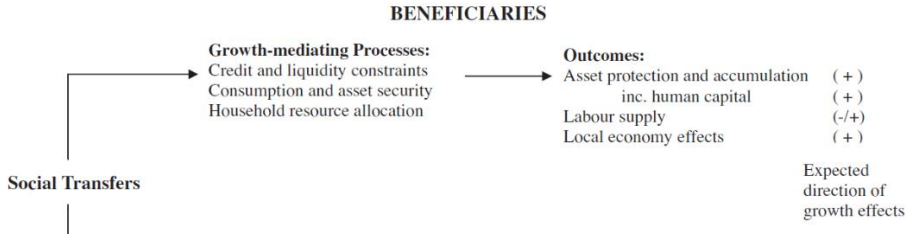
Savings, investment and production	Employment
Household savings	Adult labour force participation
Borrowing	Child work
Agricultural productive assets	Adult labour intensity
Agricultural input expenditure	Child labour intensity
Livestock ownership	Adult labour force participation and intensity by sector
Involvement in business and enterprise	Child work and intensity by sector
	Migration

This distinction is not only necessary for thematic categorization purposes, but also because effects on the two domains are triggered at different points in time, with potentially dissimilar theories of change (Bastagli et al., 2016). In this regard, the proven capacity of cash transfers to yield impacts on a large variety of outcome areas (Bastagli et al., 2019) – beyond the typically declared objective

of poverty and vulnerability reduction – has pushed scholars to build theoretical frameworks aimed at explaining how different sorts of effects are entangled among each other – in other words, at establishing chains of events that would allow to rationalize a logical succession in interrelated program consequences. In this sense, the dimensions affected by CTs have often been differentiated into first-, second-, and third-order effects (Bastagli et al., 2016). The first category groups together income and expenditure impacts that could be immediately triggered by the receipt of the assistance – including those on food and non-food consumption, savings, investment and production. The second type relates to intermediate consequences, such as improvements in health and education, food security and labour participation. Finally, third-order effects can be seen in the medium and long terms, spanning social capital, livelihood strategies diversification, and resilience.

Several theoretical frameworks on CT impacts also put forward that effects on outcomes such as investment, labour and assets could be interrelated (Baird et al., 2018; Barrientos, 2012; Bastagli et al., 2016; Tirivayi et al., 2016). For instance, according to Barrientos (2012), cash transfers could positively affect asset protection and accumulation, labour supply, and more in general, the local economy, through pathways of change activated by yielding benefits on other variables (the so-called 'growth-mediating factors'; Banerjee & Duflo, 2005; Barrientos, 2012; *Figure 2*). More specifically, it is claimed that a guaranteed and predictable source of income could help households lift liquidity, savings and credit constraints, enabling investments and ultimately spurring improvements in recipients' livelihoods and labour patterns. Other growth-mediating factors include enhanced consumption and asset security, and an improved household resource allocation (Barrientos, 2012). Nevertheless, the relationship between these elements and the end result is not linear, as individual outcomes depend on a variety of constraining and enabling factors operating outside of recipients' control – including market conditions, community investment, and effects of scale (Devereux & Ulrichs, 2015) – and on personal features. Gender, for example, might play a key role, particularly in rural Southern contexts, where women generally own fewer productive assets, and face wage discrimination, alongside other structural and cultural constraints (FAO, 2011; Peterman et al., 2010).

Figure 2. Basic framework linking cash transfers and improvements in productive capacity (Barrientos, 2012)



2.2 The sustainability of (productive) CT impacts

Another overlooked topic, that has only recently begun gaining traction, is the 'sustainability' of CT effects – defined, by the OECD's Development Assistance Committee, as the "extent to which the net benefits of the intervention continue or are likely to continue" (OECD, 2021, p.71). Productive outcomes and the sustainability of a CT's impacts might be closely linked, as benefits on the former can enable program recipients to improve their livelihood patterns, in the long run (Davis et al., 2016; Hajdu et al., 2020; Handa et al., 2018). In this sense, some of the most common criticisms against CTs – such as the hypothesis that cash-only transfers could possibly generate work disincentives (Baird et al., 2018; Bastagli et al., 2016) – are in fact related to the existing skepticism around their ability to positively impact productive outcomes, grounding on the idea that these programs do not represent adequate instruments to build sustainable livelihoods and resilience against shocks (Devereux & Sabates-Wheeler, 2015). Strictly connected to resilience and livelihood promotion is then the concept of sustained 'graduation', stemming from the perceived necessity of enabling beneficiaries not to fall back into poverty soon after exiting it (Barrientos, 2012; Devereux & Sabates-

Wheeler, 2015). Such urge fostered the rise, in the 1990s (Ellis, 2000; Sen, 1997) of alternative asset-based approaches to social protection. These notably include graduation programs (Devereux & Sabates-Wheeler, 2015; Hashemi & Umaira, 2011), which couple (generally lump-sum) cash with a combination of training, savings, credit, and productive assets (Roelen & Devereux, 2019). Such project designs and configurations reflect the idea that positive CT repercussions persisting in the long run could only be attained by fulfilling the conditions for sustained income growth (Barrientos, 2012), namely through complementary interventions (Roelen et al., 2017) on proxies of savings, investment, production, and labour.

Nevertheless, the available evidence – although relatively scarce (EPAR, 2017; Molina-Millán et al., 2019) – seems to dismiss the argument that cash transfers could not yield long-lasting impacts on beneficiaries' livelihoods. As a matter of fact, while empirical proofs from the already introduced 'graduation' programs tend to confirm that they positively impact proxies of savings, investment, assets, and labour, in the long term (Bandiera et al., 2017; Banerjee et al., 2015; Sabates-Wheeler et al., 2018; Sedlmayr et al., 2020), the same statement also holds for cash-only projects. On savings, for instance, the evidence returns exclusively positive insights (deleted for blind review) – with the exception of a study of a CT in Lebanon (Altındağ & O'Connell, 2023) – such as in the case of cash transfers in Niger, where the program spurred the participation in savings' groups (Stoeffler et al., 2020). On the contrary, the only available empirical proof on investment found negative impacts of the Colombian program *Familias en Acción on* discounting behaviour, up to 9 years since the end of exposure (Contreras Suarez & Cameron, 2020). CT effects on assets were always sustained, as computed by 3 available pieces of evidence: long-lasting program impacts were, for example, measured on non-land assets' value in the context of GiveDirectly transfers in Kenya (Haushofer & Shapiro, 2018), and on an index of durable goods as a result of Mexico's *PROGRESA* (Parker & Vogl, 2018), besides on the value of owned livestock in the case of the already cited paper on Niger (Stoeffler et al., 2020). The evidence on labour patterns is also positive, concerning both work status and incomes. Labour market participation increased in the long-term in both Brazil (Oliveira & Chagas, 2020) and Honduras (Ham & Michelson, 2018), while statistically significant positive impacts on labour income were recorded, for instance, in the context of *Chile Solidario*, up to 10 years after receiving the last transfer (Neidhöfer & Niño-Zarazúa, 2019). More inconsistent patterns arise from the study of the sustainability of CT impacts on proxies of child labour (Alam et al., 2011; Avitabile et al., 2019) and migration (Barham et al., 2018; Rodriguez-Oreggia & Freije, 2012).

2.3 Research questions and hypothesized effects

Drawing upon the above literature review, the study's main research questions were whether the analysed CT did yield any ***productive effects*** on recipients, and if so, whether these persisted ***after the end*** of the program, or not. On the basis of the presented theoretical frameworks and the available empirical evidence, a few initial hypotheses could be formulated (*Table 1*).

Table 1. Hypothesized productive effects (and their sustainability) of the analysed CT.

Outcomes and indicators	Effect direction	Sustained?
Savings, investment and production		
Savings and debt	+	Yes
Investment	+	
Assets	+/-	Yes
Business and enterprise	+/-	Yes
Employment		
Labour supply and incomes	+	Yes
Child labour	-	
Migration	+/-	

In particular, it is argued that the cash transfer program could positively affect savings, debt, investment, and labour patterns, whereas there is less clarity on the direction of the impacts on assets, business, and migration. A reduction in child labour could also be expected (Barrientos, 2012; Bastagli et al., 2016). The eventually observed beneficial effects on savings, assets, business practices, and labour and incomes could be sustained over time, while the impacts on the other variables of interest would probably gradually dissipate (deleted for blind review; Molina-Millán et al., 2019).

3. Data and empirical strategy

3.1 Setting and data collection

This research followed an experiment of universal unconditional mobile cash transfer (UCT), whereby all the adult inhabitants of a rural village in Western Uganda received a monthly transfer from a foreign NGO. The beneficiary village was chosen in order to satisfy a number of sociodemographic, economic and geographical requirements: more specifically, the NGO was opting for a rural and isolated location, and looking for small and poor villages, whose inhabitants were not receiving other social assistance. The CT was also allocated to each child, through additional (halved) payments given to their mothers (when present). The transferred amount was purposefully set to a monetary value – corresponding to 30% of the average income of the local lower income families – which would make a difference for recipients, while still not allowing them to improve their living standards to the extent where they would not need to work anymore (Davala et al., 2015). The universality and unconditionality of the analysed CT (together with a few other features) made it possible for the implementing organization to devise the project as a (small-scale) Universal Basic Income (UBI) experiment (Gentilini et al., 2020). Moreover, by satisfying all criteria of the definition of UBI – and in particular universality, rarely guaranteed by experiments, in this case attained at the village level – the NGO's projects represent some of the few ongoing 'pure' UBI pilots worldwide, and the only ones conducted in Sub-Saharan Africa, alongside GiveDirectly (Gentilini et al., 2020; Stanford Basic Income Lab, s.d.).

For the purposes of this analysis, the CT recipients were interviewed 3 times. The first measurement took place in January 2018 (roughly one year since program inception; midline stage), the second one in January 2019 (just after the end of transfers; endline) and the final survey was carried out in January 2021, two years after the program's finalization (follow-up stage). The last round of data collection, in particular, was conducted with the express aim to investigate the sustainability of eventual CT effects. The same surveying process involved a control village, purposefully selected to closely resemble the treatment group, while being located geographically distant enough, so that it would not be affected by the ongoing CT program (Gertler et al., 2016).

3.2 Data management and analysis

The absence of a baseline measurement – due to the late involvement of the researchers into the project –, together with the characteristics of the available data and of the adopted targeting criteria (or, more accurately, the lack thereof), made a quasi-experimental matching (Gertler et al., 2016) technique the only viable possibility for the evaluation of program impacts. Cash transfer recipients were therefore 'matched' with members of the control group, on the basis of a few objective

covariates (i.e., age, gender[1], educational level and size of the social support network at baseline[2]). The magnitude and significance of impacts were computed by applying two different methods: Mahalanobis Distance Matching (MDM) and, for robustness-checking, Coarsened Exact Matching (CEM). MDM couples observations together according to Mahalanobis distance, namely the distance between two points in the multivariate space (King et al., 2011). CEM coarsens indistinguishable values of covariate variables, then matches units with the exact same values, and finally proceeds to prune the unmatched observations (Iacus, King, & Porro, 2012). These methods were preferred to the more widely used (King & Nielsen, 2019) Propensity Score Matching (PSM) because the latter would not be meaningful in the context of a universal program, given that it matches individuals on the basis of the predicted probability 'to be treated'. On the contrary, MDM and CEM work in the original covariate space[3]. In addition, comparative analyses of effectiveness have demonstrated that PSM increases imbalance, inefficiency, and bias, as opposed to alternative matching techniques (King & Nielsen, 2019). Furthermore, matching tools do not require extensive data sets (Pirracchio et al., 2012). As a consequence, the validity of this study is not hampered by the relatively low number of observations. The matching-derived findings were also partially complemented by some descriptive graphs, which could shed additional light on the pathways driving the evolutions in impacts over time.

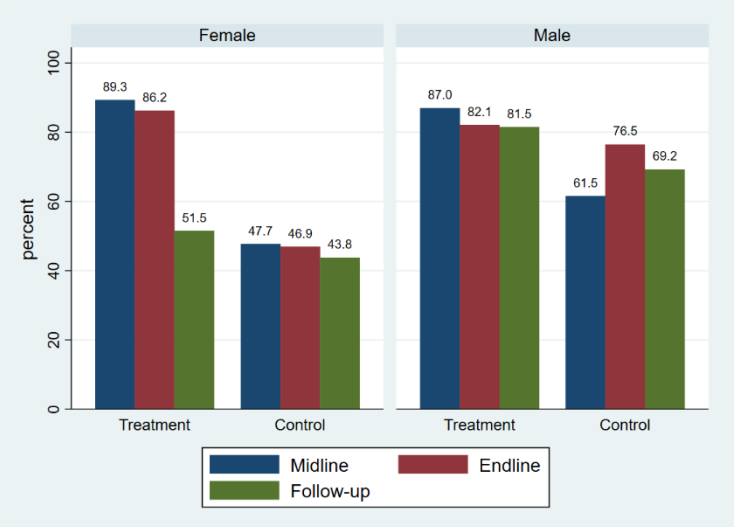
4. Results

This section gives an overview of the main findings obtained through the matching analysis, distinguishing between the two outcome areas of interest described by Bastagli et al. (2019). In addition to the overall evaluation of impacts and of their sustainability, a heterogeneity analysis by gender was also conducted.

4.1 Savings, investment and production

Amongst all, the program impacts on ***savings*** were the most clearly visible, large and sustained over time (*Table 2*). In particular, while the effects on the *amount* of savings were not robust and did not persist beyond the endline stage, positive repercussions on an inquiry whether the recipient HH was saving, or not, were statistically significant on MDM at all data collection rounds. The sustainability of the impacts on savings was further confirmed by the coefficients computed on a comparison question, whereby respondents were asked if they currently had more, less, or the same savings with respect to just before the

Figure 3. % of respondents declaring to be saving



[1] Gender was omitted, when conducting heterogeneity analyses by it, because of collinearity.

[2] As the midline survey included a few 'recall' questions (Nimon et al., 2011; Pratt et al., 2000), asking interviewees to reconstruct their situation of one year earlier (coincident with the start of the CT program; January 2017), it was possible to use the 'baseline' social support network as a covariate for matching. Nevertheless, the same reconstructive process could not be performed for any of the independent variables which represent the focus of this study. The other utilized covariate variables (age, gender and educational level) were chosen because deemed as time-invariant, either in an absolute sense, or in cross-group comparison.

[3] As such, they can be set to produce the same results as exact matching, thereby approximating a fully blocked experimental design with zero imbalance (Iacus, King, & Porro, 2012).

inception of the cash transfers[4]. At follow-up, given the impossibility to disentangle the influence of the (still on-going, back then) COVID-19 pandemic from the values observed at follow-up, interviewees were also requested to compare the state of affairs just before the COVID outbreak with the situation preceding the start of the program. Even if less clearly than the former (given that only CEM returned a statistically significant coefficient) CT impacts on the latter comparison were also positive, providing additional hints at the sustainability of the effects measured on savings. A disaggregation by gender (*Table 6, in the Appendix*) delivered interesting findings as well: while effects were larger for women, during the first two rounds, impacts on the comparison inquiry were more clearly sustained for men at follow-up. *Figure 3* confirms the existence of an abrupt drop in the percentage of women saving money in the treatment group, while the values for all other drawn clusters remained substantially stable, over time. A potential explanation for the latter insight may lie in the fact that women were typically receiving larger cash transfers than men, by being granted the amounts for children, too. While this might clarify why they were initially comparatively more able to save money, as long as the transfer was in place, it may also be the case that households resorted to these enhanced savings to self-sustain themselves once the program was over – especially in the light of the emerging pandemic – as CTs meant for women are often diverted for household uses (de Mel et al., 2012).

Table 2. Sustainability of the effects on savings and debt. Matching: direction, magnitude and significance level of average treatment on the treated (ATT) coefficients of selected indicators.

	Midline		Endline		Follow-up	
Variable [range]	MDM	CEM	MDM	CEM	MDM	CEM
Savings						
Money saved by the HH [0,1]	0.490***	0.289**	0.280**	0.186	0.320**	0.206*
	(0.080)	(0.111)	(0.081)	(0.128)	(0.096)	(0.117)
	[121]	[84]	[107]	[62]	[104]	[83]
HH savings' level (amount) [1,8]	0.980**	0.247	1.043**	0.423	0.681	0.583
	(0.311)	(0.459)	(0.320)	(0.537)	(0.352)	(0.382)
	[117]	[81]	[104]	[62]	[95]	[79]
Comparison with just before program start [-1,1]	0.740***	0.796***	0.531***	0.346*	0.458**	0.658***
	(0.131)	(0.217)	(0.134)	(0.205)	(0.133)	(0.153)
	[112]	[77]	[106]	[62]	[94]	[76]
Comparison pre-COVID situation with just before program start[+] [-1,1]					0.125	0.330*
					(0.149)	(0.181)
					[92]	[75]
Debt						
HH debt's level (amount) [1,8]	0.792	0.140	0.604	-0.128	-0.447	-0.121
	(0.376)	(0.506)	(0.420)	(0.506)	(0.393)	(0.407)
	[116]	[80]	[104]	[62]	[99]	[83]
Comparison with just before program start [-1,1]	-0.385*	-0.323	-0.280	-0.103	-0.304	-0.172
	(0.131)	(0.204)	(0.150)	(0.254)	(0.148)	(0.169)
	[116]	[78]	[106]	[62]	[97]	[79]

Legend: * '0.1' ** '0.05' *** '0.01'. MDM = Mahalanobis Distance Matching; CEM = Coarsened Exact Matching. (Robust) standard errors in brackets, number of observations in squared parentheses. [+] follow-up-only variable.

At the same time, ***debt*** was not affected by the cash transfer in a robust manner. As a matter of fact, even if MDM registered a slightly significant reduction in debt on the comparison variable at midline, the latter finding was not confirmed by CEM, and did not last over time. Moreover, no significant coefficient was computed on households' *amount* of debt. Interestingly, the heterogeneity analysis by gender clarified that the observed effects were led by men, with robust reductions on the comparison inquiry at midline, and a slightly significant decrease in debt at follow-up (but just according to CEM) only computed for male respondents. Once again, this finding might be ascribed

[4] In the case of the control group, interviewees were asked instead to compare their current situation with just before the first interview we conducted.

to the diversion of women's money to HH uses, while men would typically be freer to spend their CTs on themselves (de Mel et al., 2012).

The cash transfer did not seem to have substantially spurred ***investment***, with very few statistically significant coefficients on the invested amounts (since program inception) and on the number of expenditure categories on which money was invested, both concerning agriculture and non-agriculture (*Table 3*). For instance, significant increases in invested amounts, recorded through MDM only, did not last past the midline stage. Nevertheless, a couple of interesting insights could also be extracted for this outcome area. For instance, a robust, statistically significant and positive impact on whether money was invested or not, was measured at follow-up. Apparently, recipient households were then still able to keep investing – possibly in alternatives to subsistence agriculture – on the contrary of non-beneficiary ones, in spite of the end of transfers and of COVID-19. Interestingly, effects on the binary investment inquiry were larger and more significant for men, possibly in accordance with their previously observed larger savings.

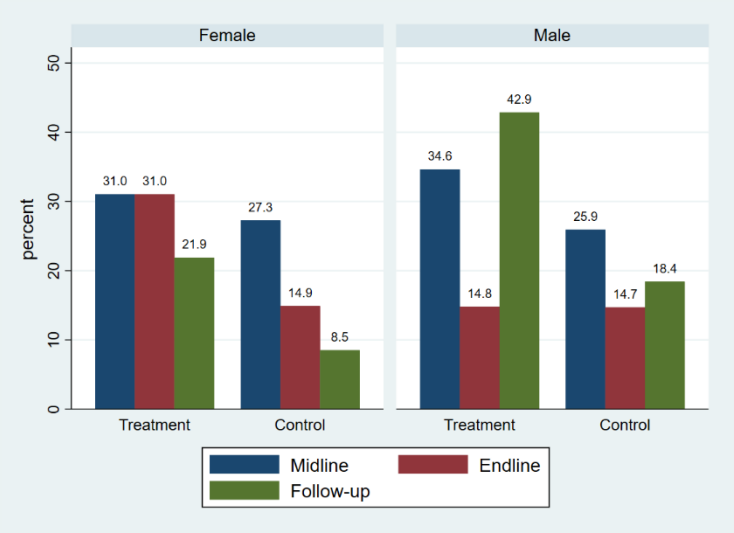
Assets, operationalized as ownership of the cultivated land and as the total number of owned agricultural tools, were also not positively affected by the program, with very little differences by gender. CEM computed a statistically significant improvement on the former variable, with recipients owning the land they worked on more than their control counterparts, but these positive impacts were not maintained 2 years after program closure.

Table 3. Sustainability of the effects on investment, assets, and business. Matching: direction, magnitude and significance level of average treatment on the treated (ATT) coefficients of selected indicators.

	Midline		Endline		Follow-up	
Variable [range]	MDM	CEM	MDM	CEM	MDM	CEM
Investment						
Money spent on investment+ [0,1]					0.385***	0.263**
					(0.101)	(0.115)
					[105]	[85]
Amount invested by the HH in agriculture since program start [1,8]	0.906***	0.069	0.021	0.162	-0.640	-0.309
	(0.339)	(0.294)	(0.368)	(0.221)	(0.461)	(0.227)
	[123]	[82]	[102]	[60]	[103]	[81]
Number of agricultural expenditure categories on which money was invested [0,4]	-0.073	-0.176	-0.260	-0.308	-0.115	-0.064
	(0.188)	(0.160)	(0.206)	(0.286)	(0.094)	(0.071)
	[126]	[84]	[107]	[62]	[107]	[87]
Amount invested by the HH in non-agriculture since program start [1,8]	0.741**	0.243	0.553	-0.069	-0.020	-0.065
	(0.343)	(0.333)	(0.413)	(0.385)	(0.487)	(0.308)
	[122]	[82]	[102]	[61]	[96]	[79]
Number of non-agricultural expenditure categories on which money was invested [0,4]	0.036	-0.050	-0.140	-0.173	0.058	0.075
	(0.026)	(0.085)	(0.086)	(0.138)	(0.063)	(0.076)
	[126]	[84]	[107]	[62]	[107]	[87]
Assets						
Ownership of cultivated land [0,1]	0.074	0.080	0.000	0.345**	-0.078	0.023
	(0.232)	(0.213)	(0.171)	(0.140)	(0.176)	(0.196)
	[122]	[81]	[104]	[61]	[106]	[86]
Total number of agricultural tools owned by the HH [1,6]	-0.036	0.226	0.260	0.096	0.058	-0.058
	(0.227)	(0.158)	(0.235)	(0.169)	(0.174)	(0.132)
	[126]	[84]	[107]	[62]	[107]	[87]
Business and enterprise						
Ownership of currently operational business [0,1]	0.127	0.043	0.041	0.132	0.313***	0.139
	(0.106)	(0.133)	(0.117)	(0.104)	(0.100)	(0.090)
	[126]	[84]	[104]	[61]	[100]	[83]
Ownership of failed business [0,1]	-0.109	0.044	-0.245**	-0.179	-0.333**	-0.253**
	(0.094)	(0.076)	(0.106)	(0.144)	(0.128)	(0.108)
	[126]	[84]	[104]	[61]	[100]	[83]
Having experienced negative effects of COVID-19 on business+ [0,1]					-0.278	-0.415*
					(0.260)	(0.209)
					[25]	[16]

Legend: * '0.1' ** '0.05' *** '0.01'. MDM = Mahalanobis Distance Matching; CEM = Coarsened Exact Matching. (Robust) standard errors in brackets, number of observations in squared parentheses. + follow-up-only variable.

Figure 4. % of respondents with an operational business



Lastly, CT impacts on ***business and enterprise*** were only visible at follow-up, coherently with the idea that they take a longer time to become manifest (Bastagli et al., 2016; de Mel et al., 2012). As a matter of fact, while no statistically significant coefficient was computed, on the related proxies, at the first two data collection rounds, a positive effect on the ownership of operational businesses was found at follow-up – although only measured by MDM. Interestingly, women were the only gender with statistically significant impacts, even though both genders seemed to be performing better than their control counterparts – especially at follow-up (*Figure 4*). Robust reductions on having owned a failed business were also detected at the final stage. Furthermore, the CT seemed to have also partially protected beneficiaries' enterprises from COVID-19, with (only) CEM finding out that recipients were less likely to have experienced negative influences of the pandemic on their businesses (although the number of observations for this variable is particularly low).

4.2 Employment

The effects on ***agricultural labour*** were hardly visible for what concerns the intensity of work, operationalized as the average hours worked each week (*Table 4*). As a matter of fact, no statistically significant coefficient was computed on the variable. The same acknowledgement held true for the related 'comparison' inquiry, whereby the only significant figure was measured by CEM at the endline stage. Overall, then, there was no evidence that recipients changed their agricultural labour patterns over time. Interestingly, however, some indications of an increase in incomes were actually found. In fact, while the average income level of the treatment village seemed to be lower than the control group's one – at least at midline – the former appeared to be growing faster than the latter ones, as demonstrated through the income comparison variable. In particular, while the most clear and robust – and large in magnitude – impacts on the comparison inquiry were the follow-up ones, MDM coefficients were statistically significant at all stages, providing partial hints at the sustainability of the effects on incomes from agriculture. The disaggregations by gender (*Table 7, in the Appendix*) returned a few interesting insights: men were less likely to work (but only at follow-up) than their control counterparts, while still earning more (comparison question), as a result of the program, until endline. Nevertheless, the comparison variable also detected that income effects at follow-up were larger and only statistically significant for women.

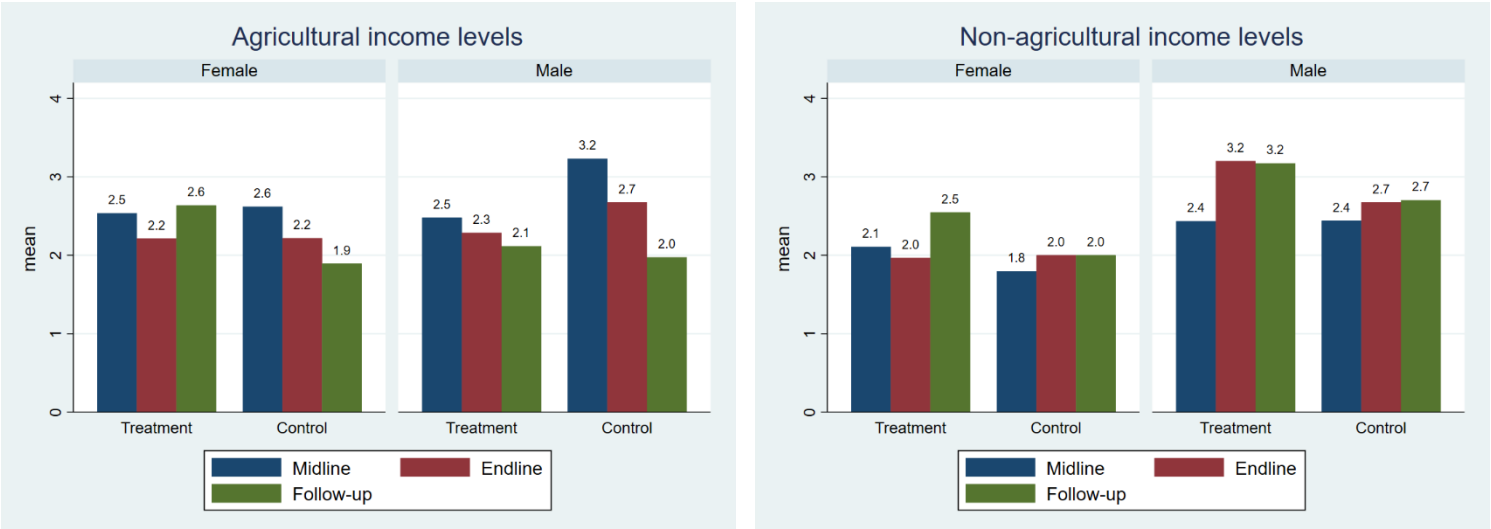
Table 4. Sustainability of the effects on labour participation and incomes. Matching: direction, magnitude and significance level of average treatment on the treated (ATT) coefficients of selected indicators.

	Midline		Endline		Follow-up	
Variable [range]	MDM	CEM	MDM	CEM	MDM	CEM
Agricultural labour						
Average hours worked weekly [0+]	1.145 (4.085) [126]	-0.670 (3.442) [84]	-0.820 (3.551) [107]	3.301 (4.728) [62]	-4.019 (3.449) [107]	-4.217 (3.518) [87]
Comparison with just before program start [-1,1]	-0.286 (0.175) [117]	-0.288 (0.219) [82]	-0.106 (0.163) [102]	-0.243* (0.139) [61]	-0.400 (0.412) [53]	0.081 (0.232) [40]
Income level [1,6]	-0.804* (0.269) [119]	-0.757** (0.315) [83]	-0.980** (0.308) [103]	-0.678 (0.517) [61]	0.204 (0.247) [102]	0.516 (0.327) [83]
Comparison with just before program start [-1,1]	0.353* (0.127) [120]	0.134 (0.208) [83]	0.286* (0.113) [104]	0.213 (0.235) [61]	0.396*** (0.099) [100]	0.395*** (0.123) [82]
Non-agricultural labour						
Average hours worked weekly [0+]	2.145 (6.352) [126]	7.933* (4.227) [84]	4.540 (4.796) [107]	-4.795 (6.457) [62]	8.019* (4.548) [107]	0.360 (4.434) [87]
Comparison with just before program start [-1,1]	0.111 (0.136) [105]	0.236 (0.143) [74]	-0.042 (0.166) [103]	-0.081 (0.142) [61]	-0.095 (0.206) [47]	-0.050 (0.167) [38]
Income level [1,6]	0.294 (0.252) [120]	0.413 (0.295) [84]	0.128 (0.301) [103]	-0.397 (0.631) [62]	0.600 (0.275) [100]	0.562 (0.344) [81]
Comparison with just before program start [1-,1]	0.100 (0.104) [119]	0.217 (0.165) [82]	0.122 (0.113) [106]	0.077 (0.196) [62]	0.275** (0.087) [101]	0.330*** (0.099) [81]

Legend: * '0.1' ** '0.05' *** '0.01'. MDM = Mahalanobis Distance Matching; CEM = Coarsened Exact Matching. (Robust) standard errors in brackets, number of observations in squared parentheses.

Similar results were also found for ***non-agricultural labour***, with incomes benefitting (in the long run) from the program, while recipients still not dedicating longer hours, than the control group, to such work. The findings related to labour intensity (both in agriculture and non-agriculture) seem to dismiss, then, the classical assumption that CTs would disincentivize work (Baird et al., 2018). Concerning non-agricultural incomes, in accordance with the acknowledgement that impacts on these variables take a longer timeframe to manifest themselves (as the switch from subsistence agriculture to a mixed or non-agriculture-based livelihood also takes time; Bastagli et al., 2019), positive and statistically significant effects were only visible at follow-up (comparison variable).

Figure 5. Average income levels of respondents



Interestingly, nevertheless, the heterogeneity analysis showed that a positive impact on women's incomes from non-agricultural business was immediately detected at midline – but not lasting over time – while the same effects appeared at later stages for men. The latter finding might be attributable to the lower return rates of typically female industries (de Mel et al., 2012). However, combining the insights derived from business involvement, agriculture and non-agriculture, it could also be argued that the livelihood diversification process was informed by a gendered reallocation of tasks (*Figure 5*). As a matter of fact, whereas men reduced their involvement in agriculture while increasing their earnings from non-agriculture, women – despite being able to increase their income levels – reduced their business ownership and might have been stuck in agriculture.

Some more mixed insights around the CT's impacts derived from the analysis on ***child labour***. As a matter of fact, midline findings point at an enhanced participation of children in both agriculture (in a robust manner) and non-agriculture (*Table 5*). The observed midline increase could partially invalidate the conclusions related to the lack of changes in labour intensity, as it could be ascribed to a 'substitution effect' between adults and children. The latter could stem from recipients' increased ability to invest in work (Avitabile et al., 2019), derived from the additional source of income guaranteed from the CT. Nevertheless, additional qualitative research could allow more punctual explanations of the mechanisms driving the observed effects which still did not persist beyond the midline phase.

Finally, the cash transfer did not yield any consistent effect on ***migration***, operationalized as whether a member of the household had migrated outside of the village since the start of the program, or not. Nevertheless, a noteworthy finding derives from the acknowledgment that the effect direction switched, at follow-up, from negative to positive, on both MDM and CEM. As only the CEM coefficient is (slightly) statistically significant, however, we cannot conclude that the CT spurred out-of-village migration in the long term.The latter could be interpreted as a positive finding, as it could be deriving from improved in-village living conditions fostered by the CT (Bastagli et al., 2016).

Table 5. Sustainability of the effects on child labour and migration. Matching: direction, magnitude and significance level of average treatment on the treated (ATT) coefficients of selected indicators.

	Midline		Endline		Follow-up	
Variable [range]	MDM	CEM	MDM	CEM	MDM	CEM
Child labour						
Average hours worked weekly in agriculture [1,10]	1.167** (0.537) [63]	1.478** (0.650) [48]	0.080 (0.475) [57]	0.684 (0.493) [37]	0.731 (0.594) [56]	1.060 (0.670) [44]
Comparison with just before program start [-1,1]	-0.208 (0.141) [64]	-0.243 (0.160) [48]	-0.200 (0.132) [59]	-0.191 (0.120) [38]	0.115 (0.193) [56]	0.035 (0.198) [42]
Average hours worked weekly in non-agriculture [1,6]	0.542** (0.267) [64]	0.328 (0.328) [48]	0.360 (0.340) [58]	0.209 (0.375) [37]	-0.346 (0.608) [54]	0.143 (0.600) [42]
Comparison with just before program start [-1,1]	-0.083 (0.100) [64]	-0.059 (0.103) [48]	-0.160* (0.089) [59]	-0.235 (0.190) [38]	0.154 (0.147) [54]	0.087 (0.138) [40]
Migration						
Migration by any HH member since program start [0,1]	-0.083 (0.167) [63]	-0.109 (0.163) [47]	-0.320* (0.161) [59]	-0.195 (0.198) [38]	0.046 (0.195) [50]	0.307* (0.167) [39]

Legend: * '0.1' ** '0.05' *** '0.01'. MDM = Mahalanobis Distance Matching; CEM = Coarsened Exact Matching. (Robust) standard errors in brackets, number of observations in squared parentheses.

5. Discussion

This paper provided additional evidence on the sustainability of the productive effects of cash transfer programs, partially dismissing the assumption that CTs are not sufficient, by themselves, to yield impacts that would persist after their cessation (Devereux & Sabates-Wheeler, 2015). As such,

the study's research questions received rather positive answers, with the related hypotheses partially confirmed: some of the productive outcomes of interest were positively affected by the CT program, and a few of the observed impacts did persist after the end of the transfer.

As a matter of fact, the analysed CT program has shown to have yielded positive effects on the so-called 'first-order' productive variables such as savings (sustained over time) and expenditures on investment, but also second- and third-order outcomes. In particular, it is maintained that the transfer – despite being an income-only program – activated some of the so-called 'growth-mediating' factors (Barrientos, 2012). For instance, it is argued that the CT enabled recipients to solve their liquidity constraints, allowing them to invest, and ultimately to improve their labour patterns (Barrientos, 2012; Tirivayi et al., 2016). As expected, impacts on proxies of employment and business only became visible after some time, as they require a longer timeframe to become manifest (Bastagli et al., 2019). It is the case of repercussions on the ownership of an operational business, and on the rates of business failure, which were only statistically significant at the follow-up stage. More importantly, nevertheless, the same holds for (non-agricultural) labour incomes. The latter finding is especially interesting if combined with the complete absence of significant impacts on labour intensity – either in agriculture or non-agriculture –, meaning that CT beneficiaries were able, in the long run, to earn more than their control counterparts, without working longer hours. This insight, besides possibly suggesting the rise of an improved household resource allocation (another 'growth-mediating' factor; Barrientos, 2012), adds up to the available evidence disregarding the idea that CTs or UBI would contribute to disincentivizing work (Baird et al., 2018; Bastagli et al., 2016).

The observed effects also point at the diversification of livelihood strategies – from pure subsistence agriculture to a mix with non-agricultural labour – a third-order or 'long-term' impact (Bastagli et al., 2016) that could ultimately help participants to permanently escape the poverty trap and to be more resilient to shocks (Daidone et al., 2015; Devereux & Sabates-Wheeler, 2015; Sabates-Wheeler & Devereux, 2013). In this sense, the magnitude and significance of the computed impacts acquire further relevance when considering that, notwithstanding the outbreak of the COVID-19 pandemic – which took place in between the endline and follow-up rounds – some of the detected effects persisted at follow-up. It could be possible to argue, consequently, that the CTs enabled their beneficiaries to better cope with the pandemic, than their control counterparts. Put together, then, the study findings – even if not always robust or consistent – partly confirm that even an income-only transfer, such as the analysed one, could be 'transformative' for the recipient community (Devereux & Sabates-Wheeler, 2004; Molyneux et al., 2016). Differential effects by gender, such as the ones that were detected on savings, investment, incomes and business, could be attributed to the specific program design (Bastagli et al., 2016), in addition to other constraining factors faced by women (Covarrubias et al., 2012; de Mel et al., 2012). For instance, the observation that beneficial consequences on savings and non-agricultural incomes were better sustained for men could be ascribed to the diversion of women's CTs to household uses, and to traditional norms regarding gender and household tasks (FAO, 2011; Peterman et al., 2010). At the same time, the overall lack of significant program impacts on debt and out-of-village migration could also be seen through a positive lens. Moreover, the lack of impacts on assets could be attributed to the fact that only agricultural ones were operationalized by the current study. As a matter of fact, it could be expected that, in accordance with the observed long-term positive effects on non-agricultural businesses, incomes and investment, non-agricultural assets may have also been positively affected by the CT. On a more negative note, the significant increases in child labour that were measured at the midline stage might represent a source of concern. Further qualitative analysis could, nevertheless, shed additional light on the pathways and contingent events driving some of the observed impacts (or the lack thereof), on outcomes such as child labour, migration, and assets.

Finally, given the scarcity of the current available literature on the topic, researchers should continue devoting increased attention to the sustainability and transformative potential of social cash transfer programs (Devereux & Sabates-Wheeler, 2004; EPAR, 2017), and of UBI (de Paz-Báñez et al.,

2020; Gibson et al., 2018). While related sources are lacking for any of the most typical outcome dimensions affected by cash transfers, CT-implementing organisations could especially benefit from additional analyses of the sustainability of productive effects, as they are closely linked with the overall transformative capacity of such programs (Daidone et al., 2019; Hajdu et al., 2020). Even though this paper contributed to show that cash transfers can generate productive and livelihood-enhancing effects, these may in fact remain insufficient to permanently lift most households out of poverty, in the absence of further structural changes and developmental interventions (Hajdu et al., 2020). Before concluding, it is necessary to acknowledge the main limitation of the paper, lying in the lack of baseline data, which only allowed the evaluation of impacts when the analysed program was already in place.

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Appendix

Table 6. Sustainability of the effects on 'savings, investment and production'. Matching coefficients by gender.

	Women						Men					
	Midline		Endline		Follow-up		Midline		Endline		Follow-up	
Variable [range]	MDM	CEM	MDM	CEM	MDM	CEM	MDM	CEM	MDM	CEM	MDM	CEM
Savings												
Money saved by the HH [0,1]	0.429***	0.380***	0.320**	0.377**	0.333**	0.131	-0.391**	0.253	-0.040	-0.250*	-0.261	0.112
	(0.147)	(0.139)	(0.159)	(0.154)	(0.155)	(0.146)	(0.192)	(0.188)	(0.146)	(0.131)	(0.183)	(0.148)
	[72]	[56]	[59]	[43]	[59]	[58]	[49]	[27]	[48]	[29]	[45]	[39]
HH savings' level (amount) [1,8]	1.074**	0.761	1.200**	1.272**	0.957*	0.491	0.435	-0.793	0.500	-1.360**	0.333	0.233
	(0.453)	(0.539)	(0.563)	(0.620)	(0.570)	(0.508)	(0.801)	(0.782)	(0.659)	(0.570)	(0.761)	(0.551)
	[69]	[54]	[59]	[43]	[51]	[52]	[48]	[26]	[45]	[28]	[44]	[38]
Comparison with just before program start [-1,1]	0.815***	0.937***	0.640***	0.439	0.208	0.449**	0.652**	0.659*	0.333	0.154	0.750**	0.852***
	(0.226)	(0.217)	(0.226)	(0.266)	(0.273)	(0.175)	(0.288)	(0.372)	(0.309)	(0.308)	(0.285)	(0.243)
	[65]	[50]	[59]	[43]	[51]	[50]	[47]	[26]	[47]	[28]	[43]	[36]
Comparison pre-COVID situation with just before program start+ [-1,1]					0.417	0.408*					-0.042	0.133
					(0.264)	(0.219)					(0.363)	(0.303)
					[51]	[50]					[41]	[35]
Debt												
HH debt's level (amount) [1,8]	0.880	0.618	0.680	0.281	0.500	0.524	0.739	-0.536	0.217	-0.607	-1.348	-1.123*
	(0.572)	(0.587)	(0.676)	(0.600)	(0.618)	(0.518)	(0.944)	(0.872)	(0.962)	(0.967)	(0.830)	(0.566)
	[67]	[52]	[58]	[43]	[54]	[54]	[49]	[27]	[46]	[29]	[45]	[40]
Comparison with just before program start [-1,1]	-0.148	-0.147	-0.280	-0.289	-0.417	-0.119	-0.680***	-0.782**	-0.280	-0.107	-0.045	0.208
	(0.261)	(0.252)	(0.254)	(0.243)	(0.284)	(0.219)	(0.248)	(0.295)	(0.340)	(0.298)	(0.343)	(0.264)
	[66]	[52]	[58]	[43]	[53]	[52]	[50]	[25]	[48]	[29]	[44]	[39]
Investment												
Money spent on investment+ [0,1]					0.250*	0.290**					0.500***	0.469***
					(0.149)	(0.135)					(0.137)	(0.139)
					[58]	[57]					[47]	[41]
Amount invested by the HH in agriculture since program start [1,8]	0.857***	0.302	0.000	0.382	-0.074	0.110	0.920	-0.535	-0.130	-0.698	-2.391**	-1.007
	(0.314)	(0.309)	(0.468)	(0.228)	(0.369)	(0.204)	(0.653)	(0.556)	(0.494)	(0.531)	(1.117)	(0.691)
	[71]	[54]	[57]	[42]	[59]	[57]	[52]	[27]	[45]	[28]	[44]	[38]
Number of agricultural expenditure categories on which money was invested [0,4]	0.035	-0.006	-0.280	-0.167	-0.071	-0.047	-0.154	-0.548**	-0.240	-0.429	-0.167	-0.083
	(0.229)	(0.209)	(0.221)	(0.294)	(0.094)	(0.094)	(0.282)	(0.225)	(0.333)	(0.294)	(0.164)	(0.065)
	[73]	[56]	[59]	[43]	[60]	[60]	[53]	[27]	[48]	[29]	[47]	[41]
Amount invested by the HH in non-agriculture since program start [1,8]	0.448	0.495	0.440	0.418	-0.148	0.033	0.680	0.037	0.364	-0.286	0.167	-0.328
	(0.319)	(0.308)	(0.280)	(0.331)	(0.514)	(0.307)	(0.707)	(0.823)	(1.010)	(0.861)	(0.698)	(0.709)
	[72]	[55]	[57]	[42]	[53]	[54]	[50]	[25]	[45]	[29]	[43]	[38]

Number of non-agricultural expenditure categories on which money was invested [0,4]	0.035 (0.035) [73]	-0.024 (0.084) [56]	-0.120 (0.099) [59]	-0.140 (0.144) [43]	0.071 (0.104) [60]	0.046 (0.061) [60]	0.039 (0.039) [53]	0.000 (0.000) [27]	-0.160 (0.120) [48]	-0.071 (0.072) [29]	-0.042 (0.099) [47]	-0.062 (0.086) [41]
Assets												
Ownership of cultivated land [0,1]	0.250 (0.299) [69]	0.107 (0.254) [53]	0.080 (0.242) [58]	0.351** (0.171) [43]	0.071 (0.297) [60]	-0.007 (0.203) [60]	-0.231 (0.260) [53]	-0.339 (0.305) [27]	-0.130 (0.240) [46]	-0.016 (0.210) [28]	-0.130 (0.119) [46]	-0.063 (0.247) [39]
Total number of agricultural tools owned by the HH [1,6]	0.310 (0.222) [73]	0.222 (0.192) [56]	0.200 (0.244) [59]	-0.114 (0.141) [43]	0.071 (0.139) [60]	-0.206 (0.136) [60]	-0.385 (0.379) [53]	0.092 (0.279) [27]	0.240 (0.391) [48]	0.107 (0.330) [29]	-0.125 (0.341) [47]	0.031 (0.263) [41]
Business and enterprise												
Ownership of currently operational business [0,1]	0.035 (0.139) [73]	0.085 (0.155) [56]	0.120 (0.147) [57]	0.128 (0.144) [42]	0.200* (0.107) [56]	0.167* (0.098) [57]	0.269* (0.155) [53]	0.023 (0.183) [27]	-0.125 (0.194) [47]	-0.036 (0.137) [29]	0.304 (0.196) [44]	-0.031 (0.169) [41]
Ownership of failed business [0,1]	-0.138 (0.122) [73]	0.051 (0.106) [56]	-0.200 (0.122) [57]	-0.287* (0.159) [42]	-0.240 (0.165) [56]	-0.237* (0.137) [57]	-0.077 (0.138) [53]	-0.038 (0.127) [27]	-0.250 (0.185) [47]	-0.250 (0.196) [29]	-0.391** (0.170) [44]	-0.156 (0.129) [41]
Having experienced negative effects of COVID-19 on business[+] [0,1]					#N/A	-0.435 (0.319) [8]					-0.583** (0.275) [18]	-1.327 (0.778) [11]

Legend: * '0.1' ** '0.05' *** '0.01'. MDM = Mahalanobis Distance Matching; CEM = Coarsened Exact Matching. (Robust) standard errors in brackets, number of observations in squared parentheses.
[+] follow-up-only variable.

Table 7. Sustainability of the effects on 'employment'. Matching coefficients by gender[5].

	Women						Men					
	Midline		Endline		Follow-up		Midline		Endline		Follow-up	
Variable [range]	MDM	CEM	MDM	CEM	MDM	CEM	MDM	CEM	MDM	CEM	MDM	CEM
Agricultural labour												
Average hours worked weekly [0+]	-2.828 (4.040) [73]	-0.463 (3.524) [56]	5.160 (6.390) [59]	6.675 (5.068) [43]	-2.231 (5.746) [60]	0.166 (4.372) [60]	0.462 (7.846) [53]	2.768 (7.149) [27]	-8.240 (5.482) [48]	-4.714 (4.477) [29]	-12.667** (5.488) [47]	-12.917*** (4.110) [41]
Comparison with just before program start [-1,1]	-0.286 (0.225) [70]	-0.209 (0.266) [55]	-0.208 (0.198) [56]	-0.335* (0.175) [41]	-0.143 (0.352) [33]	0.006 (0.257) [36]	-0.048 (0.262) [47]	-0.103 (0.335) [26]	-0.130 (0.264) [46]	-0.286 (0.221) [29]	0.833 (0.000) [20]	#N/A
Income level [1,6]	-0.143 (0.502) [70]	-0.514 (0.422) [55]	-0.792 (0.487) [55]	-0.002 (0.641) [40]	0.148 (0.416) [58]	0.450 (0.384) [58]	-1.652*** (0.538) [49]	-1.542*** (0.463) [27]	-1.120 (0.728) [48]	-1.964** (0.785) [29]	0.182 (0.478) [44]	0.104 (0.497) [37]
Comparison with just before program start [-1,1]	0.250 (0.257) [71]	0.008 (0.241) [55]	0.250 (0.228) [56]	0.168 (0.266) [41]	0.444** (0.188) [56]	0.397** (0.155) [56]	0.391 (0.314) [49]	0.492 (0.290) [27]	0.360* (0.209) [48]	0.393* (0.208) [29]	0.286 (0.214) [44]	0.299 (0.224) [37]
Non-agricultural labour												
Average hours worked weekly [0+]	6.310 (6.492) [73]	6.929 (4.697) [56]	-2.960 (6.562) [59]	-6.333 (7.194) [43]	5.786 (4.815) [60]	-3.607 (5.507) [60]	-3.577 (11.101) [53]	3.295 (10.262) [27]	11.280* (6.173) [48]	7.964 (8.462) [29]	10.667 (8.229) [47]	-4.885 (6.054) [41]
Comparison with just before program start [-1,1]	0.269 (0.170) [65]	0.362* (0.191) [50]	0.083 (0.185) [56]	0.175 (0.172) [41]	-0.143 (0.254) [31]	-0.012 (0.249) [32]	-0.048 (0.262) [47]	-0.106 (0.209) [23]	0.042 (0.295) [47]	-0.107 (0.237) [29]	0.000 (0.000) [16]	#N/A
Income level [1,6]	0.464 (0.406) [72]	0.497 (0.353) [56]	-0.520 (0.521) [58]	-0.474 (0.716) [43]	0.269 (0.439) [56]	0.702* (0.402) [55]	0.087 (0.641) [48]	0.070 (0.562) [27]	0.545 (0.688) [45]	0.277 (0.646) [28]	1.042* (0.569) [44]	0.404 (0.448) [39]
Comparison with just before program start [1-,1]	0.259** (0.125) [70]	0.419** (0.177) [54]	-0.040 (0.178) [59]	-0.044 (0.201) [43]	0.143 (0.122) [58]	0.289** (0.124) [57]	-0.130 (0.259) [49]	-0.120 (0.302) [27]	0.250 (0.264) [47]	0.607** (0.248) [29]	0.435** (0.207) [43]	0.375** (0.156) [38]
Migration												
Migration by any HH member since program start [0,1]	-0.125 (0.170) [60]	-0.117 (0.171) [45]	-0.320** (0.153) [56]	-0.149 (0.172) [41]	0.000 (0.201) [47]	0.203 (0.176) [42]	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A

Legend: * '0.1' ** '0.05' *** '0.01'. MDM = Mahalanobis Distance Matching; CEM = Coarsened Exact Matching. (Robust) standard errors in brackets, number of observations in squared parentheses.

[5] Proxies of child labour were not disaggregated by gender. As a matter of fact, given that parents – not children – replied to the related questions, the gender of the respondent was not relevant in their case, for the purpose of heterogeneity analysis.