

**EXPLORING THE SUSTAINABILITY OF THE COLLECTIVE-LEVEL EFFECTS OF CASH
TRANSFERS: INSIGHTS FROM UNIVERSAL UNCONDITIONAL CT PROGRAMS IN
RURAL WESTERN UGANDA**

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LIST OF ACRONYMS AND ABBREVIATIONS

3ie	International Initiative for Impact Evaluation
AIC	Akaike Information Criterion
ANCOVA	Analysis of Covariance
ANOVA	Analysis of Variance
APSA	American Political Science Association
A-SCAT	Adapted Social Capital Assessment Tool
ASP	Adaptive Social Protection
ATE	Average Treatment Effect
ATT	Average Treatment on the Treated
BAU	Business as Usual
BCC	Behaviour Change Communication
BDH	<i>Bono de Desarrollo Humano</i> (Ecuador; Human Development Bond)
BIC	Bayesian Information Criterion
BRAC	Bangladesh Rehabilitation Assistance Committee
BRACED	Building Resilience and Adaptation to Climate Extremes and Disasters
BWPI	Brooks World Poverty Institute
CALP	The Cash Learning Partnership
CAMEALEON	Cash Monitoring, Evaluation, Accountability and Learning Organizational Network
CAPRI	CGIAR Systemwide Program on Collective Action and Property Rights
CARI	Children and AIDS Regional Initiative
CASP	Critical Appraisal Skills Programme
CCA	Climate Change Adaptation
CCDF	Complementary cumulative distribution function
CCT(+)	Conditional cash transfer (plus)
CEM	Coarsened Exact Matching
CEPR	Centre for Economic Policy Research
CGIAR	Consultative Group for International Agricultural Research
CI	Confidence Intervals
CID	Center for International Development (Harvard University)
CESSP	Cambodia Education Sector Support Project
CGP	Child Grants Programme (Lesotho)

COVID-19	COronaVirus Disease 19
CRedit	Contributor Role Taxonomy
CSG	Child Support Grant (South Africa)
CSP	CESSP Scholarship Program (Cambodia)
CT(+)	Cash transfer (plus)
CT-OVC	Cash Transfer for Orphans and Vulnerable Children (Kenya)
DAC	Development Assistance Committee (OECD)
DFID	Department for International Development (United Kingdom)
DiD	Difference-in-differences
DRC	Democratic Republic of the Congo
DRR	Disaster Risk Reduction
DRUID	Danish Research Unit for Industrial Dynamics
DSA	Development Studies Association
EPAR	Evans School Policy Analysis & Research Group
EPPI	Evidence for Policy & Practice
ERGM	Exponential Random Graph Model
ESID	Effective States and Inclusive Development
EPAR	Evans School Policy Analysis and Research
ESP	Expanding Social Protection (Uganda)
ESPAnet	European Network for Social Policy Analysis
FAO	Food and Agriculture Organization of the United Nations
FDR	False discovery rate
FEA-USP	School of Economics, Business and Accounting of the University of São Paulo
FGD	Focus group discussion
FSSP	Female School Stipend Program (Punjab, India)
FSSSP	Female Secondary School Stipend Program (Bangladesh)
FW	Family-wise
FWER	Family-wise error rate
GDP	Gross Domestic Product
GEF	Green European Foundation
GHG	Greenhouse Gases
GIZ	<i>Deutsche Gesellschaft für Internationale Zusammenarbeit</i> (German Development Cooperation)
GPS	Global Positioning System
GTZ	<i>Deutsche Gesellschaft für Technische Zusammenarbeit</i> (German Technical Cooperation)

HH	Household
HSCT	Harmonized Social Cash Transfer (Zimbabwe)
HSNP	Hunger Safety Net Programme (Kenya)
IBSA	India, Brazil and South Africa
IDB	Inter-American Development Bank
IDI	In-depth interview
IDS	Institute of Development Studies
IFPRI	International Food Policy Research Institute
ILO	International Labour Organization
IMF	International Monetary Fund
INGO	International Non-Governmental Organization
IPCC	Intergovernmental Panel on Climate Change
IPV	Intimate Partner Violence
ITT	Intention-to-treat
IZA	Institute of Labor Economics
K4D	Knowledge for Development
KII	Key-informant interview
LASSO	Least Absolute Shrinkage and Selection Operator
LATE	Local Average Treatment Effect
LBW-SAT	Low Birth Weight South Asia Trial (Nepal)
LC	Local Council (Uganda)
LEAP	Livelihood Empowerment Against Poverty (Ghana)
LG	Local Government (Uganda)
LRQAP	Logistic Regression Quadratic Assignment Procedure
MCMC	Markov chain Monte Carlo
MCP	WFP Multi-purpose cash assistance (Lebanon)
MDM	Mahalanobis Distance Matching
M&E	Monitoring and Evaluation
MGLSD	Ministry of Gender, Labour and Social Development (Uganda)
MPRA	Munich Personal RePEc Archive
MRQAP	Multiple Regression Quadratic Assignment Procedure
MSU	Material support/risk-sharing network
NBER	National Bureau of Economic Research
NDC	Nationally Determined Contribution

NDP3	National Development Plan, third phase (Uganda)
NEPAN	Nepal Participatory Action Network
NGO	Non-Governmental Organization
NRM	National Resistance Movement (Uganda)
NSSF	National Social Security Fund (Uganda)
NSSP	National Social Protection Policy (Uganda)
NUSAF(3)	(Third) Northern Uganda Social Action Fund
ODI	Overseas Development Institute
OECD	Organisation for Economic Co-operation and Development
OLS	Ordinary Least Squares
OPM	Oxford Policy Management
OVC	Orphans and Vulnerable Children
PAL	<i>Programa de Apoyo Alimentario</i> (Mexico, Nutritional Support Program)
PCA	Principal Component Analysis
PEP	Partnership for Economic Policy
PES	Payments for Ecosystem Services
PNCTP	Palestinian National Cash Transfer Program (West Bank and Gaza)
PPFS-CT	<i>Projet Pilote des Filets Sociaux par le Cash Transfert</i> (Niger; Social Safety Net Pilot Project through Cash Transfers)
PRAF (II)	<i>Programa de Asignación Familiar</i> (Honduras; Family Allowance Program)
PRISMA	Preferred Reporting Items for Systematic Reviews and Meta-Analyses
PROGRESA	<i>Programa de Educación, Salud y Alimentación</i> (Mexico; Education, Health and Nutrition Program)
PSM	Propensity Score Matching
PSNP	Productive Safety Net Programme (Ethiopia)
PSPS	Public Service Pensions Scheme (Uganda)
PSSB	<i>Programa de Subsídio Social Básico</i> (Mozambique; Basic Social Subsidy Programme)
QAP	Quadratic Assignment Procedure
RCT	Randomized Controlled Trial
RDD	Regression Discontinuity Design
RoB 2	Revised Cochrane Risk-of-bias Tool for Randomized Trials
ROBINS-I	Risk Of Bias In Non-randomized Studies – of Interventions
RPS	<i>Red de Protección Social</i> (Nicaragua; Social Protection Net)
RSiena	R - Simulation Investigation for Empirical Network Analysis
SACCO	Savings and Credit Cooperative
SAGE	Social Assistance Grants for Empowerment (Uganda)

SAOM	Stochastic Actor Oriented Model
SCG	Senior Citizens' Grant (Uganda)
SC-IQ	World Bank Integrated Questionnaire for the Measurement of Social Capital
SCT	Social Cash Transfer (Malawi)
SCTPP	Social Cash Transfer Pilot Programme (Ethiopia)
SDGs	Sustainable Development Goals
SED	<i>Subsidios Condicionados a la Asistencia Escolar</i> (Colombia; Subsidies Conditional on School Attendance)
SI	Sequential ignorability
SIHR	Schooling, Income and Health Risk (Malawi) program
SNA	Social Network Analysis
SOCAT	Social Capital Assessment Tool (World Bank)
SPRINGS	Sustainable Poverty Reduction through Income, Nutrition and Access to Government Services (Lesotho)
SRM	Social Risk Management framework (World Bank)
SSN	Social Safety Net (Sierra Leone)
SSU	Social support network
SUF	<i>Subsidio Unico Familiar</i> (Chile; Unique Familiar Subsidy)
SWF	Social Welfare Fund (Yemen)
TASAF	Tanzania Social Action Fund
TCT	Transforming Cash Transfers
TEEP	Tingathe Economic Empowerment Programme (Malawi)
TERGM	Temporal Exponential Random Graph Model
TLU	Tropical Livestock Unit
TMRI	Transfer Modality Research Initiative (Bangladesh)
TUP	Targeting-the-Ultra-Poor
UBI	Universal Basic Income
UBOS	Uganda Bureau of Statistics
UCT(+)	Unconditional cash transfer (plus)
UGX	Ugandan shilling
UK	United Kingdom
UN	United Nations
UNFCCC	United Nations Framework Convention on Climate Change
UNICEF	United Nations Children's Fund
UNRISD	United Nations Research Institute for Social Development
USA	United States of America

VCM	Voluntary Contribution Mechanism
VFSG	Vulnerable Family Support Grant (Uganda)
VZW	<i>Vereniging Zonder Winstoogmerk</i> (Belgium; Non-Profit Organization)
WAT	Word Association Test
WCB	Wild Cluster Bootstrap
WFP	World Food Programme
WVS	World Values Survey
YOP	Youth Opportunities Program (Uganda)
ZECT	Zimbabwe Emergency Cash Transfer
ZEL	Zentralstelle für Ernährung und Landwirtschaft (Germany; Food and Agriculture Development Centre)

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I am sure you will not any trouble believing me, when I say that I would have never thought I would live in Antwerp, Belgium, at some point of my life. I had barely heard of – or known anything about – the city before my arrival on Halloween night in 2020. It was covid times, Belgium had just issued a ‘hard’ lockdown the day before, and my first approach with Antwerp was rather traumatic. The city looked a lot like a ghost town, a very annoyingly light rain was pouring, and a 15-day quarantine period was standing in front of me. I recall getting the disturbing impression of having committed a mistake. My (back then potential) supervisors had tried to warn me as much as possible – Belgian people are cold, the weather is definitely not amusing, and overall the still delicious Belgian fries cannot compensate for every other drawback of living in this strange and unwelcoming country.

I am very glad I did not listen (for the first and last time, of course) to them. 4 years later, Antwerp has more and more grown into me, and I have grown into Antwerp in return. While my supervisors’ concerns were absolutely (at least partially) grounded in reality, I can unashamedly say that Antwerp has become my second home. I am really grateful and humbled for what Antwerp and Belgium have given me, and glad to have handed some of the best years of my life to this beautifully underrated place. It turns out that one of the main reasons why the last 4 years were some of the best of my path, so far, is that I have spent them here. I am therefore (perhaps un)luckily to confess that I will be missing and longing for Antwerp. At the same, I will be lucky enough, at least for the close future, not to move too far away, a contingency which will make my separation from Antwerp a bit less painful.

After this long premise, I should be thanking a quite long list of people for having accompanied throughout my PhD trajectory. The first acknowledgement cannot but go to Nathalie and Sara. I am extremely thankful for the considerable amount of time and resources they have dedicated to my PhD, and more in general to my personal and professional development. I am also very appreciative of the availability and patience they have always demonstrated towards me. Their level of commitment in the project has never lowered, notwithstanding some difficult times and even alarming health issues. I shall never forget that. Plus, they have written an incredibly relevant research project, with potentially groundbreaking policy implications. I was absurdly fortunate to join them in this rewarding journey which was, in light of their dedication (and even previous work), honestly quite easy, for being a PhD. Don’t get me wrong, I don’t mean to say that it was unchallenging or effortless, of course.

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I also want to thank Hanna for the really substantial amount of time and invaluable feedback which she has dedicated to my PhD, in the space of the last year. I am looking forward to being able to reciprocate during her PhD, which I am sure she will be commencing very soon.

Last but not least, I am blessed to name the members of Luconlus as the main inspiration of this work, and of everything I do. I promise I will be more active and participative, in the future, in their heartwarming efforts to relief poverty and vulnerability in many disadvantaged corners of the world. By bearing the name you chose, you tremendously honour me, and provide me with unlimited motivation to keep giving my all, not matter what. In conclusion, I wish to remember and acknowledge all those other dear people who have been there for me, and that are unfortunately not there anymore for me to hug and love.

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ABSTRACT

Cash transfers (CTs) are social assistance instruments which have been increasingly utilized, in recent years, as poverty, vulnerability, and inequality reduction tools, in the Global South. Coherently, a growing number of empirical sources have been produced with respect to the impacts of CTs on a wide variety of outcomes. The available evidence suggests that cash transfers' benefits can and do often extend beyond mere temporary poverty alleviation. Nevertheless, there are several domains associated with the assessment of CTs' performance that have been overlooked and are still underresearched, allowing us to detect a few major investigation gaps which represent the main objectives of this doctoral dissertation. First, the pieces of evidence published so far mostly focus on cash transfer effects at the individual- and household-levels, leaving the collective (or community) dimension out. However, since CTs are pervasive interventions in recipients' lives, they can profoundly shape and affect beneficiary communities, and yield numerous collective-level effects. Second, another fundamental breach in the empirical literature is represented by its typical failure to capture the sustainability of CT effects, namely the extent to which they persist in the long run, after program end. Producing additional related evidence is not only important per se, but especially because of its connections with the increasingly relevant debates on the 'transformative' potential of cash transfers (and social protection programs, more in general), in times of overlapping social and economic crises (e.g., conflict, automation, and climate change). In this context, we follow the trajectories of two universal unconditional – as such, Universal Basic Income (UBI) trials – cash transfer initiatives conducted in rural Western Uganda, evaluating their impacts on collective-level outcomes (operationalized as social capital, agency and collective action), and their overall sustainability, especially on domains (including citizenship, labour, and resilience to climate change) closely intertwined with discussions on the transformational role of social protection. To this purpose, we adopt a mostly quantitative approach, relying on quasi-experimental impact evaluation methods like matching techniques and difference-in-differences estimations. In addition, we innovatively apply Social Network Analysis (SNA) to the assessment of CT performance, employing a number of descriptive, visual, and inferential strategies. Ultimately, this thesis provides valuable ground for future research and policymaking, by returning important (and predominantly positive) insights on the (long term) repercussions of cash transfer programs (and UBI). The highlighted findings could then also generate useful recommendations for the advancement of (universal) social protection agendas, and in particular of SDG 1.3.

Keywords: cash transfers, (transformative) social protection, collective-level outcomes, social capital, agency, collective action, sustainability, citizenship, labour, climate change, Social Network Analysis

INTRODUCTION

This doctoral dissertation conducts an impact study of the (long-term) effects of (universal unconditional) cash transfer programs carried out in rural Uganda, focusing on a few main outcomes and themes which will be presented below, under the overarching theme of transformativity. As such, this PhD research touches upon several Sustainable Development Goals (SDGs), most noticeably SDG 1.3, keeping track of the establishment of social protection floors for all – it is to say, on the advancement of the universal social protection agenda (ILO, 2023; UNRISD, 2006; Weber, 2019). In this regard, our^{1,2} investigation explores the pathways through which social assistance (and basic income) interventions could accelerate the progress on reducing poverty levels and disparities in Uganda, and worldwide (Bukonya & Hickey, 2019). In the next section, we further expound on the rationale guiding the research, together with the current state of the art. Subsequently, we define some selected key concepts and elaborate on their exact operationalization, before introducing the overarching study's analytical framework. The final section outlines the chapters which constitute the thesis.

1. PROBLEM STATEMENT AND RATIONALE

According to the World Social Protection Report 2020-2022, while some progress is slowly being attained, only 46.9% of the global population is effectively covered by at least one social protection benefit – with Africa displaying the lowest rate of any continent at 17.4% (ILO, 2021). In this sense, major improvements have been achieved through the increasing implementation – throughout the whole Global South – of social assistance programs like cash transfers (CTs), as poverty reduction and social security strategies (Bastagli et al., 2019; CALP Network, 2023). Coherently, the dialogue on CTs' – and Universal Basic Income (UBI; Gentilini, Grosh, Rigolini, & Yemtsov, 2020) – effectiveness has become more and more relevant during the last decades (Baird, Ferreira, Özler, & Woolcock, 2013; Molyneux, Jones, & Samuels, 2016). Today, debates on social assistance policies have reached their pertinency peak, given their close connections with the alarming threats to the stability of labour markets posed by global ongoing macrotrends of political instability, conflict, and climate change (Costella et al., 2023; Idris, 2017; OECD, 2017).

In this context, while increasing attention has certainly been devoted to the assessment of cash transfer impacts (Bastagli et al., 2019), the available evidence base is still characterized by noticeable research gaps. For instance, notwithstanding the numerous repercussions that a CT program can have at the

¹ Whereas this work represents the doctoral thesis of the PhD candidate (Filippo Grisolia), who predominantly drafted all its chapters (at least, their original versions), it should be acknowledged that the PhD supervisors (Nathalie Holvoet and Sara Dewachter) also substantially contributed – because of their role – to the project, in terms of conceptualization, funding acquisition, investigation, validation of findings, and output review (among other tasks). For the sake of transparency, a CRediT (Contributor Role Taxonomy; Brand, Allen, Altman, Hlava, & Scott, 2015) statement is reported by the title (or first) page of each chapter of this dissertation, clarifying which role/s did each author play in their drafting process. In this regard, the PhD candidate would like to thank his supervisors for the considerable amount of time, resources and guidance that they have devoted to his doctoral trajectory.

² This chapter was single-authored by Filippo Grisolia. However, the PhD candidate would hereby like to thank his supervisors for the precious feedback – especially in terms of tentative content and structure – which they provided with in the early drafting stages of the chapter.

collective/community level, the existing empirical proofs have overwhelmingly focused on the individual- and household-level impacts (Bastagli et al., 2016). Therefore, one of the main pillars of this PhD research is represented by an analysis of the ***collective-level effects of cash transfers***. Such effort becomes fundamental when acknowledging that deprivation is not just monetary, but that several dimensions contribute to the individual status of poverty (Alkire et al., 2015; Sen, 1995). Poverty is in fact a largely social phenomenon, shaped by perceived degrees of self-worth, dignity, agency and – most importantly, for the purposes of this work – social capital inside communities (Samuels, Jones, Alder, & Foley, 2013). The latter discussion is particularly relevant for rural Global South contexts, whereby the scarcity of governmental and market-based insurance makes citizens heavily reliant on informal social assistance mechanisms (Fafchamps & Lund, 2003; Henderson & Alam, 2022), like friendship and kinship networks (Petrikova & Chadha, 2013), in times of need (Ben-Porath, 1980). Conducting further research on these topics is also important, because a key collective-level outcome such as social capital, has been recognized as a critical – albeit not sufficient (Krishna, 2002), see **subsection 2.4** – factor in generating the collective action necessary to sustainably lift individuals out of deprivation (Bodin & Crona, 2008). By bearing the potential to spur social capital and collective action patterns (Granlund & Hochfeld, 2020; MacAuslan & Riemenschneider, 2011; Ressler, 2008), then, CTs could further contribute to reducing poverty and inequality, to enhancing social inclusion and, when upscaled, even to creating greater social cohesion and a strengthened social contract (Babajanian, 2012; Druza, 2016). Summarizing, by fostering collective-level outcomes (Davies et al., 2013), cash transfers could even yield (long-lasting) ‘transformative’ effects (Devereux & Sabates-Wheeler, 2004; Molyneux et al., 2016) in recipient areas.

The extent to which CT programs could generate transformative benefits (Devereux & McGregor, 2014), has been majorly overlooked by the (at least empirical) literature (Molina Millán, Barham, Macours, Maluccio, & Stampini, 2019; Owusu-Addo et al., 2023). Consequently, this study will also investigate another aspect of the transformative potential of disbursements, namely the ***sustainability of cash transfer impacts***, operationalized as the degree to which they persist in the long run (OECD, 2021). As a matter of fact, post-program persisting benefits represent *per se* an indication of a program’s transformative impacts on recipient communities (EPAR, 2017). The lack of empirical evidence on this issue might be attributed – besides to resource constraints and measurement difficulties (OECD, 2021; Sabates-Wheeler & Devereux, 2013) – to the related skepticism of theoretical elucubrations, which tend to consider CTs as temporary interventions (Banerjee et al., 2015) whose effects would rapidly fade out after program termination (Hajdu et al., 2020; Roelen et al., 2017). The traditional (actually mistaken; see following section) assumption that cash transfers would be inadequate – by themselves – to build resilient and sustainable livelihoods in the long term led to the rise of new waves of social protection, including cash ‘plus’ (Roelen et al., 2017) and ‘graduation’ (Devereux & Sabates-Wheeler,

2015; Hashemi & Umaira, 2011) transfers, coupling cash with a combination of complementary interventions. Recent debates on social assistance – induced by the large empirical basis confirming that CTs can yield positive impacts on a wide range of outcome domains (Bastagli et al., 2016; Kabeer, Piza, & Taylor, 2012) – tend, as a matter of fact, to extend its role beyond poverty alleviation, towards more structural and transformative goals (Devereux & McGregor, 2014). Producing further evidence on the topic, especially derived from programs with unconventional features such as unconditionality and universality – theorized to potentially cause disproportionately positive repercussion on CTs' sustainability (Kidd, Nycander, Tran, & Cretney, 2020) – is crucial to lead more effective and better-informed policymaking on social protection, in our uncertain times.

1.1 MAIN RESEARCH QUESTIONS AND STATE OF THE ART

This dissertation focuses on underresearched issues and possesses innovative features which allow it to contribute to closing the abovementioned gaps in the literature, by means of its theoretical and empirical analyses. As already hinted at, the two mentioned pillars of the study are tied together by the overarching theme of transformativity, which is increasingly relevant in times when – because of the ongoing 'polycrisis' (Lawrence et al., 2024) and the related threats to the stability of our societies and labour markets – emerging debates on social protection consider extending its role beyond mere poverty and vulnerability alleviation (Devereux & McGregor, 2014). In this regard, the idea of 'transformative social protection' was coined by Devereux and Sabates-Wheeler (2004, p. 9), referring to the need for (a return to) pursuing real social justice through policies able to tackle *"the power imbalances in society that encourage, create and sustain vulnerabilities"*. The functions of these 'anti-safety net' programs would then surpass the roles typically assigned to social protection interventions – i.e., provision (of assistance and support), protection/prevention (against the risk of deprivation) and, in rarer occasions, promotion (of social rights and capabilities; Devereux & Sabates-Wheeler, 2007).

In this context, cash transfers, traditionally relegated to provisional social assistance projects as a consequence of their designs (and, most importantly, short-term character; Banerjee et al., 2015), have also been more recently increasingly assessed against their transformative potential (Molyneux et al., 2016). If carefully designed, in fact, they could likely lead to sustainable poverty reduction (Devereux & Sabates-Wheeler, 2007). While also investigating which design features bear the most transformative abilities, this thesis explores several of the numerous meanings of transformativity (Devereux & Sabates-Wheeler, 2004; De Herdt et al., 2024) – including its political (**Chapter 5**), labour-related (**Chapter 7**) and environmental (**Chapter 8**) components. The *foci* of interest remain, nevertheless, the social/collective and sustainability aspects, inextricably linked – as already briefly explained by the previous sections, and as it will be explored in more detail by the rest of this work – with transformativity. In this sense, the main research question of this PhD trajectory ultimately relates to whether (and to what extent) could cash transfers be transformative, or not. Delving into further detail,

the specific sub-questions (and their link with transformativity) of each theoretical and empirical chapter of this dissertation are listed by **Table 1**.

Table 1. Overview of key research questions for each theoretical and empirical chapter of this thesis

Chapter	Main research questions	Transformative sphere
Chapter 1: Shifting the focus? From individual to collective-level effects of cash transfers. A systematic review of the impacts on social capital, agency and collective action	<ul style="list-style-type: none"> • Can cash transfers generate positive repercussions on collective level-outcomes? • Does program design make a difference in the magnitude and direction of collective impacts? 	Social
Chapter 2: Can cash transfers really be transformative? A literature review of the sustainability of their impacts	<ul style="list-style-type: none"> • Can income-only transfers yield sustained effects, on any outcome domain? • Do graduation transfers actually outperform simple CTs in the sustainability of their impacts? 	Any ('sustainability')
Chapter 5: Follow the hand that feeds you? The effects of non-governmental cash transfers on citizenship	<ul style="list-style-type: none"> • Did the Busibi CT yield any (sustained) effects on citizenship? • Did the cash transfer impact state-citizen relations inside and beyond the village? 	Political and social (and sustainability)
Chapter 6: Permanently exiting poverty together? Evaluating the sustainability of the collective-level impacts of a basic income experiment in Uganda	<ul style="list-style-type: none"> • Did the Busibi CT yield any collective-level effects? • If so, did these impacts persist after the end of the program? 	Social (and sustainability)
Chapter 7: 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?	<ul style="list-style-type: none"> • Did the Busibi CT yield any productive-level effects? • If so, did these impacts persist after the end of the program? 	Labour (and sustainability)
Chapter 8: Facing climate change together? The role of the collective dimension in mediating cash transfer effects on climate adaptation	<ul style="list-style-type: none"> • Did the Tweyambe CT yield any (midline) effects on (perceived) climate resilience and adaptation? • To what extent were eventual impacts mediated by the effects measured on collective-level outcomes? 	Environmental
Chapter 9: Always better to rely on friends: A QAP of social support and risk-sharing networks in a cash transfer-recipient Ugandan village	<ul style="list-style-type: none"> • Did the Tweyambe CT yield any (midline) effects on social support and material support/risk-sharing networks? • Could network structure patterns be detected in recipients' networks? • Could a risk-sharing edge be predicted on the basis of an existing social support tie, and vice versa? 	Social

As already mentioned, little empirical evidence is available on both central themes of the thesis. In this sense, **Chapters 1** and **2** respectively scan the existing proofs³ on the collective-level impacts and the overall sustainability of CT effects, returning a complex but rather positive outlook. The five empirical sections then investigate the (sustainability of the) effects of the two CT programs under study (the Busibi and Tweyambe ones; see **Chapter 3**) on the topics of interest – separately or jointly – and on closely related subjects, such as citizenship (also see a ‘citizenship-centred’ research brief we jointly drafted; Grisolia, Dewachter, & Holvoet, 2023a), productive outcomes, and climate change. While not representing in itself a main pillar of this investigation, the climate adaptation-related analysis of **Chapter 8** obviously constitutes a very relevant contribution to the literature, given the magnitude of the climate emergence in Uganda, and the Global South more in general (IPCC, 2022; also see **context chapter**), social protection’s ability to foster resilience against environmental shocks (Costella et al., 2023), the relative scarcity of empirical evidence on the topic (Tenzing, 2020), and the increasing salience of discussions on the need for a new eco-social contract (UNRISD, 2021).

Methodology-wise, our study is innovative because, to the best of our knowledge, is the first one to apply *Social Network Analysis* (SNA; Wasserman & Faust, 1994) to the evaluation of CT impacts. In this sense, SNA could enhance the societal and added values of (social) policy evaluation (Borgatti, Everett, & Johnson, 2013) – and contribute to the existing (non-)academic debates on CTs – by expanding impact evaluations beyond the individual and household levels (capturing spillover effects and collective dynamics; Evans & Kosec, 2023; Haushofer & Shapiro, 2018), by helping to identify influence and power dynamics (Banerjee, Chandrasekhar, Duflo, & Jackson, 2013), and ultimately by improving program design and implementation (through enhanced targeting and delivery stages; Banerjee et al., 2013). Through the incorporation of SNA into the evaluation of cash transfer impacts, social scientists and policymakers could then gain deeper insights into program effectiveness, and devise strategies which leverage social networks for greater societal benefit (Borgatti et al., 2013).

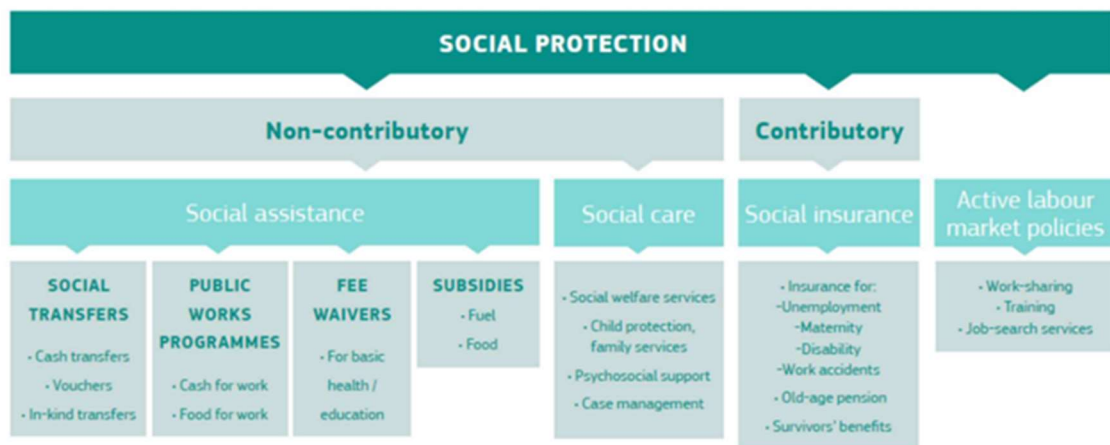
2. DEFINING KEY CONCEPTS AND INTRODUCING THE ANALYTICAL FRAMEWORK

In this section, we introduce and briefly engage with a selection of key concepts for the purposes of this research project. We devote particular attention to cash transfers (and basic income), collective-level outcomes, and the sustainability of cash transfer impacts. Subsequently, we elaborate on the analytical framework which guided and informed the study.

³ In this regard, it should be acknowledged that the systematic literature review(-like) techniques applied by **Chapter 1** and **Chapter 2** are inevitably biased, by generalizing and condensing insights derived from different temporal and geographical contexts (Higgins et al., 2021; Olivier de Sardan & Piccoli, 2018). However, the systematic review approach is coherent with the endorsed pragmatic research paradigm (Stewart, van Rooyen, & de Wet, 2012) Further details about the guiding ontological and epistemological assumptions of this study will be introduced in the **methodology chapter**.

2.1 CASH TRANSFERS

Social cash transfers traditionally represent one of the main tools of social assistance, which is in turn generally regarded as one of the fundamental pillars of *social protection* (OPM, 2017) – alongside social insurance, social care, and active labour market policies (**Figure 1**). Given the broadness of the term, it is not straightforward to provide a definition of social protection (Standing, 2007). In fact, the expression describes a wide range of public policies, and sometimes private instruments, employed to tackle issues of poverty, vulnerability, and social exclusion (Brunori & O’Reilly, 2010; ILO, 2021; Standing, 2007).



Source: OPM (2017)

Figure 1. Taxonomy of social protection instruments

Defining **cash transfers** proves to be a slightly easier task: CTs are direct, regular, and predictable non-contributory cash payments mainly targeted at alleviating vulnerable households’ poverty and consumption patterns (Bastagli et al., 2019). However, the term remains rather vague and encompasses a wide range of instruments (e.g., child grants or social pensions), designs, implementations and financing options (Arnold, Conway, & Greenslade, 2011). While the primary objective of cash transfers is to reduce poverty and vulnerability, the evidence shows that they bear the potential to contribute both directly and indirectly to a wider array of development-related outcomes (Bastagli et al., 2019; Kabeer et al., 2012).

Consequently, CTs’ popularity as social assistance tools has dramatically risen (Bastagli et al., 2019; Gentilini, Almenfi, Orton, & Dale, 2022). Together with their increasing relevance, then, a variety of designs and implementation modalities have emerged. The main related distinctions refer to:

- *Conditionality*, namely the provision of cash upon fulfilment of specific conditions. While conditional cash transfers (CCT) are typically handed out in Latin America, assistance in sub-Saharan Africa is mostly unconditional (UCT), either by design or by practice (Bastagli et al., 2016). As probably already expectable on a theoretical level, CCTs tend to perform better on

the outcome variables which are conditioned by them (Baird et al., 2013). Furthermore, attaching a condition to transfers makes them more socially acceptable and politically supportable (Baird et al., 2013). The rationale behind adopting unconditional cash transfers, on the other hand, stems from an agency-based argument (Alkire et al., 2015; Sen, 1985): beneficiaries know what is best for themselves, and what they really need to spend the transfer on (Baird et al., 2013). The latter acknowledgment, together with CCTs' deficient condition monitoring and UCTs' ability to copy key CCT mechanisms through clear messaging and peer pressure, may explain why conditional cash transfers are gradually evolving into unconditional programs (Bastagli et al., 2016);

- *Target population(s)*: common selection methods include geographical, categorical, means-based/proxy-means (based on a range of poverty indicators), community-based (the interested community is involved in establishing proper eligibility criteria) targeting, or combinations of the different mentioned mechanisms (Coady, Grosh, & Hoddinott, 2013). The existing evidence shows that none of these mechanisms clearly outperforms the others with regards to targeting performance, measured as the extent to which inclusion and exclusion errors were committed (Coady et al., 2013). In opposition to targeted programs, cash transfers are labelled 'universal' when all individuals in a specific group are eligible to receive the benefit (Coady & Le, 2020; Jacques & Noël, 2021);
- *Size, frequency, method of transfer*: in this sense, one of the most recent significant innovations has been the introduction of mobile payment services, leading to more regular and predictable payments, a fundamental characteristic for transfers' success (Aker, Boumnijel, McClelland, & Tierney, 2011). Moreover, the issue of adequacy represents a main topic of discussion in CT debates (Standing, 2007): as it could be easily predicted, larger impacts have been found when distributing more substantial amounts, and when financing a cash transfer for a longer period of time (Bastagli et al., 2016);
- *Monitoring and feedback mechanisms*, aimed at increasing ownership and accountability, can also be implemented alongside the transfers. Whereas only a few cash transfer programs have installed participatory monitoring and feedback, or grievance mechanisms, their value in terms of ownership and accountability cannot be overestimated (Babajanian, 2012; Samuels et al., 2013);
- *Provision of complementary services*: the cash modality is often complemented with other types of assistance. The available evidence demonstrated that transfers which also provide additional services and complementary support (such as training and awareness-raising initiatives, productive assets, or credit) tend to generate stronger effects (Roelen & Devereux,

2019). These ‘cash plus’ programs (Roelen et al., 2017) represent a relatively new and alternative approach to social protection, reflecting the need to make interventions truly transformative (Devereux & Sabates-Wheeler, 2004; Molyneux et al., 2016) – and the skepticism around cash-only transfers’ ability to yield disruptive effects.

2.1.1 UNIVERSAL BASIC INCOME

The idea of a universal right to receive periodical subsistence payments without conditions (the so-called ‘Universal Basic Income’, or UBI) is centuries old, tracing back to Thomas More’s advocacy for a guaranteed income for all in its *Utopia* (Standing, 2020). The debate on UBI has, nevertheless, only been gaining significant traction in the last few decades, fostered by recurrent economic and social crises, and by global threats to the stability of the economy and the job market, such as automation, climate change, and conflict (Gentilini et al., 2020; OECD, 2017; Raittila & Bollain Urbietta, 2021).



Source: Stanford Basic Income Lab (n.d.), updated 9 July 2024

Figure 2. Map of Universal Basic Income experiments and related programs

Despite electoral debates and promises, however, no country currently has a UBI in place, even though many nations have been (and still are; **Figure 2**) testing it through pilot programs (Gentilini et al., 2020; Stanford Basic Income Lab, n.d.) which, still, typically always lack at least one of the fundamental characteristics of a proper UBI: periodicity, in-cash and individual disbursement, universality, and unconditionality (De Wispelaere & Martinelli, 2017). Today, most of the (small-scale) ongoing basic income experiments take place in the USA, whereas other interesting quasi-UBI projects are being carried out in Asia and Africa (Stanford Basic Income Lab, n.d.). In fact, a discussion on Universal Basic Income is relevant, for the purposes of this dissertation, because of the design of the analyzed CT programs. These are characterized by both typical (such as monthly frequency and the absence of complementary services) and atypical (e.g., unconditionality and mobile payment) features. Nevertheless, the most disruptive characteristic of the transfers of interest is their true universality – attained at the village level -, configuring them as small-scale UBI pilots. In this sense, the considered

CT projects represent some of the few ‘pure’ UBI experiments currently in progress on the world stage, and the only ones taking place in Sub-Saharan Africa, besides the ones implemented by GiveDirectly (Gentilini et al., 2020; Stanford Basic Income Lab, n.d.). To conclude, the lack of nationwide UBI trials (except brief past experiments in Mongolia and Iran; Gentilini et al., 2020) does not allow to reach definitive conclusions with respect to the supposed substantial societal benefits granted by a basic income policy (in the fight against precarity, inequality, climate change, and automation, among others; Standing, 2020). At the same time, almost all⁴ of the existing simulations at the national level are ‘static’, and therefore not truly reliable – by not being able to dynamically model the considerable behavioural changes which would undoubtedly be caused by such a groundbreaking policy innovation (Marx, 2024). In light of this, caution should be taken when advocating for UBI, as it is highly unclear what ‘general equilibrium’ (i.e., on labour supply and demand, consumption, inflation, etc.) effects – despite some promising insights from micro-level pilots (Francisco, Otto, & Van Lancker, 2024) – would be caused when upscaling (universal) cash transfers beyond the micro level (Chrisp, 2023; Heikkinen, 2018).

2.2 COLLECTIVE-LEVEL OUTCOMES: SOCIAL CAPITAL, AGENCY AND COLLECTIVE ACTION

This investigation defines collective-level impacts as repercussions on social capital, agency, and collective action (see **sub-section 2.4** for details on this choice). For each of these considered collective-level dimensions, this section firstly maps the diversity of available conceptualizations, and then proceeds to explain the choice of one specific definition. Moreover, each sub-section also clarifies how social capital, agency, and collective action are operationalized in the context of this research.

2.2.1 SOCIAL CAPITAL

Social capital is a multidimensional concept that is society-specific and subject to changes over time (Narayan & Cassidy, 2001; Woolcock & Narayan, 2000). As a consequence, numerous definitions of social capital have been produced by scholars from different research fields. A prominent conceptualization, for instance, describes social capital as the “*features of social organization, such as trust, norms, and networks, that can improve the efficiency of society by facilitating coordinated actions*” (Putnam, 1993, p. 167). Definitions of social capital used by the most important international organizations in the field of development also tend to focus on the collective (or community) level (Côté & Healy, 2001; Grootaert & Van Bastelar, 2002), even though the concept is relevant at all micro, meso, and macro dimensions (Grootaert & Van Bastelar, 2002). In a less technical sense, social capital can be summarized as the “*glue that holds societies together*” (Serageldin, 1996, p. 196). Generally speaking, Narayan and Cassidy (2001) notice that there is a high level of coherence and consistency in the various

⁴ A notable exception is represented by a recent macrosimulation of the effects of various basic income policies in the UK on employment, GDP and inflation (Cambridge Econometrics, 2022).

definitions of social capital, which is broadly seen as the knowledge, information and resources accrued to an individual, community or organization resulting from networks of social relationships (Lin, 2001).

Over time, many different sources have drafted very diverse social capital assessment tools (Harpham, Grant, & Thomas, 2002; Narayan & Cassidy, 2001; Putnam, 2000): some of the main ones are summarized by **Table 2**. The adopted indicators widely span from trust to community volunteerism, from ‘togetherness’ to social harmony (Harpham et al., 2002; Narayan & Cassidy, 2001; Putnam, 2000). Throughout this dissertation, we have heavily relied on the World Bank Social Capital Assessment Tool (SOCAT; Grootaert & Van Bastelar, 2002) to describe social capital and its indicators⁵, because of its clear and concise, yet comprehensive definition. The SOCAT depicts social capital as having two main different dimensions: a *structural* (focusing on relational aspects including organizational density, expectations regarding networks and social support, and social inclusion and exclusion patterns) and a *cognitive* one (mainly referring to attitudes, such as trust in individuals, government and politicians; cooperation and solidarity; and conflicts and how they are resolved).

Table 2. Main social capital measurement indexes

Index	Source	Components
Social Capital Index Instrument	Putnam (2000)	<ul style="list-style-type: none"> • Community organizational life • Engagement in public affairs • Community volunteerism • Informal sociability • Social trust
Global Social Capital Survey	Narayan & Cassidy (2001)	<ul style="list-style-type: none"> • Group characteristics (including association membership) • Generalized norms • Togetherness • Everyday sociability • Neighbourhood connections and community participation • Volunteerism • Trust (including institutional trust)
World Bank’s Social Capital Assessment Tool (SOCAT)	Grootaert & Van Bastelaer (2002)	<ul style="list-style-type: none"> • Structural social capital: membership in associations, networks • Cognitive social capital: indicators of trust, adherence to norms

⁵ Despite being more recent and complex, the World Bank Integrated Questionnaire for the Measurement of Social Capital (SC-IQ; Grootaert, Narayan, Jones, & Woolcock, 2004) was ultimately not selected for the task because only its first two dimensions (out of six) investigate the actual dimensions of social capital (the structural and the cognitive components, respectively). The remaining four categories either refer to the main ways in which social capital operates (collective action and access to information) or to some of its major outcomes (e.g., empowerment and political action; Grootaert et al., 2004).

Adapted Social Capital Assessment Tool (A-SCAT)	Harpham et al. (2002)	<ul style="list-style-type: none"> • Structural (connectedness) social capital: participation in organizations, institutional linkages, frequency of collective action, degree of citizenship, links to governments or aid agencies • Cognitive social capital: emotional, instrumental and informational support, trust, reciprocity, social harmony, sense of belonging, perceived fairness and social responsibility
World Bank Integrated Questionnaire for the Measurement of Social Capital (SC-IQ)	Grootaert, et al. (2004)	<ul style="list-style-type: none"> • Groups and networks • Trust and solidarity • Collective action and co-operation • Information and communication • Social cohesion and inclusion • Empowerment and political action

The main structural and cognitive social capital indicators for operationalization, as described by the World Bank SOCAT, are summarized by **Table 3**.

Table 3. Main indicators for each social capital dimension

Dimension	Main indicators
Structural social capital (groups and networks)	<ul style="list-style-type: none"> • Membership of organizations, networks or associations • Expectations regarding networks and mutual support • Organizational density and characteristics • Diversity and inclusion patterns of the groups • Previous collective action⁶
Cognitive social capital (trust and solidarity)	<ul style="list-style-type: none"> • Degree to which determined categories (ethnic, professional, etc.) can be trusted • Solidarity patterns (frequency, willingness to contribute, etc.) inside the community • Conflict and conflict resolution⁷

Source: elaborated by the PhD candidate and supervisors drawing on Grootaert and Van Bastelaer (2002)

Assessing both structural and cognitive social capital (separately) is considered fundamental, because while the latter intuitively predisposes individuals towards mutually beneficial collective action, the former facilitates such action (Krishna, 2000).

In spite of innovative attempts at quantifying social capital, its direct measurement is complicated (Durlauf & Fafchamps, 2008; Garbarino & Holland, 2009). According to Garbarino and Holland (2009),

⁶ Previous collective action was never investigated by the literature, so it will not be touched upon by **Chapter 1**, reviewing the available empirical evidence concerning CT impacts on collective-level outcomes.

⁷ Conflict, embodying a very broad concept, was equally not addressed by **Chapter 1** and by the overall PhD study because of SOCAT's failure to adequately circumscribe and define it. Nevertheless, 'social tensions' were still employed as an indicator of structural social capital across the dissertation.

the main related difficulties are (1) identifying a contextually relevant indicator of social capital and (2) establishing an empirical correlation with relevant benefit indicators. An additional conceptualization issue is the lack of clear distinctions between the determinants and the outcomes of social capital (Laursen, Masciarelli, & Prencipe, 2007). In fact, some of the proxies often used to analyze social capital within a community – such as safety, security, and political engagement – are actually outcomes of social capital (Narayan & Cassidy, 2001), as already mentioned in the case of the World Bank SC-IQ.

To avoid the most common issues when measuring social capital and a potential lack of explanatory power (Bodin & Crona, 2008, 2009), this research also partially draws on the definition of social capital as a ‘relational’ construct (Borgatti, Jones, & Everett, 1998; Lakon, Godette, & Hipp, 2008; Lin, 2001). Despite all the related potential advantages, nevertheless, just a few direct attempts at measuring the impacts of cash transfers on social networks have so far been produced (Daidone, Pellerano, Handa, & Davis, 2015). Moreover, as already briefly mentioned, no previous study had yet analyzed social cash transfers’ effects on social capital through the application of Social Network Analysis, losing substantial explanatory potential. Applying SNA to the evaluation of cash transfers yields significant benefits as the most successful theoretical inquiries of social capital and development are not those that focus on social capital per se, but those that model social capital as a specific type of social network structure which affects individual outcomes (Durlauf & Fafchamps, 2008).

Building on the earlier distinction between the *cognitive* and the *structural* dimensions of social capital, we then follow a ‘network’ perspective to further differentiate the structural component by distinguishing between ‘bonding’, ‘bridging’, and ‘linking’ social capital. *Bonding social capital* represents ties, norms of solidarity, and trust among members of a social community (grouped by religion, class, ethnicity, caste, etc.), while *bridging social capital* refers to cross-cutting ties between different social groups (Narayan, 1999; Putnam, 2000). Lastly, *linking social capital* specifically relates to the links between citizens and representatives of formal institutions⁸ with major bearing on citizens’ welfare, such as law enforcement officers (Szreter & Woolcock, 2004; Warren, Thompson, & Saegert, 2001). Whereas the distinction between bonding and bridging social capital has been around for some time (Putnam, 2000), linking social capital is a relatively recent concept (Szreter & Woolcock, 2004). Furthermore, unlike bonding and bridging social capital, which refer to ‘horizontal’ social networks and relationships, linking social capital instead reflects how individuals are ‘vertically’ linked to political structures and institutions.

⁸ This narrow definition of linking social capital, explicated through direct ties between citizens and government officials, was also followed by **Chapter 1** when collecting the evidence. Other conceptualizations of state-citizen relations, such as citizenship and perceptions of the state (Oduro, 2015) were instead excluded from its analysis, but empirically investigated by **Chapter 5**.

In order to capture the *cognitive dimension* of social capital, we also majorly related to trust (in one's fellow citizens and in institutions) and solidarity (defined as the extent to which people are assisted by others in case of need) following the SOCAT categorization, and bearing in mind that the investigated outcomes (and their changes) could be mapped and described through networks, too. Any research whose aim was to measure social capital, notwithstanding the implemented specific conceptual framework, should then try to capture this multi-dimensionality. Additionally, it is also fundamental to take into account the time-variant and dynamic nature of social relations inside a community: social capital is therefore prone to a mixed-methods approach (Garbarino & Holland, 2009; Jones & Woolcock, 2007). Such mixed-methods investigations are barely ever implemented in the literature, which typically resorts to either qualitative (e.g., focus group discussions, in-depth interviews, and life stories) or quantitative (surveys) research for the analysis and measurement of both the cognitive and structural dimensions of social capital.

2.2.2 AGENCY

In social sciences, discussing agency generally means reflecting on the capacity of individuals to act independently and to make their own free choices (Tan, 2011). In this sense, a number of structural societal factors such as class, religion, gender, and ethnicity could determine or limit one's individual agency inside a community. Despite its centrality in social sciences debates, the term has maintained an elusive and vague nature, being associated with a long list of ideas: motivation, will, purposiveness, choice, initiative, creativity, freedom, and self-efficacy, among others (Emirbayer & Mische, 1998).

Therefore, likewise social capital, many different definitions and conceptualizations of the idea of agency exist. For instance, stemming from the capability approach, firstly developed by Sen in 1985, a common definition of agency refers to the extent to which individuals can "*effectively shape their own destiny*" (Sen, 1999, p. 11). Kabeer, on the other hand, describes agency as one of the dimensions of empowerment, the latter capturing the ability of individuals to make strategic life choices (Kabeer, 1999). Generally speaking, then, agency is conceptualised as someone's perceived capacity to define personal objectives and act on them. Several prominent definitions of agency, in fact, mainly capture this idea of *perceived self-efficacy*, such as those describing agency as the discerned "*capacity of the individual to plan and initiate action*" (Onyx & Bullen, 2000, p. 29) or the perceived ability to "*transform existing states of affairs*" (Harvey, 2002, p. 173).

Even though agency is often implied as a concept in social protection-related literature (Nnaeme, Patel, & Plagerson, 2020), very little efforts have been pointed at either applying a theoretical framework to its analysis or at investigating the effects of social cash transfer programs on dimensions attributable to agency (Nnaeme et al., 2020). Drawing upon the identification of this research gap, several authors have criticized the assumption that agency might not be a solution to social issues such as poverty, unemployment, and low development (Deacon & Mann, 1999; Wright, 2012). An agency-centered

approach therefore becomes fundamental not only to refute the popular belief depicting CT and welfare recipients as passive and dependent on state aid (Plagerson, Harpham, & Kielmann, 2012), but also to highlight the structural barriers that underlie poverty. This conceptualization of agency entails then clear synergies with theories of human development, in accordance with the vision derived from past experiments where social capital alone did not yield high development performance: agency was also needed (Krishna, 2002).

This study's conceptual framework adopts a broader and more complete theorization of agency (in a similar fashion as the previous discussion on social capital), namely a 'network' definition, where agency is approached from a social network perspective (Bodin & Crona, 2008; Newman & Dale, 2007). In fact, this research will investigate agency not only from a classical 'perceived self-efficacy' point of view, but also by looking at influential actors' *embeddedness in social networks* and *links to external actors* (Bodin & Crona, 2009; Dewachter & Holvoet, 2017). The agency of singular actors is affected by both the nature of the existing connections within a network, and by the overall network structure or topology. Structural network measures at the individual level (e.g., centrality patterns, such as the number of connections and 'closeness' to other actors) can therefore be exploited in order to identify the most central and influential actors within a community, based on the hypothesis that such indicators represent a viable and robust way to identify these influential individuals (Bodin & Crona, 2008). For the purpose of the study, the latter task might even be facilitated by the data collected on the formal leadership role of people, gathered at the individual level. As the systematic evidence review conducted in **Chapter 1** will show, nevertheless, the effects of CTs on personal agency have been (scarcely) investigated both qualitatively and quantitatively, and the latter attempt has never been carried out through the lenses of a network-related definition of agency. The few existing proofs, indeed, only measure cash transfers' impacts on (slightly varying) perceived efficacy indicators.

2.2.3 COLLECTIVE ACTION

Collective action is often uncritically used as a synonym of social structures or formal organizations (German, Taye, Charamila, Tolera, & Tanui, 2006). Nevertheless, once again, various descriptions of the underlying concept have been formulated by scholars. A first definition – the most widely used, by far – poses that *collective action* is the set of direct actions carried out by groups of people to achieve common goals (Lubell, Schneider, Scholz, & Mete, 2002), a notion that could be categorized as the 'social movement' dimension of collective action. Other conceptualizations refer to other aspects of collective action, such as representation (i.e., equal participation of people in collective decision-making; Meinzen-Dick, Knox, Swallow, & Place, 2002), political equality (acknowledgment and integration of diverse political interests into equitable decision-making processes; Sultana & Thompson, 2004) and collective regulation on individual action (Pender & Scherr, 2002).

Although an increasing amount of research on collective action has been produced over the last few decades, most of it focuses on collective action theory, namely on the analysis of the conditions that foster or inhibit effective collective action (Ostrom, 1994; Runge, 1992; Sandler, 1992). Often, collective action is not even defined by these studies, and when it is, the adopted descriptions generally embody the looseness of the concept itself and are rooted in other not clearly defined concepts (Meinzen-Dick, DiGregorio, & McCarthy, 2004). Marshall refers to collective action as an effort made by a group in pursuit of its members' perceived shared interests (Marshall, 1998), but numerous other definitions of collective action have also been suggested by the literature, explaining the concept as the "*coordinated behavior of groups towards a common interest or purpose*" (Vermillion, 2001, p. 184) or the action undertaken in a relatively spontaneous way by a large number of people assembled together in a particular place or area (Giddens, 1997).

These broad conceptualizations, that are also the most widely used in the literature, constitute the way in which collective action will be referred to in this work. Such generic approach on collective action, however, will be enriched from an economic perspective, whereby collective action is ultimately viewed as the mechanism leading to the provision and creation of *public goods and bads* (and other collective consumption patterns), obtained through the collaboration of at least two individuals (economic theory of collective action; Olson, 1965). From an operationalization perspective, similarly to the (scarce) existing pieces of evidence, the CT effects on collective action were empirically investigated in the PhD study by combining direct survey inquiries and qualitative responses of cash recipients⁹.

2.3 THE SUSTAINABILITY OF CT IMPACTS

When attempting to define the sustainability of cash transfer effects, it is necessary to operate a distinction between:

- The *long-term impacts* of cash transfers, assessed while the intervention is still active (OECD, 2021). In fact, an evaluation estimating the effects of a (still ongoing) CT several years after program inception might refer to those as the 'long-term' consequences of the transfer, even if still measured during the lifespan of the intervention;

⁹ The most vastly used investigation technique, in the context of the analysis of cash transfers' impacts on collective action, namely public goods games (Marwell & Ames, 1979) was instead not implemented within the scopes of this PhD research because of incompatibility with the latter's research design.

- The impacts of cash transfers on *variables considered to be medium or long-term*¹⁰, often cited as ‘third order’ or ‘final’ outcomes (Bastagli et al., 2016). Such consideration derives from the acknowledgement that beneficial effects on these dimensions could turn into generalized longer-run improvements in recipients’ livelihood (Molina Millán et al., 2019);
- The *sustained effects* of cash transfers, namely their long-lasting impacts, measured after the end of exposure to a CT program (Kondylis & Loeser, 2021; Sabates-Wheeler & Devereux, 2013), which represent the focus of our investigation.

Sustainability is still largely overlooked by the literature on cash transfers, despite relating to one of the six evaluation criteria adopted by the Development Assistance Committee (DAC) of the OECD – together with relevance, coherence, effectiveness, efficiency, and impact. The DAC defines sustainability¹¹ as “*the extent to which the net benefits of the intervention continue or are likely to continue*” (OECD, 2021, p. 71). The lack of attention to issues of sustainability might be attributed to measurement difficulties, given that program effects tend to rapidly fade out after the end of a program. However, interventions’ design plays a key role in determining the sustainability of impacts (OECD, 2021). As already anticipated, the ability of cash transfers to yield persisting positive consequences has only recently been seriously discussed and is still subject to skepticism. It was in this context that asset-based approaches to poverty reduction and growth emerged, in the 1990s (Ellis, 2000; Sen, 1997). These new perspectives on social protection laid the foundations for the rise of livelihood-promoting interventions such as ‘graduation’ programs (Devereux & Sabates-Wheeler, 2015; Hashemi & Umaira, 2011), coupling (generally lump-sum) cash with either productive assets, savings and credit, training, or a combination of them (Roelen & Devereux, 2019). Nevertheless, **Chapter 2**, reviewing the available empirical evidence on the sustainability of cash transfer impacts, will conclude that graduation programs do not yield comparatively more sustained impacts than conventional CTs, not even on the outcomes they are explicitly designed to foster (i.e., labour, savings, investment, entrepreneurship, etc.).

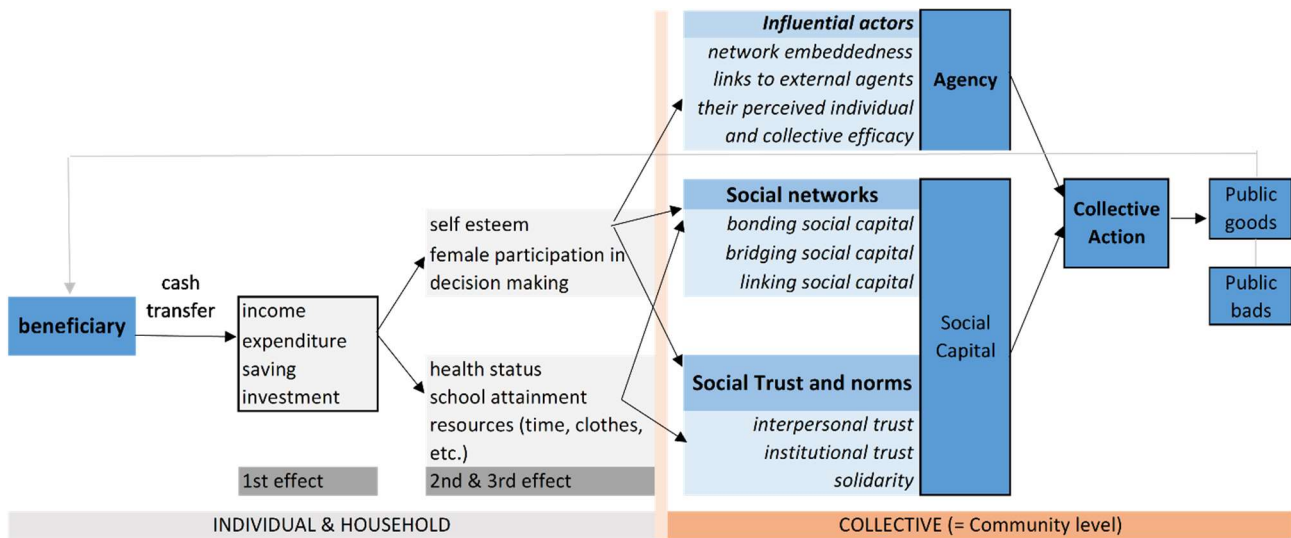
2.4 ANALYTICAL FRAMEWORK

This doctoral research is linked to experiments of universal unconditional cash transfers in which, over a period of 2 years, all adults (and children) living in rural villages in Western Uganda received a monthly

¹⁰ The most typical example is represented by child health proxies: enhancements on these dimensions, if attained during infancy or young childhood –, while indirectly exposed to CTs transferred to one’s household – could in fact later activate virtuous circles of excellent school grades, better labour outcomes, and ultimately higher achievements in adulthood. Other examples include schooling, psychosocial wellbeing and social capital, livelihood strategies’ diversification and resilience (Bastagli et al., 2016).

¹¹ The present study only focuses on the sustainability of effects at the individual/household level, while leaving reflections around other relevant aspects of sustainability – such as the institutional one (OECD, 2021) – out. However, such exclusion was only driven by time and scope limitations, and this source maintains that future research efforts on the sustainability of cash transfer impacts should certainly be devoted at exploring different elements of the concept.

payment in cash. More information about the CT interventions of interest will be provided by the **methodology chapter**.



Source: Dewachter and Holvoet (2019)

Figure 3. Analytical framework on hypothesized cash transfer effects

A visual representation of the anticipated effects of the UCT projects is shown by **Figure 3**, which schematically depicts the analytical framework of the doctoral research, elaborated by its promoters (Dewachter & Holvoet, 2019) drawing upon previous investigations around social capital, agency and collective action (Bodin & Crona, 2008).

The first measurable program effects tend to be at the *individual and household level*, where an increase in (non-wage) income derived from the cash transfer is expected to translate into higher expenditures (on food, health, education, etc.), investments and/or savings (first order effects; see Bastagli et al., 2016). These initial impacts could in turn induce higher school enrolment, increased visits to health facilities, and similar second order effects. Finally, it could be anticipated to obtain even third order effects such as improved school performance, health status, psycho-social wellbeing, and women's empowerment. Given the already mentioned substantial existing evidence on these impacts (Bastagli et al., 2016), they did represent the main outcomes of interest of the research, even though they were still investigated and discussed, particularly from a sustainability perspective (see **Chapter 7** and an empirical research brief we published, generically dealing with the sustainability of effects; Grisolia, Dewachter, & Holvoet, 2023b).

In fact, as already mentioned, the main thematic *focus* of this doctoral research was to study the UCTs' overall impacts at the *collective (or community) level*. The analytical framework hypothesizes that the transfers would generate positive consequences on cognitive patterns such as attitudes (institutional and interpersonal trust) and more structural ones (e.g., social networks), the two essential building blocks of social capital according to the already introduced World Bank's definition (Grootaert & Van

Bastelar, 2002). Studying the latter relationships proves to be fundamental given that collective action is expected to be dependent, drawing upon the Bodin-Crona framework (2008), on a combination of social capital within the villages and the agency of some actors to activate the social capital stock present within the community towards a certain common goal (e.g., collectively building a road, a school, a water well).

The posed analytical framework considers then both social capital and agency as critical drivers for collective action, where agency is realised through influential actors who have the capacity to activate potentially latent stocks of social capital in the community, and to direct it to the production of beneficial flows for the community itself (Bodin & Crona, 2009). Influential actors are defined as the most central actors in the community social networks, a position which enables them to coordinate among villagers, resolve conflicts and manage communication patterns with external agents (Bodin & Crona, 2009; Wasserman & Faust, 1994). Therefore, it is assumed that successful agency is dependent on influential actors' embeddedness within the village network, relations with external agents, and perceived self-efficacy of their own, besides on the success rate of previous collective actions (Bodin & Crona, 2009; Dewachter & Holvoet, 2017).

Furthermore, the characteristics of the villages' social networks, resulting in their overall cohesiveness, are expected to be crucial for the activation of latent social capital stocks and for the subsequently theorized collective action patterns (Lakon et al., 2008; Lin, 2001). For instance, measures such as the network density (number of actual existing relations divided by the total possible ones) and inclusiveness (meaning, the absence of isolated villagers, disconnected from the community's social networks) could accurately proxy for the communities' social capital (Bodin & Crona, 2009; Lakon et al., 2008). Finally, citizens' perceptions around interpersonal and institutional trust, namely the degree to which they believe they can trust each other and the government, are also hypothesized to be influencing people's eagerness to invest in collective action (Andersson & Gabrielsson, 2012; Attanasio, Pellerano, & Reyes, 2009). In fact, low levels of interpersonal trust would bring individuals to anticipate more freeriding behaviour by fellow citizens, and higher levels of elite capture of collective goods is assumed when institutional trust is low. Lastly, the successful realization of all the different impact pathways described by the analytical framework is claimed to be paramount for the persistence of CT effects in the long run – and hence, for the realization of their transformative potential in this sense.

3. STRUCTURE OF THE THESIS

We hereby outline the overall structure and content of the PhD thesis. More detailed overviews of each chapter's research questions and methodology will be provided by **Chapter 3**.

In the **first chapter**, a literature is performed of the available empirical evidence concerning cash transfer effects on collective-level outcomes is performed. We also disaggregate impacts by CT design characteristics and by research methodology (i.e., quantitative or qualitative).

The **second chapter** conducts another literature review, this time focusing on the sustainability of cash transfer effects. Slightly different insights are found by differentiating the evidence base according to the length of the timeframe elapsed since program termination, and distinguishing conventional cash transfers from alternative asset-based approaches to social assistance.

The **third chapter** presents the methodological features of the thesis. We elaborate on the case selection, before discussing the research design and introducing the applied data collection and analysis tools. Subsequently, we also engage in a reflection on the validity of this study, and of how we tackled threats of systematic bias. We conclude the chapter by examining the main philosophical assumptions guiding the research, and the PhD researcher's positionality with respect to the study context.

In the **fourth chapter**, we contextualize Uganda – and the Western region of the country, in particular – in terms of the main domains of interest to this project. First, a brief historical overview on social protection in Uganda is presented, before discussing the current local social protection outlook. Second, we present the most recent available data on the levels of social capital, agency, and collective action in the country. Finally, we briefly outline Uganda's exposure to climate change, alongside introducing the national adaptation and mitigation countries. Throughout the chapter, Uganda is positioned on these key topics in comparison to neighbouring countries.

In the **fifth chapter**, we start presenting the empirical findings from our research with an analysis of the citizenship impacts – and their sustainability – of cash transfers. In this sense, we differentiate between three distinct dimensions of citizenship, in relation to CTs: recipients' perceptions of the state, state-citizen relations, and beneficiaries' understanding of their rights and responsibilities. In addition to employing matching impact evaluation techniques, the chapter also further investigates CT-led changes in state-citizen relations through the application of (descriptive and inferential) SNA, therefore providing hints on the effects yielded by the program on linking social capital. Moreover, we complement the quantitative analysis with a few qualitative insights derived from key-informant interviews.

Chapter six returns additional insights on the sustainability of cash transfer impacts, focusing on collective-level effects. This piece of research also disaggregates findings by gender, and mainly relies on descriptive statistics and matching tools.

The **seventh chapter** adopts a similar methodology to the previous chapter, but centers its sustainability analysis on productive variables, such as labour, savings, investment, and entrepreneurship. Besides differentiating effects by gender, it also substantially grounds in previous theoretical and empirical literature to individuate the contingent events and mechanisms leading the observed impacts.

In the **eighth chapter**, we implement a quasi-experimental difference-in-differences evaluation design to compute treatment coefficients on climate change adaptation and collective-level outcomes. Furthermore, we use Causal Mediation Analysis to measure the indirect quota of the impacts on the collective dimension on the total estimated CT effects on climate adaptation. A few qualitatively collected pieces of information contribute to justify some of the detected patterns of change.

In the **ninth chapter**, we explore in depth the social network impacts of CTs, reporting the evolutions in social support and material support/risk-sharing connections. Both networks are plotted, a few descriptive metrics of theirs are reported, and we investigate the presence – and rise, over time – of network structure characteristics such as assortativity and preferential attachment. Lastly, we resort to inferential network analysis to assess the extent to which any of the considered network connections predicts the other one.

The **tenth chapter** summarizes the main findings from the empirical chapters and discusses the contribution of the dissertation to the existing knowledge on cash transfer impacts. The chapter also further elaborates on the implications of the study for research and policymaking.

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CHAPTER 1

SHIFTING THE FOCUS? FROM INDIVIDUAL TO COLLECTIVE-LEVEL EFFECTS OF
CASH TRANSFERS. A SYSTEMATIC REVIEW OF THE IMPACTS ON SOCIAL CAPITAL,
AGENCY AND COLLECTIVE ACTION

SHIFTING THE FOCUS? FROM INDIVIDUAL TO COLLECTIVE-LEVEL EFFECTS OF CASH TRANSFERS. A SYSTEMATIC REVIEW OF THE IMPACTS ON SOCIAL CAPITAL, AGENCY AND COLLECTIVE ACTION^{12,13}

ABSTRACT

Cash transfers (CTs) are used by countries all over the world as components of their poverty reduction and social protection strategies. By design, CTs are complex social programs that have potentially important consequences for recipient communities. Nevertheless, contrary to individual and household-level outcomes, analysis on their collective-level effects is largely lacking. In order to fill this gap, this paper conducts a systematic review of the existing evidence for the collective-level impacts of cash transfers, conceptualized as effects on social capital-, agency- and collective action-related indicators. Drawing on the analytical framework of the underlying doctoral research, it is hypothesized that positive effects on both social capital and agency are needed in order to foster collective action in the beneficiary community. This paper differentiates between the structural (bonding, bridging and linking capital) and cognitive (trust and solidarity) dimensions of social capital. Available evidence suggests that CTs can stimulate bonding social capital (e.g., social participation and membership of organizations), while at the same time they might generate negative repercussions on bridging social capital, such as rising inter-group tensions and social exclusion. The existing proofs also suggest beneficial impacts of CTs on proxies of agency and collective action. Overall, however, the available evidence is scarce, and effects differ depending on design features. On the other hand, there is relative concordance in findings across methodology (i.e., qualitative versus quantitative). The article invites agencies that implement CTs to purposefully design interventions in accordance with the envisaged impacts – not only at the individual, but also at the collective level. Furthermore, the paper argues for the adoption of mixed-methods research design and new methodological techniques (such as Social Network Analysis, SNA) for inquiries around the collective-level impacts of cash transfers.

Keywords: cash transfers, social assistance, social protection, collective-level effects, social capital, agency, collective action, systematic review

¹² A slightly revised version of this chapter has been published as an academic journal article, full reference: Grisolia, F., Dewachter, S., & Holvoet, N. (2024). Shifting the focus? From individual to collective-level effects of cash transfers: A systematic review of the impacts on social capital. *Journal of International Development*. doi: 10.1002/jid.3933

¹³ The individual contributions of each author are reported as follows. *Filippo Grisolia*: conceptualization, investigation, formal analysis, visualization, validation, writing – original draft, writing – review and editing, data curation; *Nathalie Holvoet*: conceptualization, funding acquisition, resources, investigation, formal analysis, validation, supervision, writing – review and editing; *Sara Dewachter*: conceptualization, funding acquisition, resources, investigation, formal analysis, validation, supervision, writing – review and editing. All authors read and approved the final manuscript.

1. INTRODUCTION

Social assistance programs like cash transfers (CTs) are increasingly common components of countries' poverty reduction and social security policies (Bastagli et al., 2016; CALP Network, 2023). Today, the dialogue around social assistance and its relevance is more prominent than ever: the recurrent economic and social crises spurred by the global macrotrends of political instability, conflict, and climate change are putting the stability of labour markets, welfare states, and societies in general at risk (CALP Network, 2023; Idris, 2017). Such unstable situation has been leading to a scaling up of, and growing need for, social assistance. In response to COVID-19, for instance, 19.5% of the world population, amounting to 1.5 billion people, received cash transfers (Gentilini, Almenfi, Orton, & Dale, 2022). With their constantly increasing use, research on the effectiveness and impact of CTs has also been on the rise, as demonstrated by reviews of the available evidence (Bastagli et al., 2016; Davis et al., 2016; Kabeer, Piza, & Taylor, 2012; Owusu-Addo, Renzaho, & Smith, 2019). Nevertheless, despite the wide range of collective effects that a social assistance program may have on the recipient community, most studies on cash transfers only focus on measuring the impacts of these programs at the household and individual levels (Bastagli et al., 2016). As a consequence, the majority of sources does not only lose the possibility to capture CT effects in their entirety, but also the prospect to shed light on the pathways leading to the measured changes. In spite of recent increased attention to analyses of the impacts of CTs at the collective level, the existing evidence is, in fact, still scarce.

In this context, the aim of this paper is to conduct a systematic review of the existing literature on the collective-level effects of cash transfers, in order to highlight what is already known and to identify potential research gaps. The study focuses on a specific dimension of collective-level impacts, namely the effects on social capital, agency, and collective action¹⁴. Most of the existing literature focuses on social capital, increasingly depicted as a critical factor in generating collective action, and the public goods (e.g., schools, water, roads) needed to sustainably lift citizens out of poverty (Bodin & Crona, 2008). Nevertheless, empirical research has shown that positive changes on social capital are not enough to foster collective action and development: improvements in influential community actors' agency are also needed (Krishna, 2002). The latter, then, is assumed to represent an important mechanism through which cash transfers could not only alleviate monetary poverty (Samuels, Jones, Alder, & Foley, 2013), but also yield long-lasting¹⁵ transformative effects (Granlund & Hochfeld, 2020; Molyneux, Jones, & Samuels, 2016; Ressler, 2008) in the treated community.

¹⁴ In fact, many other outcomes, including – but not limited to – micro/meso-level economic indicators, may be categorized as collective-level variables.

¹⁵ Relatively little is known so far about the long-term sustainability (i.e., persistence after program closure) of CT effects, notwithstanding a few interesting exceptions (Baird, Chirwa, McIntosh, & Özler, 2015; Sabates-Wheeler & Devereux, 2013). As already explained, shedding more light on the sustainability of CT impacts does also represent a main research objective of the doctoral project, but not the focus of this specific chapter.

The discussion around why should collective-level effects be considered as a fundamental outcome of cash transfer programs needs to arise from the acknowledgement that the main issue that those initiatives try to tackle, poverty, is not just about income. On the contrary, multiple other dimensions, rather than income only, contribute to the individual status of poverty (Rock et al., 2016), with the result that *“benefits meant exclusively for the poor end up being poor benefits”* (Sen, 1995, p. 14). In fact, cash transfers can, besides tackling material deprivation, yield positive consequences on several other outcomes, such as people’s sense of self-worth, dignity and control over their lives (i.e., personal agency), and social capital inside communities (Samuels et al., 2013). Some sources agree that cash transfers can definitely alleviate monetary poverty, but cannot solve it, and therefore, different specific measures aimed at promoting empowerment and inclusion are likely to be more effective than CTs (Devereux & McGregor, 2014). Devereux and McGregor (2014) conclude that sustainable poverty reduction can only be achieved by changing the relationships that generate and perpetuate poverty, such as citizen-to-citizen and state-to-citizen interfaces. Focusing on changes at the collective level is not only critical because positive collective outcomes are desirable in and of themselves, but all the more because of the direct relationship between poverty and social aspects. After all, as already clarified, multiple dimensions contribute to the individual status of poverty rather than income only (Rock et al., 2016).

From a policymaking perspective, currently supported definitions of social protection extend its role to areas such as social relations, equity, empowerment and social rights, beyond mere poverty alleviation (Devereux & McGregor, 2014). Ideally viewed as a participative way to contribute to economic development, these objectives logically depend on the collective dimension. However, such visions have not yet been fully developed in the theoretical discourse: as a matter of fact, they are still absent from assessment tools such as the World Bank’s Social Risk Management (SRM) 2.0 framework (Jorgensen & Siegel, 2019), where social inclusion, cohesion, and stability are only treated as positive externalities of well-designed programs (Devereux & Sabates-Wheeler, 2004; Holzmann, Sherburne-Benz, & Tesliuc, 2003).

Rather than merely summarizing the existing evidence, this study also differentiates between different types of evidence on the basis of certain design features of CT programs: conditionality (or lack thereof), targeting (or quasi-universality¹⁶), and the provision of additional services or complementary support. Furthermore, we propose new methodological approaches (e.g., Social Network Analysis;

¹⁶ Given that none of the included studies assessed the impacts of truly universal programs (i.e., where every person in a community receives the transfer), this paper’s concept of (quasi-)‘universality’ is based on category membership. Categorical (only) transfers whose eligibility was defined through criteria highly correlated with low income (such as old age or single motherhood status) could, in fact, be labelled as ‘quasi-universal’ by being assimilable to – and potentially even yielding larger poverty impacts than – universal programs with similar budgets (Coady & Le, 2020). As such, their design is closely related to the idea of ‘targeting within universalism’ (Jacques & Noël, 2021). Therefore, if the eligible beneficiaries of the CT of interest were all the individuals belonging to a predetermined recipient demographic, and no other targeting methods were applied (e.g., means-based, geographical), the intervention was categorized as ‘quasi-universal’, in the context of this review.

Wasserman & Faust, 1994) to evaluate the introduced effects. A further distinction and impact disaggregation is made between qualitative and quantitative insights, according to the methodology of the selected studies. Finally, we argue in favour of reconsidering cash transfers, and the way they are designed, in light of the possibility to trigger transformative impacts, as seen through a social and collective-level lens.

The rest of the document is structured as follows: **Section 2** elaborates further on the relationship between cash transfers and collective-level variables. **Section 3** discusses the methodology which we followed. **Section 4** analyzes the main features of the included evidence, and presents the results of the review. Finally, **Section 5** concludes and suggests some of the potential implications on future research, while also identifying some of the review's limitations. Detailed information about the features and findings of each reviewed study is presented by the **Appendix**.

2. CASH TRANSFERS AND COLLECTIVE-LEVEL OUTCOMES

From a purely theoretical perspective, it is unclear how cash transfer programs could affect collective-level outcomes. On the one hand, CTs could enhance a number of well-being measures that contribute to social capital, including feelings of equality within and between groups, trust in institutions, access to information, and an augmented social contract (Druza, 2016; Leites, Pereira, Rius, Salas, & Vigorito, 2017). Leites et al. (2017) also indicate that transfers could boost social capital by increasing individuals' interactions through the ancillary activities typically linked to social assistance programs, such as community meetings and trainings. On the other hand, it should also be taken into account that cash transfers could generate feelings of jealousy and resentment towards recipients, potentially leading to exacerbations in intra-community or intra-ethnic tensions (Devereux et al., 2017). In fact, targeting proves to be a key consideration for the design of cash transfer programs, potentially bearing implications on social capital, agency, and collective action: the most commonly observed and reported negative consequences of programs are increased between-group tensions and resentment feelings, all derived from vulnerable groups' exclusion from the assistance (Babajanian & Hagen-Zanker, 2012; Leites et al., 2017; Pavanello, Watson, Onyango-Ouma, & Bukuluki, 2016; Roelen, Edström, Sabates-Wheeler, & Davies, 2011; Valli, Peterman, & Hidrobo, 2019). The stigma and shame derived from receiving social assistance might even increase targeting errors, both for eligible and non-eligible groups (Li & Walker, 2017). Other undesirable negative consequences may include social divisiveness and socially invidious reshufflings in income distribution (Ellis, 2012). This paper was therefore produced with the objective to shed light on the topic by summarizing the existing empirical evidence on the matter.

The findings of the studies under review were also evaluated and differentiated according to the mentioned CT features (or lack thereof, i.e., unconditionality, quasi-universality), while other program

characteristics such as size, frequency, method of transfer, monitoring and feedback mechanisms were not taken into account when grouping impacts together. In fact, while these features may contribute to differences in impacts (Bastagli et al., 2016), they often vary in space and time within the same program, especially for nationwide CTs, which makes comparisons of transfers on the basis of such characteristics very challenging, both between and within programs. In addition, potentially interesting disaggregations based on recipient features – such as age, ethnicity, or gender – are barely (and often incompletely) covered by research articles (see **Appendix**).

3. METHODOLOGY

This review was guided by the systematic review process of the *Cochrane Handbook* (Higgins et al., 2021) utilizing the best evidence available.

3.1 SEARCH STRATEGY, AND INCLUSION AND EXCLUSION CRITERIA

Relevant literature was selected through electronic searching (both peer-reviewed and grey literature, through Web of Science’s ‘Core Collection’¹⁷ and Google Scholar¹⁸), and citation tracking. During the search, a term for CTs was combined with several keywords, relating to social capital, agency, and collective action, to index and identify relevant papers from the above-mentioned online research tools:

- (1) cash transfers *and*
- (2) social capital *or* social cohesion¹⁹ *or* social networks *or* social inclusion *or* trust *or* solidarity *or* agency *or* collective action

A few selection criteria for inclusion and exclusion were used, considering temporal, linguistic, and quality-related aspects. Only empirical studies published in English between 1 January 1980 and 31 March 2021 in peer-reviewed scientific journals (or by internationally recognized institutions and research organizations) were selected for inclusion in the review. The selection timeframe was deliberately chosen as studies on the impacts of cash transfers began to appear around 1980. The

¹⁷ Web of Science’s Core Collection is the world’s leading citation database, including over 21,000 high-quality academic journals.

¹⁸ In Google Scholar’s search, for each inquiry the first 200 resulting sources, ranked by relevance, were scanned (Bramer, Rethlefsen, Kleijnen, & Franco, 2017).

¹⁹ We also searched for papers referring to social cohesion, as this term is often used as a synonym of social capital (Pavanello, Watson, Onyango-Ouma, & Bukuluki, 2016), and included them when the measured outcomes were traceable to the definition of social capital used by this dissertation. Compared to social capital, social cohesion is typically considered to be a broader notion, more prone to macro (rather than micro) analysis (Klein, 2013). However, many of the dimensions commonly associated with social cohesion (social relations, identification, orientation towards the common good, shared values, quality of life, and (in)equality; Schiefer & van der Noll, 2017) partly overlap with the discussed aspects of social capital. Various conceptualizations of the idea describe it as the willingness of people within a society to cooperate, the nature of its social and economic divisions, and the extent to which values are shared (Easterly, Ritzen, & Woolcock, 2006; Klein, 2013). In the remainder of the chapter, we will focus on social capital and its dimensions, even though social cohesion is acknowledged as part of the overarching conceptual framework of the review.

geographical scope of papers, however, was not limited. Furthermore, no income/GDP restrictions were applied, potentially leading to the gathering of evidence from low-, middle- and high-income countries. Both qualitative and quantitative study designs were deemed eligible for inclusion, with the latter comprising both experimental and quasi-experimental techniques.

3.2 SELECTION OF STUDIES, DATA EXTRACTION, QUALITY ASSESSMENT, AND DATA SYNTHESIS AND ANALYSIS

Having concluded the identification phase, we proceeded to select relevant studies. In order to avoid selection bias, two of the authors independently conducted screening processes of all titles and abstracts yielded by the search. Full-text screening of potentially eligible studies was also carried out separately. Subsequently, any disagreements concerning eligibility were jointly assessed in order to reach consensus on the inclusion criteria. A backward citation tracking search was then performed to identify any potentially overlooked sources (Briscoe, Bethel, & Rogers, 2020). In-depth data on the research design, setting, intervention type, and outcomes were extracted from each source. In particular, outcome data, which are critical for the interpretation of results, were independently retrieved by two of the authors.

As already briefly explained, we decided to incorporate empirical papers, regardless of the methodology employed in their analysis. However, during the quality assessment phase, this aspect needed to be taken into account as a differentiating factor. The validity of findings reported by the qualitative sources included was evaluated and confirmed through the effectiveness assessment tool CASP (Critical Appraisal Skills Programme, 2018). In this context, particular attention was paid to checking the clarity and consistency of the adopted paradigms and methods, and to verifying the actual added value of the research (Long, French, & Brooks, 2020). Additionally, the risk of bias in quantitative papers was determined by applying the Revised Cochrane Risk-of-bias Tool for Randomized Trials (RoB 2) and the Risk Of Bias In Non-randomized Studies – of Interventions (ROBINS-I) tools to experimental and quasi-experimental evidence, respectively (Higgins et al., 2021). While the CASP and the RoB 2 tool highlighted adequate results²⁰ for twenty-one qualitative and five experimental studies respectively, the ROBINS-I assessment found moderate to serious risk of bias for the eight quasi-experimental sources²¹. Given that the latter category was still below the ‘critical’ threshold, we decided to include all of the selected studies, even though some caution is warranted for the quasi-experimental ones (Higgins et al., 2021). Due to the heterogeneity in study designs, the direction of effects, bias, and analyzed indicators (generally diversified and non-standardized) in the included quantitative evidence, comparisons via statistical meta-analyses were not deemed meaningful (Higgins et al., 2021). Instead, a convergent integrated and narrative approach to mixed-methods evidence was followed, in which

²⁰ Detailed findings of all quality assessment processes are available in the **Appendix (Table 16, Table 17 and Table 18)**.

²¹ The total number of conducted quality assessment procedures is 34, instead of 33, and does therefore not coincide with the number of included sources for review (see **Results’ section**), because the mixed-methods analysis by Burchi and Roscioli (2021), was separately appraised by employing CASP and ROB 2.

quantitative insights were ‘qualitized’ (Stern et al., 2020). In addition, while acknowledging the limitations of this approach (Waddington et al., 2012), the presentation of findings was based on a thematic summary, supported by syntheses constructed through ‘vote counting’-like procedures based on the direction of effects²² (Snilstveit, Oliver, & Vojtkova, 2012). The risk of reaching excessively generalized conclusions derived from simple vote counting was mitigated visually in synthesizing tables, and in-text by taking into consideration the number of available studies and the relative prevalence of the most frequent effect direction for each of the different indicators.

Detailed program characteristics and insights from each of the pieces of evidence are presented in the Appendix: see **Table 8** (details of each program under study), **Table 9** (program design characteristics of interest), **Table 10** (research strategy), **Table 11** (effect direction plot), **Table 12** (effect direction plot by study methodology: social capital), **Table 13** (effect direction plot by study methodology: agency and collective action), **Table 14** (summary of findings, sampling information and availability of disaggregated information for each study), **Table 15** (detail of quantitative coefficients and risk of bias) and **Tables 16-18** (quality appraisal tables).

²² In fact, among other kinds of vote-counting procedures, the conventional analysis on the basis of the statistical significance of effects is problematic and has serious limitations (Higgins et al., 2021). However, for the sake of completeness, the statistical significance of each impact is duly indicated by **Table 11** (effect direction plot) and **Table 15** (list of included coefficients from quantitative sources) in the **Appendix**, and acknowledged by the in-text discussion of the **Results’ section**.

4. RESULTS

Starting from 716 studies identified by the initial search, the above-mentioned exhaustive inclusion and exclusion process resulted in the systematic extraction of data from 74 identified relevant abstracts that met the inclusion criteria. Afterwards, papers investigating the effects of other social protection programs than cash transfers²³, sources that did not analyze any of the outcomes of interest²⁴, theoretical papers, and unpublished master theses were ruled out. Additional papers found through citation tracking were also subject to a similar selection process, with an end total of 33 studies chosen as evidence to be reviewed. **Figure 4**, adopted from a PRISMA flow chart for systematic review reporting, presents a schematic overview of the entire search strategy and sample selection process.

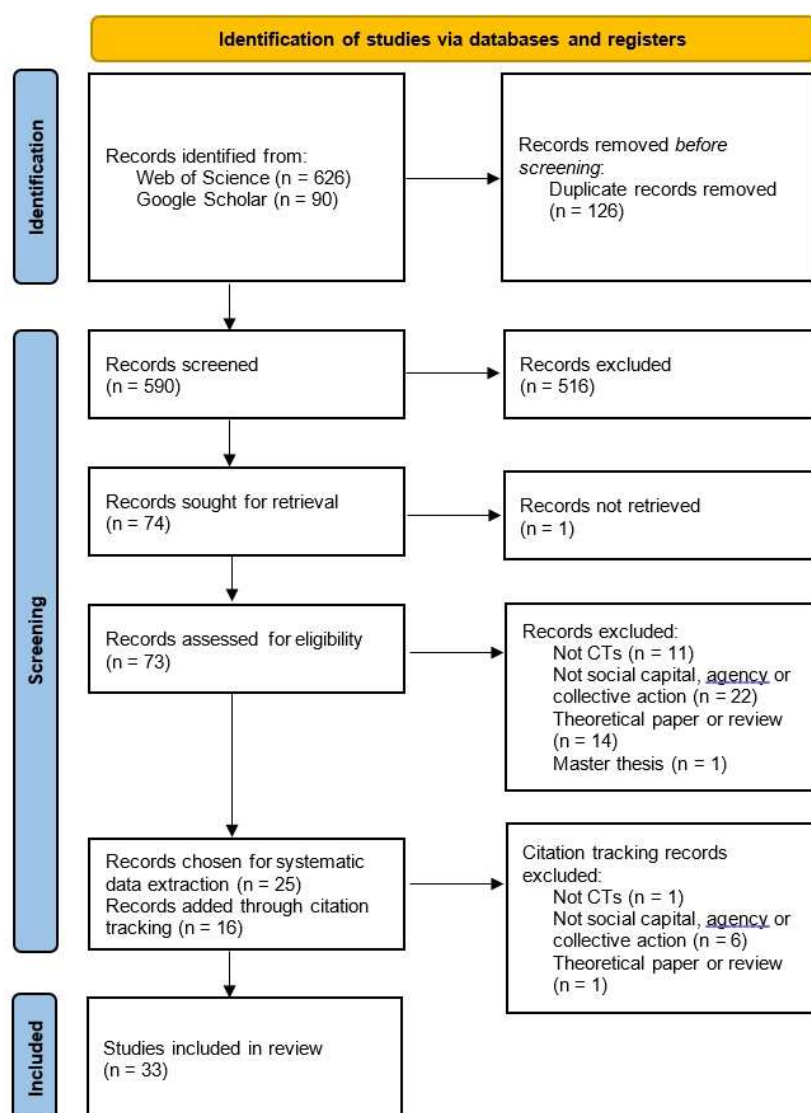


Figure 4. Search strategy and source inclusion process of the review

²³ Any non-contributory monetary disbursement with at least a generic poverty alleviation or human development aim was considered a CT program.

²⁴ When filtering search results out, only sources assessing cash transfer impacts on indicators closely related to the definitions of social capital, agency, and collective action outlined by the **Introductory Chapter** were retained.

4.1 OVERVIEW OF INCLUDED EVIDENCE

The rising interest in addressing and analyzing the social capital impacts of cash transfers (Valli et al., 2019) is reflected in the steep increase over time in the number of published sources (though mostly limited to the last decade, with only four studies issued before 2010).

Concerning the methodology of the analysis of the studies under review, the majority of them (21 out of 33) used (or reported the results of) qualitative research tools: mostly focus group discussions, semi-structured interviews with key informants, and sometimes even life stories, such as in the case of the Transforming Cash Transfers (TCT) project, mentioned by several included sources (Pavanello et al., 2016; Samuels et al., 2013; Samuels & Stavropoulou, 2016). Quantitative and mixed-method evidence was also included, even though the latter was only found in a single source. Regarding the geographical location of the analyzed CT programs, papers predominantly investigated transfers taking place in countries in Sub-Saharan Africa (16 studies) and Latin America (7), but overall, most ‘low- and middle-income’ regions were covered. The three papers on the TCT project were the only ones to analyze findings coming from two different geographical regions, specifically the Near East (Yemen, West Bank and Gaza) and Sub-Saharan Africa (Kenya, Mozambique, and Uganda).

Regarding the design and implementation of CT programs, a lot of variety was captured by the studies under review. For instance, most of the programs included were unconditional cash transfers (UCT) subject to some type of targeting process (either geographical, categorical, means or proxy-means-based; or a combination of them), but conditional²⁵ and quasi-universal programs (based on category membership²⁶) were also analyzed to assess their impacts on social capital. Finally, a total of twelve studies evaluated the effects of ‘cash plus’ transfers, equally distributed between CCT+ (conditional ‘cash plus’ transfers) and UCT+ programs²⁷. For additional (visual) information on the included studies and programs, see **Figures 5-9** in the **Appendix**.

4.2 SYNTHESIS OF RESULTS

This section summarizes the main findings of the systematic review, grouping them by outcomes of interest and by the design characteristics of the analyzed CT interventions. **Table 4** lists the main social capital, agency, and collective action proxies analyzed by the sources included in this literature review,

²⁵ One source did report insights from both unconditional (UCT) and conditional cash transfers (CCT), since the Zimbabwean Manicaland community-based pilot CT provided a UCT and a CCT arm to its beneficiaries (Skovdal et al., 2013).

²⁶ Covered examples are the Karnali Child Grant (Adhikari et al., 2014) and other quasi-universal allowances in Nepal, including the senior citizen and disability grants (Drucza, 2016) and the SCG in Uganda (Merttens et al., 2016). Merttens et al. (2016) also analyzed the targeted VFSG, another component of the larger SAGE program. The SCG was part of the TCT project, together with the quasi-universal Yemeni Social Welfare Fund, and other targeted transfers. The TCT-focused papers investigated both targeted and categorical/quasi-universal interventions.

²⁷ For the sake of simplicity, three sources analyzing both UCT and UCT+ programs (where the complementary support was given by the Ghanaian LEAP transfer in the form of free health insurance; Attah et al., 2016; Daidone, Pellerano, Handa, & Davis, 2015; Fisher et al., 2017) were assigned to the ‘cash plus’ category. Similarly, in the case of both UCT and CCT+ handouts (the conditional arm of the Manicaland CT dispensed a ‘plus’ contingent on mandatory attendance to parenting-skills classes; Skovdal et al., 2013), the paper of interest was included in the list of ‘cash plus’ studies.

where the social capital ones are grouped into the SOCAT components (Grootaert & Van Bastelar, 2002).

Table 4. Main indicators of social capital, agency, and collective action used by the literature

Outcomes (and components)		Main indicators
Social Capital	Groups and networks (structural)	Social and economic networks, risk-sharing agreements, socialisation, social participation, community integration and participation, membership in social organizations, opportunities for interaction, antisocial and criminal behaviour, violent protest; social inclusion, discrimination, attitudes towards diversity, social tensions and relations, social division, feelings of unfairness, stigma, envy, jealousy; relations with government officials
	Trust and solidarity (cognitive)	Interpersonal trust, communal trust, trust in government, institutions and political leaders, trust-based reciprocity; community solidarity, feelings of solidarity and mutual support, shared responses
Agency		Ability to define one's goals and act on them, ability to shape one's destiny, life satisfaction, individual autonomy, capacity to meet one's needs, personal efficacy and sense of self
Collective action		Collective action, cooperation, willingness to participate in community projects, community public goods contribution

4.2.1 CT IMPACTS ON COLLECTIVE-LEVEL OUTCOMES

Concerning the structural dimension of social capital, the outcome of interest investigated by the widest evidence base (23 studies), the analysis highlighted overall positive effects on bonding, while impacts on bridging (and linking, researched by only 3 sources) social capital are more mixed. Results also pointed to predominantly positive tendencies regarding the cognitive component, despite the limited number of available sources (with the relative exception of interpersonal trust). The pieces of evidence focusing on the impacts on indicators of agency are also relatively scarce (8), only refer to one of the dimensions outlined by the study's analytical framework (namely, perceived efficacy), but point to overwhelmingly positive effects. Finally, collective action is the least analyzed outcome, with only 7 studies (mostly social experiments) which also still indicate exclusively positive impacts on the variable (see Table 5).

Table 5. Overall findings, by outcome of interest and its indicators

Variable (and components)			Indicator	Direction	Number of studies per effect direction		
					△	▽	◁▷
Social Capital	Groups and networks (structural)	bonding	▲ ₁₇	14	1	2	
		bridging	▽ ₁₁	4	5	2	
		linking	▲/▽/◁▷ ₃	1	1	1	
	Trust and solidarity (cognitive)	interpersonal trust	▲ ₇	5	2	0	
		institutional trust	▲ ₃	3	0	0	
		solidarity	▲ ₅	4	0	1	
Agency	perceived efficacy	▲ ₈	6	1	1		
	embeddeness in network						
	links (to external actors)						
Collective action			▲ ₇	7	0	0	

Legend:

Effect direction (shape): △ = positive impact, ▽ = negative impact, ◁▷ = no change/conflicting findings*.

Prevalence of most prominent effect (colour): ▲ = 80% of studies, or more, ▲ = 50%-79%, ▲ = less than 50%.

Number of studies (size): ▲ = more than 10 studies, ▲ = 6-10 studies, ▲ = 1-5 studies.

The total number of studies for each indicator is mentioned in subscript.

* The category 'No change/conflicting findings' encompasses studies analyzing a single variable for an indicator, on which no CT effects were detected ('no change'), as well as sources considering multiple variables (for the same indicator) with diverging effect directions ('conflicting findings') for the same indicator.

Scrutinizing the results, strongly positive effects were found for *bonding social capital* (14 positive studies out of 17), with a notable example coming from the already mentioned Transforming Cash Transfers (TCT) project, a qualitative multi-country paper investigating the micro-level impacts of UCTs in Yemen, West Bank, Gaza, Kenya, Uganda, and Mozambique (Pavanello et al., 2016; Samuels et al., 2013; Samuels & Stavropoulou, 2016). The TCT investigations found increased social participation in West Bank, Gaza, Uganda, and Kenya, fostering social connectedness and thereby strengthening bonding social capital at the community level. However, the study also highlighted certain negative impacts of the project: evidence collected in Yemen, Kenya, West Bank, and Gaza described increasing intra-community tensions and feelings of unfairness (the latter mostly resulting from targeting-related issues). Tensions were less pronounced in Uganda and Mozambique, possibly because of the quasi-universal approach adopted in those countries. Only a few direct attempts at measuring the impact of cash transfers on social networks have been made so far, despite their many potential advantages. The scarce, mostly qualitative evidence on the topic, however, exclusively points to positive impacts. An evaluation of the Ugandan social assistance program SAGE (Social Assistance Grants for Empowerment) qualitatively demonstrated that the intervention had helped to strengthen different types of informal support networks of beneficiaries (Merttens et al., 2016). However, the study was not able to

differentiate between the impact on recipients of SAGE's quasi-universal Senior Citizens Grant (SCG) and its targeted Vulnerable Family Support Grant (VFSG).

Several sources also investigated the effects of cash transfers on indicators of *bridging social capital*, leading to more mixed conclusions. Even though slightly more studies point to negative impacts (5 negative, 4 positive and 2 null/conflicting), positive findings were derived from a few programs, such as the 2011 World Food Programme (WFP)'s emergency transfer for poor Ecuadorians and Colombian refugees in Ecuador, which implemented three different treatment arms (cash, food, and food vouchers). A study of this CT, using a randomized controlled trial (RCT), measured several improvements in collective-level outcomes yielded by the cash arm, including bridging social capital indicators (such as attitudes towards diversity, although not in a statistically significant way; Valli et al., 2019). Interestingly, the authors hypothesized that the impacts obtained had been driven by the joint targeting of Colombians and Ecuadorians, their interactions at the mandatory nutrition training sessions, and the program communication centred around social inclusion. In general, the importance of just and fair targeting processes was highlighted by several qualitative articles, which showed how mistargeting and targeting errors can lead to unintended negative consequences for bridging²⁸ social capital in particular (Pavanello et al., 2016). In fact, targeting comes with considerable social costs: in the case of the Nicaraguan *Red de Protección Social* (RPS), inclusion and exclusion errors led to responses such as envy, jealousy, and resentment, which ultimately exacerbated social exclusion at the community level (Adato, Roopnaraine, Alvarado Álvarez, Böttel Peña, & Meléndez Castrillo, 2004).

Finally, the evidence around the effects of CTs on *linking social capital* is insufficient to draw significant conclusions, as only 3 studies (one positive, one negative, one finding no effects) were carried out. Positive impacts were qualitatively assessed in the context of the LEAP transfer in Ghana, where the established district and community implementation committees enabled beneficiaries to engage with program officials to discuss their needs and make suggestions (Oduro, 2015). Negative and null effects on linking social capital were instead found in relation to the Peruvian CCT *Juntos* (Camacho, 2014) and the TCT project (Pavanello et al., 2016), respectively.

Regarding the '*trust and solidarity*' (or cognitive) component of social capital – as already briefly mentioned – the evidence is limited, but also points to generally positive findings. The cognitive indicator of *interpersonal trust* was the only one to yield rather mixed insights. While the majority of analyzed cash transfers (5 out of 7 papers) contributed to increase trust in others, there were some noticeable exceptions that showed negative impacts on this indicator. Even if not significant, slightly negative treatment impacts were, for instance, measured through the standardized World Values

²⁸ For the purpose of categorizing the evidence, effects on relationships between different social groups were always described as impacts on bridging social capital, as per the adopted definitions of the latter concept (Narayan, 1999; Putnam, 2000). In this context, treatment and control groups in experiments were also conceptualized as distinct categories.

Survey (WVS) inquiry on trust by (Haushofer & Shapiro, 2016) in the context of GiveDirectly's cash transfers in Kenya.

Institutional trust turned out to be very rarely analyzed by researchers. Nevertheless, the few existing sources all found positive impacts of CT interventions on the indicator (only 3 studies, all positive). A quantitative paper on the effects of Peru's *Juntos* CCT measured increased trust in institutions – at least in the organization running the program – among the beneficiaries. However, trust in the ombudsperson's office, a public institution, decreased in the control group as another consequence of the cash transfer program, representing a possible source of concern (Camacho, 2014). A similar result was obtained in Tanzania, where recipients of a pilot CCT reported improved trust in the community leaders running the transfer (Evans, Holtemeyer, & Kosec, 2019). Interestingly, in Ecuador, CTs were found to yield positive effects on confidence in institutions and negative (although not statistically significant) impacts on interpersonal trust at the same time (Valli et al., 2019).

With regards to the last social capital outcome, *solidarity*, the evidence is rather scarce (5 sources), but it is almost exclusively positive, except for a paper about the Mexican CCT *PROGRESA* (Adato, 2000). A qualitative article investigating the social and relational aspects of cash transfers in South Africa found, for example, strong perceptions among beneficiaries of increased community solidarity as a result of the South African Child Support Grant (Granlund & Hochfeld, 2020).

Studies around CT effects on *agency* are also quite new and limited in number, even though they generally indicate positive impacts. Nevertheless, the literature only explored the *perceived efficacy* component of agency, defined in slightly different ways by different sources. Positive consequences were found, for instance, on the ability to define one's goals and act on them in Kenya (Pavanello et al., 2016; Samuels & Stavropoulou, 2016) and Nepal (Gram et al., 2019); on personal efficacy and sense of self in South Africa (Nnaeme, Patel, & Plagerson, 2020); on individual autonomy in Ghana, Zimbabwe and Lesotho (Attah et al., 2016); and on the ability to shape one's destiny in Brazil (Hunter & Sugiyama, 2014) and Ecuador (Valli et al., 2019). Interestingly, Nnaeme et al. (2020) found that cash transfers activated recipients' agency especially for beneficiaries conceptualized as 'developmental agents', namely individuals who were strongly motivated to pursue positive socioeconomic changes in their community. The only negative impact was qualitatively assessed, as a consequence of mistargeting and conditionality, in the context of the Ghana LEAP (Oduro, 2015). The impacts on more network-based dimensions of agency, such as *embeddedness in networks* or *links to external actors*, were on the contrary never investigated.

Proofs on the effects on *collective action* are, once again, quite scarce. Positive effects were measured through public goods game experiments, a version of the voluntary contribution mechanism (VCM, where every participant is given the choice whether to contribute to a public good, or not), as

consequences of the *Familias en Acción* program in Colombia. A first paper exploiting the mentioned techniques found improved willingness to cooperate and cooperation patterns among beneficiaries (Attanasio, Pellerano, & Reyes, 2009), which were later confirmed by a similar experiment which expanded the first study's internal validity (Attanasio, Polania-Reyes, & Pellerano, 2015). Finally, a further extension of the previous investigations proved that the improvements in coordination (and, therefore, collective action) was not attributable to potential confounding factors (such as willingness to cooperate) or socioeconomic characteristics, but to the length of exposure to the program. The latter might in fact have changed individual beliefs about others' behaviour and established a social norm, that would then allow beneficiaries to overcome coordination failures. Nevertheless, the quasi-experimental nature of the study could only establish the relation, but not the causation, between the two (Polanía-Reyes, 2018). Overall, positive conclusions could also be reached for other programs, including the pilot TASAF cash transfer in Tanzania, where improved willingness to participate in community projects still did not convert into actual increased participation in a statistically significant manner (Evans et al., 2019).

4.2.2 THE RELATION BETWEEN COLLECTIVE-LEVEL EFFECTS AND PROGRAM DESIGN CHARACTERISTICS

This subsection will expand and complement the analysis by disaggregating the insights with respect to the design characteristics of CT programs, namely their adoption (or lack) of conditionality, targeting patterns and provision of complementary services.

Table 6 schematically shows the relationships between indicators and program design, highlighting how, according to the existing evidence, a specific design characteristic tends to grant better or worse effects on a single indicator than its counterpart.

With regards to *bonding social capital*, the choice of conditionality appeared not to be too decisive, given that both unconditional (10 out of 13 studies) and conditional cash transfers (all 5) tended to yield positive effects on the outcome. The findings on bonding provided by CT+ (4 positive and 1 negative) and quasi-universal programs (3 positive and 1 null) are more mixed, but overall, positive. Interestingly, all the proxy-universal CTs included generated positive impacts on the indicator, with the exception of the *Karnali* Child Grant transfer in Nepal, which did not have any measurable effect on beneficiaries' participation in social activities or opportunities for social interaction. According to the authors of the study, these limited effects could be attributable to its multiple design and implementation bottlenecks (Adhikari et al., 2014).

Table 6. Overall findings, by outcome of interest and program design characteristics

Variable (and components)		Indicator	UCT	CCT	CT+	Targeted	Quasi-Universal
Social Capital	Groups and networks (structural)	bonding	▲ ₁₃	▲ ₅	▲ ₅	▲ ₁₄	▲ ₄
		bridging	▲/◁▷ ₈	▽ ₅	▽ ₅	▽ ₁₁	▲/◁▷ ₂
		linking	◁▷ ₃	▽ ₁	▲ ₁	▲/▽/◁▷ ₃	◁▷ ₁
	Trust and solidarity (cognitive)	interpersonal trust	▲/▽ ₄	▲ ₃	▲ ₄	▲ ₇	
		institutional trust	▲ ₁	▲ ₂	▲ ₁	▲ ₃	
		solidarity	▲ ₇	◁▷ ₁	◁▷ ₁	▲ ₅	▲ ₃
Agency	perceived efficacy	▲ ₇	▲ ₁	▲ ₄	▲ ₈	▲ ₂	
	embeddedness in network						
	links (to external actors)						
Collective action			▲ ₃	▲ ₄	▲ ₄	▲ ₇	▲ ₁

Legend:

Effect direction (shape): ▲ = positive impact, ▽ = negative impact, ◁▷ = no change/conflicting findings*.

Prevalence of most prominent effect (colour): ▲ = 80% of studies, or more, ▲ = 50%-79%, ▲ = less than 50%.

Number of studies (size): ▲ = more than 10 studies, ▲ = 6-10 studies, ▲ = 1-5 studies.

The total number of studies for each indicator is mentioned in subscript. When multiple program designs were analyzed by one piece of evidence, all of these were counted as different findings.

* The category 'No change/conflicting findings' encompasses studies analyzing a single variable for an indicator, on which no CT effects were detected ('no change'), as well as sources considering multiple variables (for the same indicator) with diverging effect directions ('conflicting findings') for the same indicator.

Concerning *bridging social capital*, results show positive, negative and null effects in almost all design features, to varying degrees. As a matter of fact, studies reported negative impacts on bridging capital in all design categories except universality. Universal transfers could therefore possibly represent a way to avoid the social capital-related issues of targeting. Qualitative evidence on universal cash transfers in Nepal (involving allowances for senior citizens, individuals with a disability, single women, children and endangered indigenous people) confirmed that a new sense of social cohesion had emerged from receiving the financial assistance (Drucza, 2016). The findings also revealed that universal transfers generated perceptions of equality, producing an insight which is in line with other sources indicating that they should be preferred over targeted ones (Ellis, 2012). Finally, the evidence supporting the impact on *linking social capital* is too limited to identify any specifically successful design characteristics.

Regarding *interpersonal trust*, the scarcely available evidence points to slightly more positive than negative CT impacts, with substantial uniformity in terms of design features. The results indicate that the provision of complementary support and conditionality are program characteristics that generate comparatively more positive results. For example, in the context of the Malawian TEEP (*Tingathe*

Economic Empowerment Programme) transfer, trust in others statistically increased, but only for beneficiaries receiving both cash and the ‘plus’ financial training component, as opposed to those receiving cash only (Burchi & Roscioli, 2021)²⁹. Even though only three studies included effects on *institutional trust*, all the evidence points towards positive consequences across every design feature considered. Lastly, in terms of *solidarity*, there is also not too much heterogeneity in impacts across different design characteristics. Most studies indicate positive effects, with the exception of the above-mentioned paper on the targeted CCT ‘plus’ program *PROGRESA*, which found mixed impacts on community solidarity due to the mistargeting issues of the program (Adato, 2000).

The same conclusions could be drawn for *agency*. In fact, regardless of the analyzed program characteristics, papers predominantly indicate positive consequences of CTs on the ‘*perceived efficacy*’ indicator of agency. Nevertheless, a qualitative paper on the Ghanaian LEAP transfer found, on the contrary, that the program had negatively influenced community social relations, limiting the forms of agency beneficiaries exercised, and therefore their capacity to meet their own needs (Oduro, 2015). These effects could be attributed, according to the author, to the low transferred amount, and to the program’s conditionalities (only apparent, given that they are not monitored; Oduro, 2015). Finally, it could be argued that the provision of complementary support may be fundamental for fostering *collective action*, as already demonstrated by papers analyzing *Familias en Acción* (Attanasio et al., 2009, 2015; Polanía-Reyes, 2018) and the Malawian TEEP (Burchi & Roscioli, 2021). Nevertheless, the evidence on collective action is positive across any considered design characteristic. Moreover, it should also be noticed that the existing proofs mostly refer to CT+ programs, and that the other investigated design characteristics are either understudied (conditionality) or barely analyzed (universality).

In conclusion, the mostly analyzed program features were unconditionality and targeting, while there was a relative scarcity of studies focusing on conditionality, (quasi-)universality, and the provision of ‘plus’ accompanying interventions. In addition, the disaggregation of impacts based on CT features – performed in a non-mutually exclusive manner – did not always return clear patterns, given the already limited availability of evidence (especially regarding the cognitive dimension and linking social capital). However, a few interesting insights were captured by our heterogeneity analyses: most noticeably, positive bonding effects seem to occur across all types of cash transfer designs. For bridging capital, the (scarce) available evidence suggests that (quasi-)universal/categorical CTs may avoid some of the

²⁹ A later version of the same article, published on an academic journal (Burchi & Roscioli, 2022), was released outside of the adopted timeframe for study inclusion and exclusion. As a consequence, we hereby refer to the discussion paper version of the article, released in 2021.

typical mistargeting-related negative effects. Finally, predominantly positive effects on cognitive social capital, agency and collective action indicators were found across all design features.

4.2.3 A DISAGGREGATION OF IMPACTS BY STUDY METHODOLOGY

The heterogeneity in the types of analyses conducted, across papers, and the relative prominence of qualitative evidence, made a differentiation by study methodology also necessary (see **Table 7**).




Table 7. Overall findings, by social capital indicator and methodology of the study

Variable (and components)		Indicator	Qualitative	Quantitative
Social Capital	Groups and networks (structural)	bonding	▲ ₁₁	▲ ₆
		bridging	▽ ₉	▲/▽ ₂
		linking	▲/◁▷ ₂	▽ ₁
	Trust and solidarity (cognitive)	interpersonal trust	▲ ₂	▲ ₆
		institutional trust		▲ ₃
		solidarity	▲ ₅	
Agency	perceived efficacy	▲ ₆	▲/◁▷ ₂	
	embeddedness in network			
	links (to external actors)			
Collective action			▲ ₂	▲ ₆

Legend:

Effect direction (shape): ▲ = positive impact, ▽ = negative impact, ◁▷ = no change/conflicting findings*.

Prevalence of most prominent effect (colour): ▲ = 80% of studies, or more, ▲ = 50%-79%, ▲ = less than 50%.

Number of studies (size):  = more than 10 studies,  = 6-10 studies,  = 1-5 studies.

The total number of studies for each indicator is mentioned in subscript.

The insights (on interpersonal trust and collective action) obtained from the only mixed-methods paper included (Burchi & Roscioli, 2021) were attributed to both categories.

* The category 'No change/conflicting findings' encompasses studies analyzing a single variable for an indicator, on which no CT effects were detected ('no change'), as well as sources considering multiple variables (for the same indicator) with diverging effect directions ('conflicting findings') for the same indicator.

In the case of *bonding social capital*, qualitative and quantitative sources concur in robustly and strongly pointing to positive CT effects. However, the only few univocally positive and statistically significant repercussions on the indicator were found by an RCT of the *Tekopora* pilot program in Paraguay (Veras Soares, Perez Ribas, & Issamu Hirata, 2010), and by a DiD of TASAF in Tanzania (Evans et al., 2019). Impacts on *bridging social capital*, as already mentioned, tend to be more diversified, regardless of the employed analysis tool, but are mostly backed up by qualitative studies. Once again, the few available pieces of evidence on *linking social capital* do not allow drawing meaningful conclusions about cross-methodology differences in findings.

The cognitive social capital indicator of *interpersonal trust* was the only outcome of interest to be studied more often by quantitative investigations than by qualitative ones. The most reliable pieces of evidence, in this sense, derive from RCTs of programs based in Malawi (Burchi & Roscioli, 2021), Kenya

(Haushofer & Shapiro, 2016) and Ecuador (Valli et al., 2019) – even though they display considerable within- and between-study divergences in effect directions and statistical significances. The only paper computing exclusively significant (and positive) coefficients on the matter is a difference-in-differences impact evaluation of *Familias en Acción* (Attanasio et al., 2009). The impacts on *institutional trust* – which we already found to be entirely positive – were only inquired quantitatively, most noticeably and significantly by Valli et al. (2019). On the contrary, the available evidence on *solidarity* does only derive from qualitative studies, unlike any other indicator of interest.

The existing qualitative studies on *agency* all point at positive CT impacts on the topic – with optimistic, or at least mixed, insights coming from the couple available quantitative sources, both RCTs (Gram et al., 2019; Valli et al., 2019). The exclusively positive evidence on *collective action* is mostly extracted from quantitative investigations, most noticeably the randomized controlled trial conducted by Burchi and Roscioli (2021).

Finally, the performed distinction by methodology of the included investigations highlighted the need to carry out additional (especially quantitative, but even qualitative, in some instances) research on the collective-level effects of CT programs. Sizeable intra-indicator variety in the quality, significance, and reliability of insights – notwithstanding a substantial consistency and concordance among study types on some of the most frequently evaluated domains – was detected, potentially calling for more standardized and comparison future research on the topic.

5. DISCUSSION

This systematic review has returned interesting insights into the effects of cash transfer programs on collective-level variables, operationalized as indicators of social capital, agency, and collective action. One of the most evident patterns that emerged was how CTs tend to generate mostly positive impacts on measures of bonding social capital (e.g., social networks, membership of organizations), while the consequences for bridging social capital (discrimination, social inclusion) were more mixed. Along the cognitive dimension (interpersonal trust, institutional trust and solidarity), the effects of cash transfers were predominantly positive, likewise agency, but supported by a more restricted evidence base. The few sources on collective action also pointed to (exclusively) beneficial impacts. As anticipated by the literature (Valli et al., 2019), the available pieces of evidence suggest that the program design (i.e., targeting, conditionality, and complementary support) and the regional context (Alix-Garcia et al., 2019; Samuels, Bastagli, & Stavropoulou, 2020) of the interventions are both important to understand the diversity in findings (Burchi & Roscioli, 2021; Drucza, 2016; Pavanello et al., 2016), and to inform appropriate CT design and implementation phases. For instance, it appeared that CCT+ programs would yield comparatively more positive effects on interpersonal trust than other designs, while the exact opposite could be concluded concerning solidarity. Considerable distinctions in findings, but mostly in

indicator coverage, were also highlighted between qualitative (representing the vast majority of currently available ones) and quantitative studies.

Generally speaking, however, the empirical knowledge on the topic is still relatively limited, especially concerning the cognitive dimension and linking social capital (Evans & Kosec, 2020), besides agency and collective action (Blattman, Fiala, & Martinez, 2014). The scarcity of (particularly quantitative) evidence constitutes a research gap to be bridged by future research, especially in light of the growing use of cash transfers, spurred by recent social and economic crises, such as the COVID-19-led one (Idris, 2017; Razavi, Behrendt, Bierbaum, Orton, & Tessier, 2020).

In this context, based on the findings of this review, we believe that the study of collective-level effects of CTs would benefit from broadening the range of methodologies. In particular, we argue that mixed-methods evaluation (used by only 1 out of the 33 sources included) is well-suited for the aforementioned task. Given the time-variant and dynamic nature of social relations in a community, a mixed-method approach is in fact appropriate to study social capital (Jones & Woolcock, 2007). Additionally, as social capital is often defined from a 'relational' perspective (in terms of networks, groups, norms of reciprocity, etc.), Social Network Analysis (SNA; Wasserman & Faust, 1994) could represent a useful method to shed additional light on the collective impacts of cash transfers. Moreover, future (especially quantitative) research could profit from measuring effects through more standardized proxies (see Haushofer & Shapiro, 2016) to yield more replicable conclusions. In this sense, more quantitative (or mixed-methods, reinstating the importance of qualitative insights) evidence should be produced regarding the structural dimension of social capital, and more research in general should be targeted at cash transfer impacts on cognitive social capital, agency, and collective action. Research efforts should also be addressed at further disaggregating collective-level impacts, particularly by recipient characteristics such as age, ethnicity, and gender. Lastly, further analyses should take additional CT characteristics – including benefit size, duration, and frequency – into account while explaining the diversity in findings.

The conclusions drawn and implications found by this paper are not only theoretically relevant: as a matter of fact, they could also inform and inspire implementing agencies to purposefully design their interventions, by taking into account potential CT effects, not only at the individual level, but also at the collective one. Furthermore, the authors maintain that innovative design modifications to cash transfers could foster inclusion, ultimately yielding transformative effects for beneficiaries (Devereux & Sabates-Wheeler, 2004; Roelen et al., 2017). Depending on which collective dimension they wished to stimulate, CT-implementing organizations could design (and evaluate) their programs accordingly, after carefully considering the cash transfer's context. For instance, universal transfers could induce feelings of equality and cohesion (Rohregger, 2010), and spur social participation and collective action (Burchi,

von Schiller, & Strupat, 2020; Ellis, 2012; Razavi et al., 2020). This would result in positive consequences for both the bonding and bridging components of social capital (Adhikari et al., 2014). In fact, the reviewed evidence (Druza, 2016) seems to validate the hypothesis that (quasi-)universality could potentially tackle some of the undesirable implications of CT targeting (Babajanian & Hagen-Zanker, 2012; Ellis, 2012; Roelen et al., 2011). These often include increased tensions and feelings of resentment between groups, generally stemming from mistargeting and the exclusion of certain vulnerable groups from the transfers (Adato et al., 2004; Kardan, MacAuslan, & Marimo, 2010; MacAuslan & Riemenschneider, 2011; Pavanello et al., 2016). Nevertheless, none of the included studies investigated the social capital effects of a truly universal (i.e., disbursed to every individual inside a community, without distinctions) cash transfer program – a research gap which could start to be filled by ongoing investigations (see the empirical chapters of this doctoral thesis). Future analyses on similar CTs could then also contribute to the growing debate on the (collective-level) effects of Universal Basic Income (UBI; Brown, Ravallion, & van de Walle, 2020; Gentilini et al., 2022; Ravallion, 2020).

In addition, features such as unconditionality and accompanying ‘cash plus’ activities (e.g., meetings, training sessions) bear the potential to strengthen connections between communities and policymakers, possibly turning into improvements in linking social capital (Oduro, 2015), and even the rise of collective action. Broadly speaking, different combinations and design configurations could be outlined, tailored to the context and the goals pursued.

On a final note, it is necessary to highlight the limitations that may have affected this study. Firstly, concise and unique definitions were chosen to define the outcomes of interest, which in actuality encompass extremely broad and multidimensional concepts. However, an in-depth analysis of the ideas underlying the outcomes of interest was beyond the scope of this paper, and could be retrieved from the **introductory chapter** instead. Secondly, the generalizability of conclusions is partially limited by the variety of indicators, geographical settings, and research designs captured by the review. Lastly, the validity of the obtained insights is also hampered by the limited number of studies assessing CT impacts on collective-level variables (in comparison to the wide evidence bases available on other outcomes; Bastagli et al., 2016) and by the predominance of qualitative unstandardized (and sometimes not peer-reviewed) sources, on this matter.

In conclusion, this paper calls for increased recognition to the collective and social aspects of CTs – both from the perspective of design and from the perspective of evaluation (Devereux & Sabates-Wheeler, 2004; Holzmann et al., 2003). After all, cash transfers are pervasive interventions in people’s lives, embedded in complex social relations systems. They do not only provide cash assistance, but also affect social relations at every stage of their implementation – from awareness-raising to targeting, payment,

case management, monitoring and evaluation. In light of this, it is not possible to evaluate them exclusively against their impacts on poverty and human capital, relegating their effects on social capital to the usual comments in the margin on stigma and resentment. On the contrary, more attention should be devoted to collective-level variables when assessing social assistance effectiveness. In summary, we suggest that social protection needs to return to its social contract roots (Devereux, 2013; Devereux & McGregor, 2014), making social outcomes a focus of its debates.

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APPENDIX

Table 8. Detail of programs under study

Program	Abbreviation	Country	Type	Amount in PPP (year)	Duration	Frequency	Purpose	Years of program operation	Targeted populations	Studied by	Notes
5 CT allowances		Nepal	UCT	\$ 2-10 (2013)		Monthly	Protecting vulnerable categories against income shocks	1994-	Various endangered groups	Drucza (2016)	
Basic Social Subsidy Programme	PSSB	Mozambique	UCT	\$ 4.5-13 per household (2013)		Monthly	Reducing poverty	1992-	Permanently labour constrained and extremely poor households	Pavanello et al. (2016), Samuels et al. (2013), Samuels & Stavropoulou (2016)	
<i>Bolsa Família</i>		Brazil	CCT	Exact amount depending on the individual household's composition, needs and income level		Monthly	Reducing poverty	2003-	Poor households with school-age children or a pregnant woman, or extremely poor families	Hunter & Sugiyama (2014)	
Child Grants Programme	CGP	Lesotho	UCT	\$36 (2016)		Quarterly	Improving the living standards of orphans and vulnerable children	2009-	Poor and vulnerable households	Attah et al. (2016), Daidone et al. (2015), Fisher et al. (2017)	
Child Support Grant	CSG	South Africa	UCT	\$33 per child (2018)		Monthly	Improving children's food security	1998-	Poor children	Granlund & Hochfeld (2019), Nnaeme et al. (2020)	
Cash Transfer for Orphans and Vulnerable Children	CT-OVC	Kenya	UCT	\$48 per household (2013)		Bimonthly	Reducing poverty	2004-	Extremely poor households	Daidone et al. (2015), Fisher et al. (2017), Pavanello et al. (2016), Ressler (2008), Samuels et al. (2013), Samuels &	

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										Stavropoulou (2016)	
<i>Familias en Acción</i>		Colombia	CCT+	\$24.46 (2010)		Monthly	Improving health and nutrition of children	2002-	Low-income families: 20% poorest households in the country	Attanasio et al. (2009), Attanasio et al. (2015), Polanía-Reyes (2018)	
GiveDirectly CT		Kenya	UCT	On average, \$709 (2011)		Lump sum or a few monthly installments	Poverty reduction	2011-2013	Poor households	Haushofer & Shapiro (2016)	
Harmonized Social Cash Transfer	HSCT	Zimbabwe	UCT	\$ 10-25 per household (2016)		Bimonthly	Increasing labour-constrained households' consumption	2011-	Labour-constrained and ultra-poor households	Attah et al. (2016), Fisher et al. (2017)	
Hunger Safety Net Programme	HSNP	Kenya	UCT	\$61 per household (2016)		Bimonthly	Reducing poverty, food insecurity and malnutrition	2009-	Poor households	Attah et al. (2016)	
<i>Juntos</i>		Peru	CCT	\$30 (2005)		Monthly	Reducing poverty and fostering employment	2005-	Poor families in rural areas	Camacho (2014)	
<i>Karnali</i> Child Grant		Nepal	UCT	\$2 (2014)		Quarterly	Improving food security of children	2009-	Vulnerable children under the age of 5	Adhikari et al. (2014)	
Livelihood Empowerment Against Poverty	LEAP	Ghana	UCT+	\$ 12.5-24.6 per household (2016)		Bimonthly	Reducing poverty and fostering social inclusion	2008-	Poor households in rural areas	Attah et al. (2016), Daidone et al. (2015), Fisher et al. (2017), Oduro (2015)	
Low Birth Weight South Asia Trial	LBW-SAT	Nepal	UCT+	\$7.30 (2017)	1 year	Monthly	Reducing lifelong health problems derived from low birth	2014-2015	Vulnerable mothers or pregnant women	Gram et al. (2019)	
<i>Manicaland</i> community-based pilot CT		Zimbabwe	UCT and CCT+	\$ 18-30 per household (2011)	1 year	Bimonthly	Improving health and education outcomes of vulnerable households	2011-2012	Vulnerable households	Skovdal et al. (2013)	
Mchinji CT		Malawi	UCT	\$ 4.30-12.85 per household (2006)		Monthly	Reducing poverty and hunger in ultra-poor households	2006-2008	Vulnerable and labour-constrained households	MacAuslan & Riemenschneider (2011)	The program was a first pilot version of the SCT
Mexican Environmental CCT (Payments	PES	Mexico	CCT	\$ 16-80 per hectare (2019)		Annually	Tackling deforestation and environmental degradation	2003-	Households living in areas affected by severe deforestation	Alix-Garcia et al. (2019)	

for Ecosystem Services)											
Palestinian National Cash Transfer Program	PNCTP	West Bank and Gaza	UCT	\$ 195-468 per household (2013)		Monthly	Reducing poverty	2010-	Extremely poor households	Pavanello et al. (2016), Samuels et al. (2013), Samuels & Stavropoulou (2016)	
Programa de Educación, Salud y Alimentación	PROGRESA	Mexico	CCT+	Exact amount depending on the individual household's composition, needs and income level		Monthly	Reducing poverty and increasing human capital	1997-	Poor households	Adato (2000)	
<i>Red de Protección Social</i>	RPS	Nicaragua	CCT+	On average, 18% of pre-program expenditures	3 years	Bimonthly	Tackling current and future poverty	2000-2006	Poor households	Adato et al. (2004)	
Senior Citizens' Grant	SCG	Uganda	UCT	\$8.70 (2013)		Monthly	Protecting senior citizens against shocks	2011-	People aged 65+ in rural areas	Merttens et al. (2016), Pavanello et al. (2016), Samuels et al. (2013), Samuels & Stavropoulou (2016)	The transfer is one of the two main components of the SAGE program
Social Cash Transfer	SCT	Malawi	UCT	\$ 2-5-50 per household (2017)		Monthly	Reducing poverty	2009-	Ultra-poor labour-constrained households	Fisher et al. (2017)	
Social Cash Transfer Pilot Programme (Tigray)	SCTPP	Ethiopia	UCT	Minimum \$7.88 per household (2017)		Monthly	Reducing poverty	2011-	Ultra-poor, labour-constrained and vulnerable households	Fisher et al. (2017)	
Social Welfare Fund	SWF	Yemen	UCT	\$ 5-15 (2013)		Monthly	Reducing poverty	1996-	Range of vulnerable groups	Pavanello et al. (2016), Samuels et al. (2013), Samuels & Stavropoulou (2016)	
Tanzania Social Action Fund (Pilot)	TASAF	Tanzania	CCT	\$ 12-36 per household (2010)		Bimonthly	Reducing poverty	2010-	Ultra-poor households	Evans et al. (2019), Evans & Kosec (2020)	

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Tekopora Pilot		Paraguay	CCT	\$ 18-36 per household (2010)		Monthly	Reducing current and future poverty	2005-	Vulnerable households in priority areas	Veras Soares et al. (2010)	
Tingathe Economic Empowerment Programme	TEEP	Malawi	UCT+	\$ 70 (2016)		Lump sum	Eradicating poverty	2016-	Ultra-poor labour-constrained households	Burchi & Roscioli (2021)	
Vulnerable Family Support Grant	VFSG	Uganda	UCT	\$8.70 (2013)		Monthly	Protecting vulnerable households against shocks	2011-	Vulnerable households in rural areas	Merttens et al. (2016)	The transfer is one of the two main components of the SAGE program
Youth Opportunities Program	YOP	Uganda	UCT	\$7,497 per group (2008)		Lump sum	Improving business outcomes for young adults	2006	Young adults aged 16-35	Blattman et al. (2014)	YOP was a component of the NUSAF development program
WFP CT		Ecuador	UCT+	\$40 per household (2011)	6 months	Monthly	Reducing vulnerability and inter-group tensions	2011	Colombian refugees and poor Ecuadorians	Valli et al. (2019)	
WFP Multi-purpose cash assistance	MPC	Lebanon	UCT	USD 175 to the median-sized household (2020)	1 year	Monthly	Multiple related to poverty and vulnerability reduction	2016-2018	Syrian refugees in Lebanon	Samuels et al. (2020)	
Zimbabwe Emergency Cash Transfer	ZECT	Zimbabwe	UCT+	\$ 7 per person (2009)	5 months	Monthly	Improving food security	2009-2010	Food-insecure households	Kardan et al. (2010), MacAuslan & Riemenschneider (2011)	

Table 9. Main program design characteristics of interest for each study under review

Study	Country/ies	CT	Type	Plus	Targeting
Adato (2000)	Mexico	<i>PROGRESA</i>	CCT+	Health education and nutritional supplements	Mixed: geographical and household
Adato et al. (2004)	Nicaragua	<i>Red de Protección Social</i>	CCT+	Training and nutritional supplements	Geographical (and household, for some locations)
Adhikari et al. (2014)	Nepal	<i>Karnali Child Grant</i>	UCT		Quasi-universal (based on category)
Alix Garcia et al. (2019)	Mexico	Mexican Environmental CCT (PES)	CCT		Geographical (multiple criteria)
Attah et al. (2016)	Ghana, Zimbabwe, Lesotho	Kenya: HSNP; Ghana: LEAP; Zimbabwe: HSCT; Lesotho: CGP ³⁰	UCT (except Ghana: UCT+)	Ghana: free health insurance	Mixed: proxy-means and categorical
Attanasio et al. (2009)	Colombia	<i>Familias en Acción</i>	CCT+	Health education (<i>Encuentros de Cuidado</i>)	Mixed: means-based and categorical
Attanasio et al. (2015)	Colombia	<i>Familias en Acción</i>	CCT+	Health education (<i>Encuentros de Cuidado</i>)	Mixed: means-based and categorical
Blattman et al. (2014)	Uganda	NUSAF – YOP	UCT		Mixed: means-based and categorical
Burchi & Roscioli (2021)	Malawi	TEEP	UCT+	Financial and business training	Mixed: means-based and categorical
Camacho (2014)	Peru	<i>Juntos</i>	CCT		Mixed: geographical, categorical and proxy-means
Daidone et al. (2015)	Kenya, Ghana, Lesotho	Kenya: CT-OVC ³¹ , Ghana: LEAP, Lesotho: CGP	UCT (except Ghana, UCT+)	Ghana: free health insurance	Mixed: proxy-means and categorical
Drucza (2016)	Nepal	5 CT allowances (old age, disability, single women's, child grant and endangered indigenous individuals)	UCT		Quasi-universal (based on category)
Evans et al. (2019)	Tanzania	Pilot TASAF CCT	CCT		Mixed: geographical and community-based proxy-means
Evans & Kosec (2020)	Tanzania	Pilot TASAF CCT	CCT		Mixed: geographical and community-based proxy-means
Fisher et al. (2017)	Ethiopia, Ghana, Kenya, Lesotho,	Ethiopia: Tigray SCTPP; Ghana: LEAP; Kenya: CT-OVC; Lesotho:	UCT (except		Mixed: proxy-means and categorical

³⁰ The Lesotho Child Grants Program (CGP) was not considered to comprise a 'plus' component, given that the latter was only partially included after the implementation of the SPRINGS activity in 2015 (Daidone et al., 2015).

³¹ The Cash Transfer for Orphans and Vulnerable Children (CT-OVC) in Kenya was considered unconditional, even though it is provided to beneficiary adults together with the soft messaging that they are responsible for recipient children's health and educational outcomes.

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	Malawi, Zimbabwe	CGP; Malawi: SCT; Zimbabwe: HSCT	Ghana: UCT+)		
Gram et al. (2019)	Nepal	LBW-SAT	UCT+	Participatory learning and action groups	Categorical (multiple criteria)
Granlund & Hochfeld (2019)	South Africa	South Africa CSG	UCT		Mixed: categorical and means-based
Haushofer & Shapiro (2016)	Kenya	GiveDirectly CT	UCT		Proxy-means
Hunter & Sugiyama (2014)	Brazil	<i>Bolsa Familia</i>	CCT		Means-based
Kardan et al. (2010)	Zimbabwe	ZECT	UCT+	Food	Community-based proxy-means
MacAuslan & Riemenschneider (2011)	Malawi, Zimbabwe	Malawi: Mchinji CT; Zimbabwe: ZECT ³²	UCT		Mchinji CT: mixed, community-based proxy-means and categorical; ZECT: Community-based proxy-means
Merttens et al. (2016)	Uganda	SCG and VFSG (SAGE)	UCT		SCG: quasi-universal (age); VFSG (demographic index)
Nnaeme et al. (2020)	South Africa	CSG	UCT		Mixed: categorical and means-based
Oduro (2015)	Ghana	LEAP	UCT+	Free health insurance	Mixed: proxy-means and categorical
Pavanello et al. (2016)	West Bank, Gaza, Yemen, Kenya, Mozambique, Uganda	West Bank and Gaza: PNCTP; Yemen: SWF; Kenya: CT-OVC; Mozambique: PSSB; Uganda: SCG	UCT		West Bank and Gaza: proxy-means; Yemen and Uganda: quasi-universal; Kenya and Mozambique: mixed, proxy- means and categorical
Polanía-Reyes (2018)	Colombia	<i>Familias en Acción</i>	CCT+	Health education (<i>Encuentros de Cuidado</i>)	Mixed: means-based and categorical
Ressler (2008)	Kenya	CT-OVC	UCT		Mixed: proxy-means and categorical
Samuels et al. (2013)	Kenya, Mozambique, Gaza, West Bank, Uganda, Yemen	West Bank and Gaza: PNCTP; Yemen: SWF; Kenya: CT-OVC; Mozambique: PSSB; Uganda: SCG	UCT		West Bank and Gaza: proxy-means; Yemen and Uganda: quasi-universal; Kenya and Mozambique: mixed, proxy- means and categorical
Samuels & Stavropoulou (2016)	Kenya, Mozambique, Gaza, West Bank, Uganda, Yemen	West Bank and Gaza: PNCTP; Yemen: SWF; Kenya: CT-OVC; Mozambique: PSSB; Uganda: SCG	UCT		West Bank and Gaza: proxy-means; Yemen and Uganda: quasi-universal; Kenya and Mozambique: mixed, proxy- means and categorical
Samuels et al. (2020)	Lebanon	WFP Multi- purpose cash (MPC) assistance	UCT		Proxy-means

³² When, in addition to cash, food (in the case of the Zimbabwe Emergency Cash Transfer program) or even food and vouchers (WFP cash transfer in Ecuador) were provided, only the effects linked to the cash treatment arm were included.

Skovdal et al. (2013)	Zimbabwe	<i>Manicaland</i> community-based pilot CT	UCT and CCT+	Attending parenting-skills classes	Mixed: proxy-means and categorical
Valli et al. (2019)	Ecuador	WFP CT	UCT+ (also food and vouchers)	Training sessions on nutrition. Implicit socialisation and messaging components	Proxy-means and not receiving any other benefit
Veras Soares et al. (2010)	Paraguay	<i>Tekopora</i> Pilot	CCT		Mixed: geographical, categorical and proxy-means

Table 10. Research strategy (on outcomes of interest only) for each study under review

Author(s)	Nature	Research design	Unit of analysis	Data collection methods
Adato (2000)	Qualitative	Exploratory	Individual	Focus groups, key informant semi-structured interviews
Adato et al. (2004)	Qualitative	Exploratory	Individual and group	Ethnography, interviews, observation, case studies
Adhikari et al. (2014)	Qualitative	Exploratory	Individual and household	Focus groups, key informant interviews
Alix-Garcia et al. (2019)	Quantitative	Quasi-experiment (RDD)	Household and community	Surveys
Attah et al. (2016)	Qualitative	Exploratory	Individual	Focus groups, key informant interviews
Attanasio et al. (2009)	Quantitative	Quasi-experiment (DiD)	Individual and group	Public goods game (VCM experiment)
Attanasio et al. (2015)	Quantitative	Quasi-experiment (DiD)	Individual and group	Public goods game (VCM experiment)
Blattman et al. (2014)	Quantitative	Experiment (RCT)	Individual	Surveys
Burchi & Roscioli (2021)	Mixed	Exploratory and experiment (RCT)	Individual and household	Surveys, focus groups, key informant interviews
Camacho (2014)	Quantitative	Quasi-experiment (DiD)	Household	Surveys
Daidone et al. (2015)	Qualitative	Review		
Drucza (2016)	Qualitative	Exploratory	Individual	In-depth interviews
Evans et al. (2019)	Quantitative	Quasi-experiment (DiD)	Household	Surveys
Evans & Kosec (2020)	Quantitative	Quasi-experiment (DiD)	Household	Surveys
Fisher et al. (2017)	Qualitative	Exploratory	Individual	Focus groups and semi-structured key informant interviews
Gram et al. (2019)	Quantitative	Experiment (RCT)	Individual	Surveys
Granlund & Hochfeld (2019)	Qualitative	Exploratory	Individual	In-depth interviews
Haushofer & Shapiro (2016)	Quantitative	Experiment (RCT)	Individual	Surveys
Hunter & Sugiyama (2014)	Qualitative	Exploratory	Individual	Focus groups
Kardan et al. (2010)	Qualitative	Exploratory	Individual	In-depth interviews
MacAuslan & Riemenschneider (2011)	Qualitative	Review		

Merttens et al. (2016)	Qualitative	Exploratory	Individual and household	Focus groups, key informant interviews and case studies
Nnaeme et al. (2020)	Qualitative	Exploratory	Individual	In-depth interviews
Oduro (2015)	Qualitative	Exploratory	Individual and household	Semi-structured in-depth interviews
Pavanello et al. (2016)	Qualitative	Exploratory	Individual and household	In-depth interviews, key informant interviews, focus groups, life stories
Polanía-Reyes (2018)	Quantitative	Quasi-experiment (DiD)	Individual and group	Public goods game (VCM experiment)
Ressler (2008)	Qualitative	Exploratory	Household	Key informant interviews
Samuels et al. (2013)	Qualitative	Review		
Samuels & Stavropoulou (2016)	Qualitative	Exploratory	Individual and household	In-depth interviews, key informant interviews, focus groups, life stories
Samuels et al. (2020)	Qualitative	Exploratory	Individual and household	In-depth interviews
Skovdal et al. (2013)	Qualitative	Exploratory	Individual	Focus groups and in-depth interviews
Valli et al. (2019)	Quantitative	Experiment (RCT/ANCOVA)	Individual	Surveys
Veras Soares et al. (2010)	Quantitative	Quasi-experiment (PSM)	Household	Surveys

Table 11. Effect direction plot

		Social Capital						Agency			Collective action
		structural			cognitive			perceived efficacy	embeddedness in network	links (to external actors)	
		networks			trust		solidarity				
		bonding	bridging	linking	interpersonal trust	institutional trust					
Adato (2000)	qualitative	△	▽				◁▷				
Adato et al. (2004)	qualitative		▽								
Adhikari et al. (2014)	qualitative	◁▷									
Alix-Garcia et al. (2019)	quantitative	△	▽		△						
Attah et al. (2016)	qualitative	△						△			
Attanasio et al. (2009)	quantitative				▲					▲	
Attanasio et al. (2015)	quantitative									▲	
Blattman et al. (2014)	quantitative	◁▷ ₃								△	
Burchi & Roscioli (2021)	mixed				△ ₂					△ ₂	
Camacho (2014)	quantitative	△		▽		△ ₅					
Daidone et al. (2015)	qualitative	△									
Drucza (2016)	qualitative	△	△								
Evans et al. (2019)	quantitative	▲				▲				△ ₂	
Evans & Kosec (2020)	quantitative				△ ₄						
Fisher et al. (2017)	qualitative	△									
Gram et al. (2019)	quantitative							◁▷ ₄			
Granlund & Hochfeld (2019)	qualitative	△					△				
Haushofer & Shapiro (2016)	quantitative				▽						
Hunter & Sugiyama (2014)	qualitative		△					△			
Kardan et al. (2010)	qualitative		▽		△						
MacAuslan & Riemenschneider (2011)	qualitative		▽								
Merttens et al. (2016)	qualitative	△									
Nnaeme et al. (2020)	qualitative							△			
Oduro (2015)	qualitative	▽		△				▽			
Pavanello et al. (2016)	qualitative	△	◁▷	◁▷			△	△		△	

Table 12. Effect direction plot by methodology: social capital

	Qualitative						Quantitative					
	structural			cognitive			structural			cognitive		
	bonding	bridging	linking	interpersonal trust	institutional trust	solidarity	bonding	bridging	linking	interpersonal trust	institutional trust	solidarity
Adato (2000)	△	▽				◁▷						
Adato et al. (2004)		▽										
Adhikari et al. (2014)	◁▷											
Alix-Garcia et al. (2019)							△	▽		△		
Attah et al. (2016)	△											
Attanasio et al. (2009)										▲		
Blattman et al. (2014)							◁▷ ₃					
Burchi & Roscioli (2021)				△						△ ₂		
Camacho (2014)							△		▽		△ ₅	
Daidone et al. (2015)	△											
Drucza (2016)	△	△										
Evans et al. (2019)							▲				▲	
Evans & Kosec (2020)										△ ₄		
Fisher et al. (2017)	△											
Granlund & Hochfeld (2019)	△					△						
Haushofer & Shapiro (2016)										▽		
Hunter & Sugiyama (2014)		△										
Kardan et al. (2010)		▽		△								
MacAuslan & Riemenschneider (2011)		▽										
Merttens et al. (2016)	△											
Oduro (2015)	▽		△									
Pavanello et al. (2016)	△	◁▷	◁▷			△						
Ressler (2008)	△											
Samuels et al. (2013)						△						
Samuels & Stavropoulou (2016)						△						

Samuels et al. (2020)		◁▷										
Skovdal et al. (2013)		△										
Valli et al. (2019)						△ ₂	△		▽	▲		
Veras Soares et al. (2010)						▲						

Legend:

Effect direction (shape): △ = positive impact, ▽ = negative impact, ▷◁ = no change/conflicting findings*

Statistical significance (colour): ▲ = $p \leq 0.05$; ▲ = $p > 0.05$; △ (empty arrow) = overall not statistically significant/qualitative studies (see rules below).

For quantitative studies, the number of outcomes within each category synthesis is one unless indicated in subscript beside effect direction.

Synthesis of multiple outcomes within same outcome category (quantitative evidence):

- Where multiple outcomes all report effects in the same direction and with the same level of statistical significance, the effect direction and overall level of statistical significance are reported;
- Where direction of effect varies across multiple outcomes:
 - When the direction of effect and statistical significance of at least 70% of outcomes are the same, similar direction and similar statistical significance are reported;
 - If <70% of outcomes report consistent direction of effect, indicated as no clear effect/conflicting findings;
- Where statistical significance varies: if direction of effect similar and >60% outcomes statistically significant, reported as statistically significant. Otherwise, not statistically significant.

Procedure adapted from Thomson and Thomas (2013).

The insights (on interpersonal trust) obtained from the only mixed-methods paper included (Burchi & Roscioli, 2021) were divided between categories.

* The category 'No change/conflicting findings' encompasses studies analyzing a single variable for an indicator, on which no CT effects were detected ('no change'), as well as sources considering multiple variables (for the same indicator) with diverging effect directions ('conflicting findings') for the same indicator.

Table 13. Effect direction plot by methodology: agency and collective action

	Qualitative				Quantitative			
	agency			collective action	agency			collective action
	perceived efficacy	embeddedness in network	links (to external actors)		perceived efficacy	embeddedness in network	links (to external actors)	
Attah et al. (2016)	△							
Attanasio et al. (2009)								▲
Attanasio et al. (2015)								▲
Blattman et al. (2014)								△
Burchi & Roscioli (2021)				△ ₂				△ ₂
Evans et al. (2019)								△ ₂
Gram et al. (2019)					◁▷ ₄			
Hunter & Sugiyama (2014)	△							
Nnaeme et al. (2020)	△							
Oduro (2015)	▽							
Pavanello et al. (2016)	△			△				
Polanía-Reyes (2018)								△
Samuels & Stavropoulou (2016)	△							
Valli et al. (2019)								▲

Legend:

Effect direction (shape): △ = positive impact, ▽ = negative impact, ◁▷ = no change/conflicting findings*

Statistical significance (colour): ▲ = p ≤ 0.05; ▲ = p > 0.05; △ (empty arrow) = overall not statistically significant/qualitative studies (see rules below).

For quantitative studies, the number of outcomes within each category synthesis is one unless indicated in subscript beside effect direction.

Synthesis of multiple outcomes within same outcome category (quantitative evidence):

- Where multiple outcomes all report effects in the same direction and with the same level of statistical significance, the effect direction and overall level of statistical significance are reported;
- Where direction of effect varies across multiple outcomes:
 - When the direction of effect and statistical significance of at least 70% of outcomes are the same, similar direction and similar statistical significance are reported;
 - If <70% of outcomes report consistent direction of effect, indicated as no clear effect/conflicting findings;
- Where statistical significance varies: if direction of effect similar and >60% outcomes statistically significant, reported as statistically significant. Otherwise, not statistically significant.

Procedure adapted from Thomson and Thomas (2013).

The insights (on collective action) obtained from the only mixed-methods paper included (Burchi & Roscioli, 2021) were divided between categories.

* The category ‘No change/conflicting findings’ encompasses studies analyzing a single variable for an indicator, on which no CT effects were detected (‘no change’), as well as sources considering multiple variables (for the same indicator) with diverging effect directions (‘conflicting findings’) for the same indicator.

Table 14. Main findings and sampling information for each study under review

Author(s)	Sampling information	Findings	Availability of disaggregated findings and general comments
Adato (2000)	Approximately 230 people from 70 communities across six states involved in FGDs, selected among beneficiaries, non-beneficiaries and program 'promoters' Unspecified number of KIIs, primarily with doctors working in local clinics	<ul style="list-style-type: none"> • <i>Structural social capital</i>: positive effect on social relationships between beneficiary women (bonding), but negative responses on social divisions and tensions, and arising shared sentiments such as sadness and hope (bridging) • <i>Cognitive social capital</i>: decreased social solidarity but fostered shared responses of sadness and hope, so, overall, conflicting results (solidarity) 	Some gendered information: on social relationships between beneficiary women, for instance
Adato et al. (2004)	Not entirely available, but an average of 20 households were involved for each of the six selected communities, chosen on the basis of geographical, accessibility and safety-related criteria	<ul style="list-style-type: none"> • <i>Structural social capital</i>: the program's targeting process exacerbated social exclusion, envy and social tensions at the community level (bridging) 	
Adhikari et al. (2014)	27 FGDs with beneficiaries, 23 KIIs with stakeholders and 30 IDIs A follow-up research comprised 2 additional FGDs and 5 KIIs	<ul style="list-style-type: none"> • <i>Structural social capital</i>: no detected consequence on beneficiaries' actual participation in social activities or opportunities for social interactions inside the community (bonding) 	It was briefly specified that no gendered effects were detected
Alix-Garcia et al. (2019)	Not available	<ul style="list-style-type: none"> • <i>Structural social capital</i>: positive but not statistically significant effects on proxies of social participation (bonding) and social inclusion (bridging) • <i>Cognitive social capital</i>: similarly, positive but not statistically significant impacts on a proxy measure of trust (interpersonal trust) 	Sub-coefficients for shorter exposure timeframes also available
Attah et al. (2016)	Not available	<ul style="list-style-type: none"> • <i>Structural social capital</i>: strengthened social networks (partial overlap with programs included in Daidone et al., 2015; with the exception of Zimbabwe; bonding) • <i>Agency</i>: improved individual autonomy (perceived efficacy) 	
Attanasio et al. (2009)	676 between beneficiaries and potential beneficiaries, randomly chosen	<ul style="list-style-type: none"> • <i>Cognitive social capital</i>: strongly statistically significant (at 1%) evidence of increased trust measured in a public goods game, a version of a voluntary contribution mechanism (VCM) experiment (interpersonal trust) • <i>Collective action</i>: improved willingness to cooperate, measured through the same public goods game 	A second round, with different model specifications, was also conducted
Attanasio et al. (2015)	Same sample as Attanasio et al. (2009), plus 1451 new individuals randomly chosen	<ul style="list-style-type: none"> • <i>Collective action</i>: extends analysis carried out by Attanasio et al. (2009), finding strongly statistically significant (at 1%) and positive program impacts on cooperation 	
Blattman et al. (2014)	1868 between treatment and control groups (for all outcomes) 5 randomly selected people were interviewed for each one of the beneficiary, and non-beneficiary groups	<ul style="list-style-type: none"> • <i>Structural social capital</i>: positive but not statistically significant effects detected on community participation and antisocial behaviour. Slightly negative, but still not significant, impacts on violent protest. Overall, conflicting results (bonding) 	Coefficients for an intermediate stage, and gendered ones, also available

		<ul style="list-style-type: none"> • <i>Collective action</i>: slightly positive but statistically insignificant impacts on community public goods contribution 	
Burchi & Roscioli (2021)	<p>Quantitative analysis: 734 households (for all selected outcomes): 50% of the treated ones, 25% of the control ones, and 25% from a neighbouring district included as control. All sampling at random</p> <p>Qualitative analysis: 19 focus group participants, 3 in-depth interviews</p>	<ul style="list-style-type: none"> • <i>Cognitive social capital</i>: concrete positive (and statistically significant at 5% level) impacts on trust only when the 'plus' component (financial and business training) was also provided, alongside with the cash. On the contrary, positive but not significant treatment coefficient for the cash-only arm. Increases in trust were also detected qualitatively (interpersonal trust) • <i>Collective action</i>: in this case, positive but insignificant effects on cooperation for both groups 	Coefficients by treatment group. CI not available
Camacho (2014)	1330 and 1497 treated and non-treated households, respectively, from 133 treated districts	<ul style="list-style-type: none"> • <i>Structural social capital</i>: positive, even if not significant, improvements on membership in horizontal social organizations (bonding). On the other hand, not significant and negative consequences on membership in vertical organizations (linking) • <i>Cognitive social capital</i>: increased trust in institutions related to program conditions (significant at 10%), even though trust in the ombudsman's office decreased inside the control group as a negative consequence of the CT, but no effect on other types of institutions, such as parties or government. In particular, positive but not statistically significant coefficients for trust in the ombudsman's office, the subnational government and branches of government, more in general. Slightly negative (but insignificant) impact on trust in political parties (institutional trust) 	
Daidone et al. (2015)	Not available	<ul style="list-style-type: none"> • <i>Structural social capital</i>: the transfers allowed recipients in Kenya, Ghana and Lesotho to re-engage with existing social networks such as risk-sharing arrangements and informal social protection systems (bonding) 	
Drucza (2016)	<p>IDIs to 48 beneficiaries, 9 local-level informants and 14 non-beneficiaries. In addition, 66 KIIs. The research district was selected on the basis of human development and geographical indicators</p>	<ul style="list-style-type: none"> • <i>Structural social capital</i>: increased social participation in community activities (bonding), derived from the improved perceptions of social cohesion and equality (bridging), generated by the quasi-universal transfers 	
Evans et al. (2019)	Not available	<ul style="list-style-type: none"> • <i>Structural social capital</i>: statistically significant (at 1%), and positive impacts on community participation (bonding) • <i>Cognitive social capital</i>: enhanced trust (at 5%) in government and local leaders, especially the ones elected to run the CT intervention (institutional trust) • <i>Collective action</i>: improved willingness to participate in community development projects, even though the latter did not lead to actual increased participation in a statistically significant way 	
Evans & Kosec (2020)	883 treated households, 881 control ones at baseline	<ul style="list-style-type: none"> • <i>Cognitive social capital</i>: increased communal trust on all four measured indicators (trust in individuals and in community members, and the changes in these since program start). Only the change variables had statistically significant coefficients, though; at 5% for the former, at 1% for the latter (interpersonal trust) 	

Fisher et al. (2017)	161 FGDs, of which 36 were control ones, 24 household case studies, 144 KIIs. A four-stage random sampling strategy was applied	<ul style="list-style-type: none"> • <i>Structural social capital</i>: improved trust-based reciprocity, namely risk-sharing arrangements and networks of economic collaboration underpinned by social capital (partial overlap with programs included in Daidone et al., 2015; addition of insights from Ethiopia, Malawi and Zimbabwe; bonding) 	
Granlund & Hochfeld (2019)	33 in-depth interviews to primary caregiver recipients	<ul style="list-style-type: none"> • <i>Structural social capital</i>: perceptions of improved individual and intra-household relationships (bonding) • <i>Cognitive social capital</i>: increased community solidarity (solidarity) 	Only women were interviewed
Gram et al. (2019)	1309 individuals, selected to ensure representation at geographical level	<ul style="list-style-type: none"> • <i>Agency</i>: overall, the program yielded conflicting impacts on women's ability to define and act on their goals: the only statistically significant coefficient was on agency's 'group participation' component; aspects related to working outside of the home, household chores, and health-seeking, were not impacted in a significant manner (perceived efficacy) 	Only women were interviewed; disaggregation by age group available
Haushofer & Shapiro (2016)	1491 households	<ul style="list-style-type: none"> • <i>Cognitive social capital</i>: slightly negative, but insignificant, treatment effect on a general inquiry about the individual perception that people can be trusted (interpersonal trust) 	Coefficients by gender, and by transfer characteristics (monthly or large CT) also available
Hunter & Sugiyama (2014)	11 FGDs from selected beneficiary districts, chosen on the basis of levels of poverty and inequality	<ul style="list-style-type: none"> • <i>Structural social capital</i>: no stigma arose because of targeting and conditionality issues, according to recipients' perspectives, who actually saw improved social inclusion patterns after the implementation of the program (bridging) • <i>Agency</i>: enhanced ability to shape one's destiny (perceived efficacy) 	
Kardan et al. (2010)	Not available	<ul style="list-style-type: none"> • <i>Structural social capital</i>: dissatisfaction linked to the targeting procedures was found to increase tensions in the cash beneficiary communities, but not in those receiving the food treatment arm (bridging) • <i>Cognitive social capital</i>: the sense of interpersonal trust increased (interpersonal trust) 	
MacAuslan & Riemenschneider (2011)	Not available	<ul style="list-style-type: none"> • <i>Structural social capital</i>: the lack of targeting transparency of the investigated programs led to issues related to stigma, social tensions and resentment, re-enforcing recipients' social exclusion (bridging) 	
Merttens et al. (2016)	101 FGDs, 123 KIIs and 81 household case studies. Participants were selected through purposive sampling, in order to ensure representation	<ul style="list-style-type: none"> • <i>Structural social capital</i>: the program contributed to re-enforce and strengthen the existing social networks of sharing and mutual support (bonding) 	
Nnaeme et al. (2020)	17 in-depth interviews, with participants chosen through purposive sampling	<ul style="list-style-type: none"> • <i>Agency</i>: the receipt of cash activated individual agency, expressed through a strong sense of self and resilience (perceived efficacy), ultimately motivating and enabling them to start or diversify their livelihood activities. The latter finding was particularly true for beneficiaries conceptualized as 'developmental agents', namely individual strongly motivated to pursue positive socioeconomic changes in their communities 	
Oduro (2015)	Semi-structured interviews to 21 beneficiary households and 4 key-	<ul style="list-style-type: none"> • <i>Structural social capital</i>: the program negatively influenced community social relations (bonding) but improved beneficiaries' relations with the government officials administrating the transfer (linking) 	

	informants, chosen through purposive sampling	<ul style="list-style-type: none"> • <i>Agency</i>: the weakened social relations limited people's capacity to meet their own needs (perceived efficacy) 	
Pavanello et al. (2016)	124 IDIs, 147 KIIs, 66 FGDs, 25 case studies, 38 structured observations, 49 life histories, 12 institutional mappings and historical timelines, and 12 vulnerability and coping strategies mappings	<ul style="list-style-type: none"> • <i>Structural social capital</i>: increased social participation in West Bank, Gaza, Uganda and Kenya (bonding); rises in intracommunity tensions and feelings of unfairness (mostly resulting from targeting-related issues; bridging), but also greater social inclusion and acceptance of excluded groups (including their participation in decision-making processes) and reduced stigma (bridging). No evidence around enhancements in citizens' relations with state representatives (linking) • <i>Cognitive social capital</i>: generated feelings of solidarity and mutual support, with positive repercussions on recipients' psychological wellbeing (solidarity) • <i>Agency</i>: fostered ability to define one's goals and to act in them in Kenya (perceived efficacy) • <i>Collective action</i>: increased cooperation and intracommunity organization to pursue collective interests in Kenya and Yemen 	
Polanía-Reyes (2018)	714 participants, randomly invited to the experiment	<ul style="list-style-type: none"> • <i>Collective action</i>: extends analysis carried out by Attanasio et al. (2009) and Attanasio et al. (2015), proving that the found improvements in coordination were not attributable to potential confounding factors (such as willingness to cooperate) or socioeconomic characteristics, but to the length of exposure to the CT 	Differential impacts by length of exposure, sociodemographics and wealth also available
Ressler (2008)	6 household interviews	<ul style="list-style-type: none"> • <i>Structural social capital</i>: strengthened the social networks of beneficiary households, enabling them to participate in community events, to share food, and to borrow money (bonding) 	
Samuels et al. (2013)	Not available	<ul style="list-style-type: none"> • <i>Cognitive social capital</i>: similar results to Pavanello et al. (2016), given that they both refer to the TCT project, but expanded discussion on community solidarity (solidarity) 	
Samuels & Stavropoulou (2016)	140 IDIs, 147 KIIs, 74 FGDs, 38 structured observations, 74 life histories, 24 community/institutional mappings	<ul style="list-style-type: none"> • <i>Cognitive social capital</i>: similar results to Pavanello et al. (2016), given that they both refer to the TCT project, but expanded discussion on psychological wellbeing (solidarity) • <i>Agency</i>: the transfer improved agency by reducing dependency on others and social isolation (perceived efficacy) 	
Samuels et al. (2020)	270 interviews (both IDIs and KIIs), of which 254 to Syrian refugees and Lebanese beneficiaries and 16 to local key informants FGDs: unspecified number	<ul style="list-style-type: none"> • <i>Structural social capital</i>: raised opportunities to interact and socialise with Syrian refugees (within Syrian communities), but, on the other hand, shared impression that the transfer was not reaching all those in need, leading to feelings of sympathy, compassion and discomfort, and ultimately to tensions between recipients and non-beneficiaries. Therefore, conflicting results (bridging) 	
Skovdal et al. (2013)	35 individual interviews and 3 FGDs, involving 24 key informants, 24 CT beneficiaries and 14 non-beneficiaries, selected randomly	<ul style="list-style-type: none"> • <i>Structural social capital</i>: reduced jealousy, social division and conflict, derived from the impression that the transfer was fair, transparent and participatory (bridging) 	
Valli et al. (2019)	1878 individuals (including all 3 treatment arms)	<ul style="list-style-type: none"> • <i>Structural social capital</i>: for the cash treatment arm, enhancements in social cohesion and social participation patterns, with the former statistically significant at 10% (bonding). Positive and insignificant coefficient for attitudes towards diversity (bridging) 	Coefficients by treatment arm and nationality also available

		<ul style="list-style-type: none"> • <i>Cognitive social capital</i>: increased confidence in institutions, significant at 5% (institutional trust) but negative, even if not statistically significant, effect on trust in individuals (interpersonal trust) • <i>Agency</i>: improved ability to shape one's destiny and life satisfaction (perceived efficacy) 	
Veras Soares et al. (2010)	1045 households, chosen through stratification	<ul style="list-style-type: none"> • <i>Structural social capital</i>: positive effects on social participation, significant at 1% (bonding) 	

Legend: FGD = focus group discussion, IDI = in-depth interview, KII = key-informant interview

Table 15. Summary of treatment coefficients and risk-of-bias, included quantitative evidence

Study	Research design	Indicator	Variable	N	Range	Coefficient	95% CI		Risk-of-bias
Alix-Garcia et al. (2019)	RDD	bonding	Social participation	-	-	0.058	0.016	0.100	Moderate
		bridging	Social inclusion	-	-	-0.007	-0.040	0.026	
		interpersonal trust	Trust	-	-	0.050	0.017	0.083	
Attanasio et al. (2009)	DiD	interpersonal trust	Trust: cooperative decision in public goods game	666	0 to 1	0.274***	0.207	0.341	Serious
		collective action	Willingness to cooperate in public goods game	666	0 to 1	0.283***	0.211	0.355	
Attanasio et al. (2015)	DiD	collective action	Cooperation	1384	0 to 1	0.233***	0.199	0.267	Serious
Blattman et al. (2014)	RCT	bonding	Community participation	1868	-	0.005	-0.045	0.055	Low
		bonding	Antisocial behavior	1868	-	0.049	0.002	0.096	
		bonding	Violent protest	1868	-	-0.019	-0.062	0.024	
		collective action	Community public goods contribution	1868	-	0.10	-0.039	0.059	
Burchi & Roscioli (2021)	Quantitative: RCT	interpersonal trust	Trust (lump-sum plus training)	786	1 to 4	0.268**	0.251	0.285	Low
		interpersonal trust	Trust: (lump-sum only)	786	1 to 4	0.098	-0.425	0.621	
		collective action	Cooperation (lump-sum plus training)	786	1 to 4	0.122	-0.387	0.631	
		collective action	Cooperation (lump-sum only)	786	1 to 4	0.041	-0.777	0.859	
Camacho (2014)	DiD	bonding	Membership in horizontal social organizations	2835	-	0.025	-0.040	0.090	Serious
		linking	Membership in vertical social organizations	2835	-	-0.014	-0.032	0.004	
		institutional trust	Trust in Juntos institutions	2546	0 to 3	0.185*	0.112	0.258	
		institutional trust	Trust in ombudsman's office	2508	0 to 3	0.098	-0.014	0.210	
		institutional trust	Trust in subnational government	2508	0 to 3	0.054	-0.015	0.123	
		institutional trust	Trust in branches of government	2359	0 to 3	0.050	-0.027	0.127	
		institutional trust	Trust in political parties	2365	0 to 3	-0.005	-0.074	0.064	
Evans et al. (2019)	DiD	bonding	Community participation	-	0 to 1	0.027***	-0.019	0.035	Moderate
		institutional trust	Trust in community leaders	-	0 to 1	0.054**	0.027	0.081	
		collective action	Willingness to contribute money to a communal project	-	-	0.059**	0.033	0.085	

		collective action	Having worked with villagers for benefit of community	-	0 to 1	0.020	-0.003	0.043	
Evans & Kosec (2020)	DiD	interpersonal trust	Trust in individuals	4997	0 to 1	0.016	-0.026	0.058	Moderate
		interpersonal trust	Changes in trust in individuals since program start	1594	0 to 1	0.031**	0.016	0.046	
		interpersonal trust	Trust in community members	4993	0 to 1	0.028	-0.015	0.071	
		interpersonal trust	Changes in trust in community members since program start	1594	0 to 1	0.039***	0.027	0.051	
Gram et al. (2019)	RCT	agency	Agency (work outside the home)	1309	1 to 4	-0.01	-0.19	0.17	Low
		agency	Agency (household chores)	1309	1 to 4	0.20	0.07	0.33	
		agency	Agency (health-seeking)	1309	1 to 4	0.00	-0.16	0.16	
		agency	Agency (group participation)	1309	1 to 4	1.33***	1.14	1.52	
Haushofer & Shapiro (2016)	RCT	interpersonal trust	Trust	1491	0 to 1	-0.01	-0.06	0.04	Low
Polanía-Reyes (2018)	DiD	collective action	Coordination	714	1 to 3	2.34***	2.23	2.45	Serious
Valli et al. (2019)	RCT/ANCOVA	bonding	Social participation (cash treatment)	1878	Standardized	0.03	-0.05	0.11	Low
		bonding	Social cohesion (cash treatment)	1878	Standardized	0.14*	0.06	0.22	
		bridging	Attitudes towards diversity (cash treatment)	1878	Standardized	0.05	-0.03	0.13	
		interpersonal trust	Trust in individuals (cash treatment)	1878	Standardized	-0.03	-0.11	0.05	
		institutional trust	Confidence in institutions (cash treatment)	1878	Standardized	0.17**	0.09	0.25	
		agency	Personal agency (cash treatment)	1878	Standardized	0.22**	0.13	0.31	
Veras Soares et al. (2010)	PSM	bonding	Social participation	1045	-	0.106***	0.072	0.140	Serious

Legend: *, ** and *** respectively indicate statistical significance at the 10%, 5% and 1% levels. 95% CI = Confidence intervals at 95% confidence level. RCT = Randomized controlled trial. RDD = Regression Discontinuity Design. DiD = Difference-in-differences. ANCOVA = Analysis of covariance. Risk-of-bias attributed following the RoB 2 or ROBINS-I tools, for experimental and quasi-experimental evidence, respectively (Higgins et al., 2021)

Table 16. Critical Appraisal Skills Programme (CASP) quality assessment grid applied to the studies included by the review

	Adato (2000)	Adato et al. (2004)	Adhikari et al. (2014)	Attah et al. (2016)	Burchi & Roscioli (2021)	Daidone et al. (2015)	Drucza (2016)	Fisher et al. (2017)	Granlund & Hochfeld (2019)	Hunter & Sugiyama (2014)	Kardan et al. (2010)	MacAuslan & Riemenschneider (2011)	Merttens et al. (2016)	Nnaeme et al. (2020)	Oduro (2015)	Pavanello et al. (2016)	Ressler (2008)	Samuels et al. (2013)	Samuels & Stavropoulou (2016)	Samuels et al. (2020)	Skovdal et al. (2013)	
1. Was there a clear statement of the aims of the research?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
2. Is a qualitative methodology appropriate?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
3. Was the research design appropriate to address the aims of the research?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
4. Was the recruitment strategy appropriate to the aims of the research?	Yes	Yes	Yes	Yes	Yes	CT	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	CT	Yes	CT	Yes	Yes	Yes	Yes
5. Was the data collected in a way that addressed the research issue?	Yes	Yes	Yes	Yes	CT	CT	Yes	Yes	Yes	Yes	Yes	CT	Yes	Yes	Yes	CT	Yes	CT	Yes	Yes	Yes	Yes
6. Has the relationship between researcher and participants been adequately considered?	No	Yes	CT	Yes	No	CT	Yes	CT	CT	Yes	Yes	CT	No	Yes	CT	CT	Yes	CT	CT	CT	CT	CT
7. Have ethical issues been taken into consideration?	CT	CT	CT	CT	Yes	Yes	CT	Yes	CT	CT	CT	CT	CT	CT	Yes	CT	CT	CT	Yes	CT	Yes	Yes
8. Was the data analysis sufficiently rigorous?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	CT	Yes	CT	Yes	Yes	Yes	Yes
9. Is there a clear statement of findings?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
10. How valuable is the research?	7,5	8,5	8	8,5	7,5	7,5	8,5	8,5	8	8,5	8,5	7,5	7,5	8,5	8,5	6,5	8,5	6,5	8,5	8	8,5	
11. Are the study's theoretical underpinnings clear, consistent and conceptually coherent?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	CT	Yes	Yes	Yes	Yes	CT	Yes	Yes	Yes	Yes

Legend: "CT" stands for "Can't tell"

Table 17. Revised Cochrane Risk-of-bias Tool for Randomized Trials (RoB 2) quality assessment grid applied to the studies included by the review

	Blattman et al. (2014)	Burchi & Roscioli (2021)	Gram et al. (2019)	Haushofer & Shapiro (2016)	Valli et al. (2019)
1. Risk of bias arising from the randomization process	Low	Low	Low	Low	Low
2. Risk of bias due to deviations from the intended interventions	Low	Low	Low	Low	Low
3. Risk of bias due to missing outcome data	Low	Low	Low	Low	Low
4. Risk of bias in the measurement of the outcome	Low	Low	Low	Low	Low
5. Risk of bias in the selection of the reported result	Low	Low	Low	Low	Low
6. Has the relationship between researcher and participants been adequately considered?	Low	Low	Low	Low	Low
Overall risk of bias	Low	Low	Low	Low	Low

Notes: the final score was assigned through algorithm summarizing responses given to sub-questions. For the mixed-methods study by Burchi and Roscioli (2021) we only assessed the quantitative sections

Table 18. Risk Of Bias In Non-randomized Studies – of Interventions (ROBINS-I) quality assessment grid applied to the studies included by the review

	Alix-Garcia et al. (2019)	Attanasio et al. (2009)	Attanasio et al. (2015)	Camacho (2014)	Evans et al. (2019)	Evans & Kosec (2020)	Polanía-Reyes (2018)	Veras Soares et al. (2010)
1. Bias due to confounding	Low	Moderate	Moderate	Low	Low	Low	Moderate	Moderate
2. Bias in selection of participants into the study	Moderate	Serious	Serious	Low	Moderate	Moderate	Serious	Low
3. Bias in classification of interventions	Low	Serious	Serious	Low	Low	Low	Serious	Low
4. Bias due to deviations from intended interventions	Low	Moderate	Moderate	Low	Low	Low	Moderate	Low
5. Bias due to missing data	Low	Low	Low	Low	Low	Low	Low	Moderate
6. Bias in measurement of outcomes	Low	Moderate	Moderate	Moderate	Low	Low	Moderate	Low
7. Bias in selection of the reported result	Moderate	Moderate	Moderate	Serious	Moderate	Moderate	Moderate	Serious
Overall risk of bias	Moderate	Serious	Serious	Serious	Moderate	Moderate	Serious	Serious

Notes: the final score was assigned through algorithm summarizing responses given to sub-questions

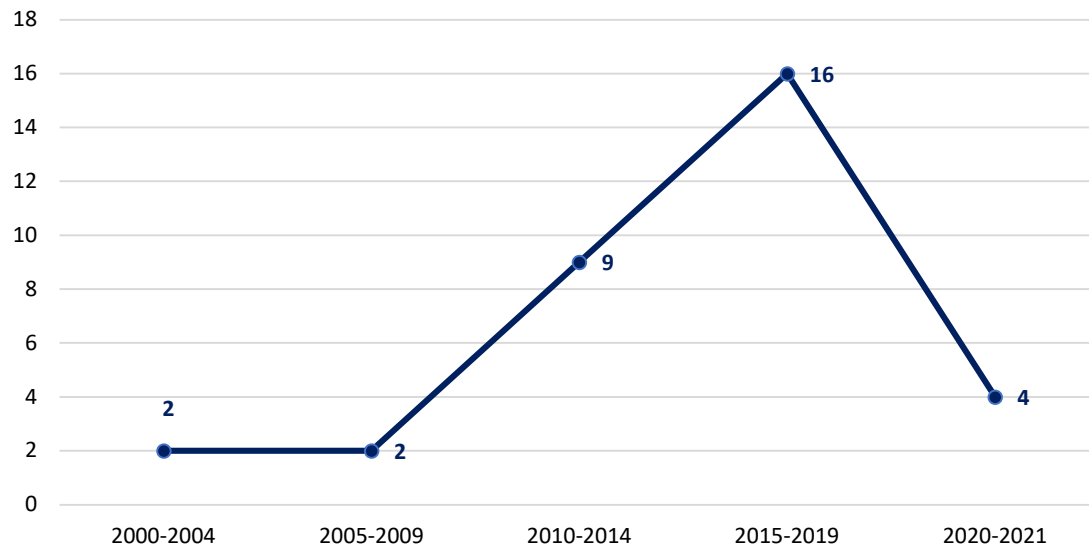


Figure 5. Distribution over time of publication of studies under review

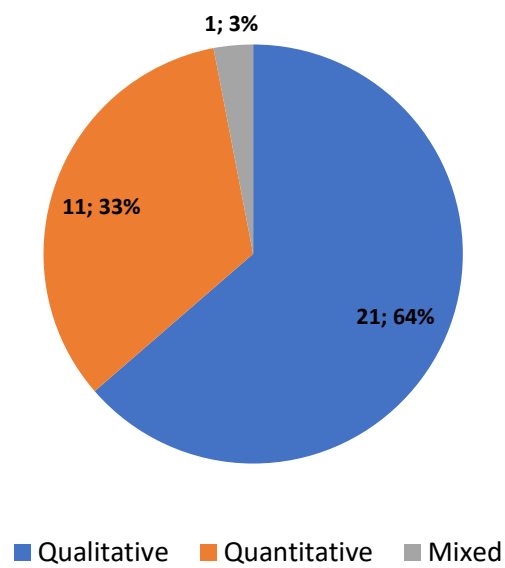


Figure 6. Number of studies (and %) by nature of the conducted or reported analysis

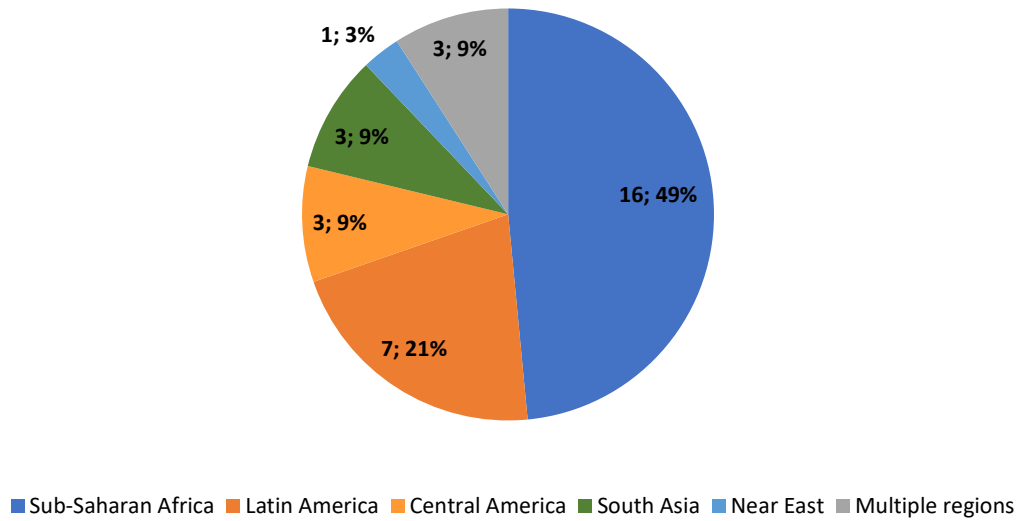


Figure 7. Number of studies (and %) by geographical location of analyzed cash transfer programs

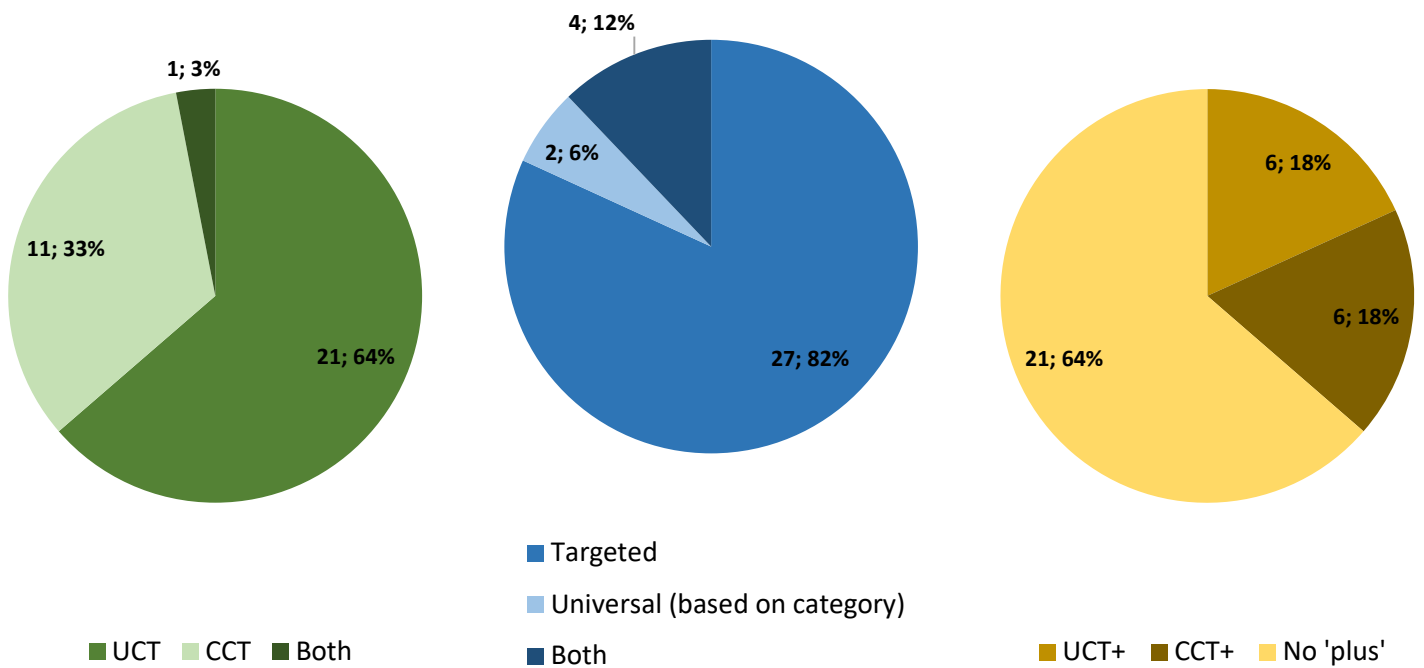


Figure 8. Number of studies (and %) by design characteristics: conditionality, targeting, provision of complementary services

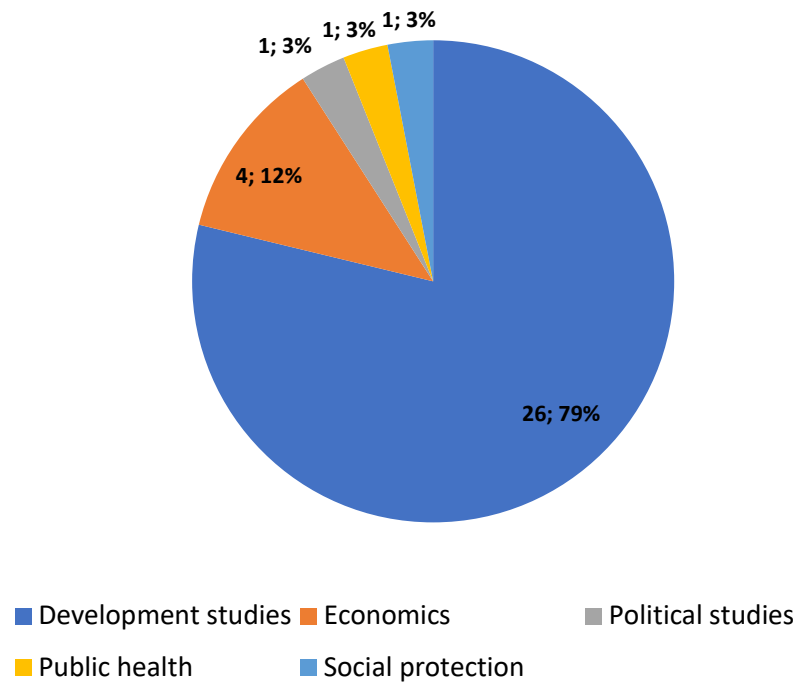


Figure 9. Number of studies (and %) by thematic area of the publishing journal/organization

CHAPTER 2

**CAN CASH TRANSFERS REALLY BE TRANSFORMATIVE? A LITERATURE REVIEW OF
THE SUSTAINABILITY OF THEIR IMPACTS**

CAN CASH TRANSFERS REALLY BE TRANSFORMATIVE? A LITERATURE REVIEW OF THE SUSTAINABILITY OF THEIR IMPACTS^{33,34}

ABSTRACT

Only a few sources have conducted a literature review of the (relatively scarce) evidence around the sustainability (i.e., persistence after end of exposure) of the impacts of cash transfer (CT) programs. Such tasks prove to be fundamental, especially in light of recent debates on social assistance, which extend its role beyond monetary poverty alleviation, to more structural and ‘transformative’ improvements. However, the existing reviews all focus on specific outcome categories, or on a particular CT design, and do not adopt a stringent definition of sustainability, typically relating to ‘long-term’ repercussions, even before program closure. In this context, this paper gathered all the available proofs – regardless of the variable of interest – on the sustainability of the effects of CTs of any kind. Its findings are nevertheless disaggregated by outcome domain, by the length of the timeframe elapsed since receiving the last transfer, and by program features. Particular attention was given to ‘graduation’ projects, given the traditional assumption that CTs are inadequate at building sustainable and resilient livelihoods in the long run. Besides disproving this hypothesis, the study suggests that cash transfers tend to yield positive and sustained effects on schooling, incomes, food security, expenditures, and savings. The evidence on child labour or early marriage is more mixed.

Keywords: cash transfers, long-term effects, sustainability, graduation, literature review

³³ A slightly revised version of this chapter has been published as a discussion paper, full reference: Grisolia, F. (2024). *Can cash transfers really be transformative? A literature review of the sustainability of their impacts*. IOB Discussion Paper 2024.02. Institute of Development Policy (IOB), University of Antwerp. Available at <https://repository.uantwerpen.be/docman/irua/70ffe5motoM8d>

³⁴ This chapter was single-authored by Filippo Grisolia. However, the PhD candidate would hereby like to thank his supervisors for the precious feedback – especially in terms of conceptualization and methodology – which they provided with in the early drafting stages of this paper.

1. INTRODUCTION

As they gain popularity as poverty reduction programs, the debate and research around cash transfer (CT) programs' effectiveness is on the rise (Bastagli et al., 2019). Traditionally, as a consequence of their designs – and especially of their typically short-term character – CTs have been relegated to provisional social assistance interventions, often with the exclusive objective of (temporary) monetary poverty alleviation (Banerjee et al., 2015). This praxis would logically stem from the acknowledgement, or at least from the theoretical assumption, that social cash transfers are not adequate tools, by themselves, to build permanent and sustainable livelihoods and resilience against shocks (Devereux & Sabates-Wheeler, 2015). By not allowing the accumulation of human, social, or physical capital, in fact, the benefits of modest (even if regular) CTs, such as consumption smoothing and existing assets' protection, would be completely transitory (Sabates-Wheeler & Devereux, 2013). Only when coupled with complementary productive interventions, would they be able to increase incomes and assets in a sufficient way for recipients to 'graduate' (Sabates-Wheeler & Devereux, 2013) from the intervention – namely, for their livelihoods to fundamentally transform and reach self-sufficiency.

Nevertheless, impact analyses following cash transfers have demonstrated that their effects are often not only limited to consistent increases in household expenditures and reductions in poverty, but include raises in adult labour force participation, investments and savings, and improvements in women's empowerment and gender relations, among others (Bastagli et al., 2016; Kabeer, Piza, & Taylor, 2012). Whereas it is also recognized that effects depend on the design and implementation features of programs, less attention has been devoted to the analysis of the long-term impacts of CTs (Molina Millán, Barham, Macours, Maluccio, & Stampini, 2019). In particular, notwithstanding some noticeable exceptions (Baird, McIntosh, & Özler, 2019; Sabates-Wheeler & Devereux, 2013), relatively little is known about the 'sustainability' of effects (Owusu-Addo et al., 2023), namely the extent to which cash transfer impacts persist after the end of exposure (OECD, 2021). Only a few efforts were addressed at summarizing the available evidence base on the matter, and none of the accessible literature reviews either adopted such a stringent definition of 'long-term' CT effects (EPAR, 2017), or maintained a broad scope, through the encapsulation of all the possible domains on which cash transfers have proven to yield impacts (Molina Millán et al., 2019).

Shedding additional light on the issue is fundamental, considering that recent discussions do actually consider CTs' potential to yield 'transformative' and long-lasting effects on beneficiary communities (Daidone, Pellerano, Handa, & Davis, 2015; Devereux & Sabates-Wheeler, 2004; Molyneux, Jones, & Samuels, 2016). This change in perspective reflects, in turn, debates that extend social assistance's role beyond mere poverty reduction, towards more structural development aims (Granlund & Hochfeld, 2020; Ressler, 2008; Skovdal et al., 2013).

In this context, this study conducted a review of the empirical literature on the sustainability of CT impacts. A general description of results by outcome domain – spanning education, employment, women’s empowerment and social capital (adapted from Bastagli et al., 2016) – was juxtaposed to disaggregations on the basis of the amount of the time elapsed since the last transfer, and of the specific design of the considered intervention, both considered fundamental in evaluating the sustainability of the effects (OECD, 2021). More specifically, the performance of more conventionally designed programs – conditional (CCTs) and unconditional cash transfers (UCTs), either providing complementary support (‘plus’; Roelen et al., 2017), or not – was compared with the functioning of ‘graduation’ transfers. The latter projects represent a relatively new wave of social protection and anti-poverty interventions (Devereux & Sabates-Wheeler, 2015) which, by providing recipients with other benefits (typically a combination of assets, training, savings and credit; Roelen & Devereux, 2019), alongside cash, attempt at tackling the mentioned concern that CTs alone would not represent an effective instrument to generate sustainable reductions in poverty and vulnerability, maintained after the end of disbursements (Hashemi & Umaira, 2011). In this sense, graduation CTs distinguish themselves from other cash ‘plus’ projects by providing ‘productive’ benefits – in accordance with their transformative goals (Hashemi & Umaira, 2011) – in addition to cash, instead of more ‘protective’ types of complementary interventions, such as information, sensitization, behaviour change communication (BCC), or psychosocial support (Roelen et al., 2017).

The rest of the document is structured as follows: **Section 2** elaborates further on the sustainability of cash transfer programs. **Section 3** discusses the followed methodology. **Section 4** analyzes the main features of the included evidence and presents the results of the review. Finally, **Section 5** concludes and suggests some of the potential implications on future research. Detailed information about each of the reviewed studies’ characteristics and findings is presented in the **Appendix**.

2. THE SUSTAINABILITY OF CT EFFECTS: AN ONGOING DEBATE

As already clarified by the **introductory chapter**, many scholars are still skeptical about cash-only transfers’ ability to yield sustained, namely persisting after program end (OECD, 2021), effects on recipient communities. Consequently, livelihood-promoting interventions, such as ‘graduation’ programs (Devereux & Sabates-Wheeler, 2015; Hashemi & Umaira, 2011), have gained ground as alternative perspectives to social protection, coupling (typically lump-sum) cash with a case-to-case specific combination of productive assets, training, savings, and/or credit (Roelen & Devereux, 2019). Through these complementary features (Roelen et al., 2017), it is forecasted that beneficiaries will be able to positively transform their livelihoods – especially in terms of labour and business practices – and to ultimately ‘graduate’ from programs by escaping the ‘poverty trap’ (Sabates-Wheeler & Devereux, 2013). While every project defines graduation differently, scholars distinguish ‘threshold’ (merely reaching the state of non-eligibility) and ‘sustainable’ graduation (incorporating resilience, in

relation to the idea that ‘graduates’ should not fall back into poverty soon after exiting it; Devereux & Sabates-Wheeler, 2015). In this sense, individual outcomes depend on a variety of constraining and enabling factors operating beyond the household level, including market conditions, community investment, and scale effects (Devereux & Ulrichs, 2015). At the same time, theorists tend to dismiss the idea that each recipient would or could be expected to graduate from an intervention (Sabates-Wheeler & Devereux, 2013). In order to evaluate whether benefits were sustained or not, a study by Sabates-Wheeler et al. (2018) sets the ideal monitoring period for graduation interventions to at least 2 post-program years. Given the close link between the sustainability of CT impacts, program design, and graduation, this review will juxtapose the evidence derived from graduation transfers to the proofs analyzing conventional CTs, which remain the focus of the investigation.

3. METHODOLOGY

This chapter’s methodological approach closely resembles that adopted by **Chapter 1**. In this case, however, the performed literature review could not be labelled as ‘systematic’, given that the tasks described by this section could not be independently conducted by (at least) two different researchers, a binding criterium of the definition of systematic literature reviews (Higgins et al., 2021).

3.1 IDENTIFICATION OF STUDIES

The search strategy resorted to two different electronic searching sources: Web of Science (more specifically, its ‘Core’ collection³⁵) and Google Scholar³⁶, concurring at collecting both peer-reviewed and grey literature. Citation tracking would also be later performed. In this context, a main search term referring to CTs was combined with several keywords associated with the sustainability of effects, generating a total of four different inspections for each search engine:

(3) Cash transfers *and*

(4) Long term *or* medium term *or* sustained effects *or* graduation

In addition, a few selection criteria were established to filter the results. Only studies published in English were scrutinized. Moreover, a specific publication timeframe was chosen, between January 1st, 1980, and February 28th, 2022. This period was deliberately selected as investigations around CTs’ impacts started to be published around 1980. On the contrary, no limitation was set concerning the geographical scope and research design of papers. The described process allowed to index and identify a list of relevant papers and articles.

³⁵ Web of Science’s Core Collection is the leading world citation database, including over 21,000 high-quality academic journals.

³⁶ In Google Scholar’s search, for each inquiry the first 200 resulting sources, ranked by relevance, were scanned (Bramer, Rethlefsen, Kleijnen, & Franco, 2017).

3.2 SELECTION OF STUDIES, CRITICAL APPRAISAL, DATA EXTRACTION AND ANALYSIS

Once the identification phase was completed, the selection step could begin. A first full-text and abstract screening of all potentially eligible studies was carried out, allowing to filter out the unrelated and irrelevant pieces of evidence. Subsequently, a backward citation tracking (i.e., checking reference lists) search was performed, in order to identify potentially still overlooked sources (Briscoe, Bethel, & Rogers, 2020).

As already briefly explained, empirical papers were incorporated regardless of the nature of their analysis. The critical appraisal phase, nonetheless, had to be differentiated by adopted methodology. The risk-of-bias of experimental and quasi-experimental evidence was separately determined by applying the *Revised Cochrane Risk-of-bias Tool for Randomized Trials (RoB 2)*, and the *Risk Of Bias In Non-randomized Studies – of Interventions (ROBINS-I)* assessment tools, respectively (Higgins et al., 2021). The former was almost always found to have low risk-of-bias (with one exception: Rodríguez-Oreggia & Freije, 2012), whereas quasi-experimental papers displayed moderate bias, mainly deriving from partial lack of methodological rigour or incomplete descriptions of results (4 sources were actually attributed serious risk). Still, all of the assessed papers were included, given that none reached the ‘critical’ threshold.

Afterwards, in-depth data on a variety of domains, including research setting, design, analyzed interventions and outcomes, was extracted from the chosen sources. Concerning data analysis, the heterogeneity in study designs, effects’ direction, bias and analyzed indicators (generally diversified and non-standardized) made comparisons through statistical meta-analyses not meaningful (Higgins et al., 2021). On the contrary, the presentation of findings was led by thematic summaries supported by data syntheses previously constructed through ‘vote-counting’-like techniques (based on the direction of effects³⁷; Higgins et al., 2021; Snilstveit, Oliver, & Vojtkova, 2012), whereby the most represented category – among positive, negative, and conflicting effects – is assumed to provide the best estimate of the ‘true’ effect. The limitations of vote counting (Waddington et al., 2012) – mainly derived from its failure to take effect magnitude and sample size into account – nevertheless, instructed the devise of a smoothing rule which considers the number of available studies and the relative prevalence of the most frequent effect direction(s). Moreover, the statistical significance of the drawn effect direction, by indicator, was also computed through a sign test³⁸ (Boon & Thomson, 2021). The latter expedients

³⁷ In fact, among other kinds of vote-counting procedures, the conventional analysis on the basis of the statistical significance of effects is problematic and has serious limitations (Higgins et al., 2021). However, the statistical significance of each impact is duly indicated in **Table 24** and **Table 25** (effect direction plots) and **Tables 27-33** (list of included coefficients) and acknowledged by the in-text discussion of the **Results’ section**.

³⁸ The sign test nonparametrically explores whether sufficient evidence exists to reject the null hypothesis of the equivalence of positive and negative results, by comparing the number of ‘successes’ with the total number of trials. In this case, studies displaying conflicting impacts were excluded from the count, as they could not be deemed to represent either a positive or a negative effect (Boon & Thomson, 2021).

allowed avoiding the reach of excessively generalized or unvalidated conclusions, both visually (in synthesizing tables) and in-text. The precedent aggregation and summary phases were informed by a framework synthesis paradigm (Snilstveit et al., 2012), partially based on the outcome areas of CT impacts described by Bastagli et al. (2016).

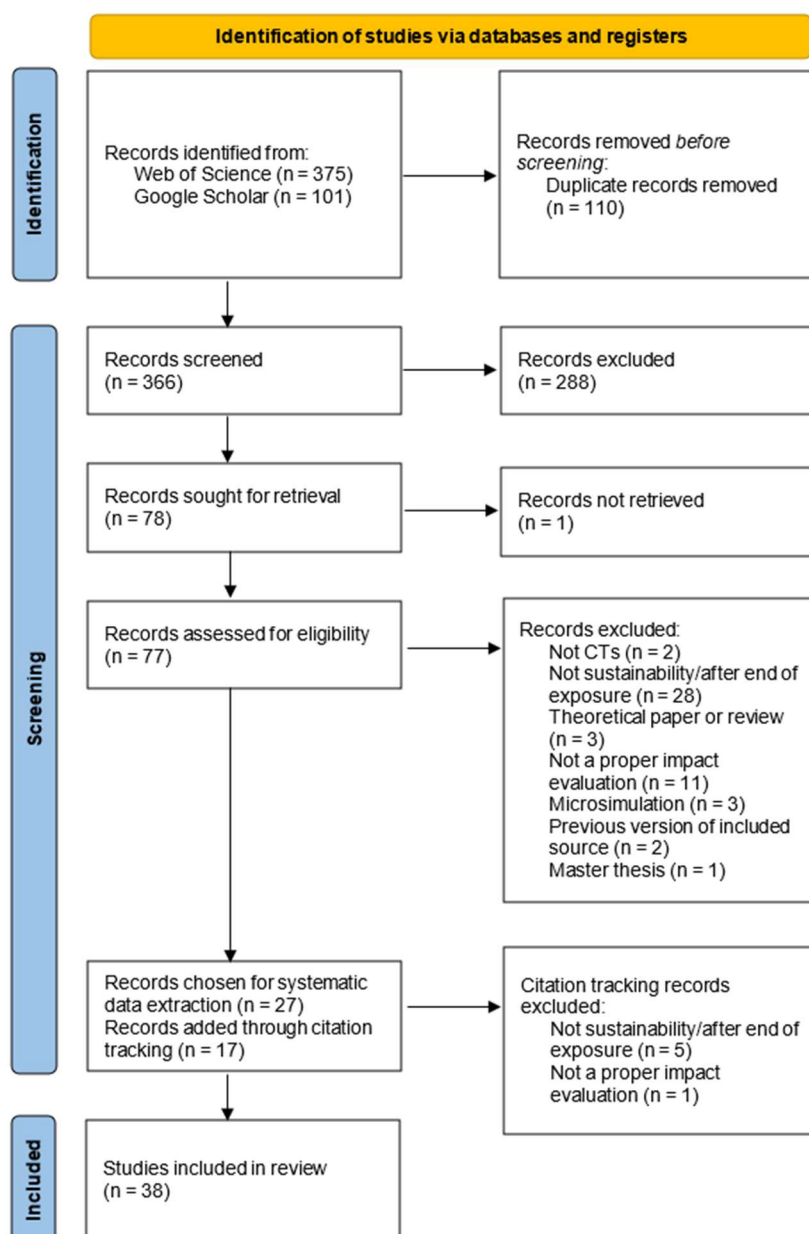
More in-detail insights and characteristics from each included proof are available in the Appendix: see **Table 21** (program design characteristics), **Table 22** (amount, frequency and purpose of programs; years of CT operation and study years), **Table 23** (research design and risk-of-bias), **Table 24** and **Table 25** (effect direction plots), **Table 26** (summary of findings, sampling information and availability of disaggregated information, per each study), **Tables 27-33** (detail of coefficients and risk-of-bias, by outcome domain) and **Tables 34-35** (critical appraisal through RoB2 and ROBINS-I).

4. RESULTS

Starting from an initial list of 476 identified sources, the inclusion process culminated with the extraction of data from 77 studies, which were deemed relevant on the basis of their titles and abstracts. 50 of those, nonetheless, were later excluded out of several different reasons: amongst them, investigating other interventions than cash transfers³⁹ (for instance, Malkova, 2018), not conducting a proper ‘impact evaluation’ as defined by the OECD’s Development Assistance Committee⁴⁰ (DAC; OECD, n.d.); see Devereux et al., 2019; Hajdu et al., 2020; Macours & Vakis, 2017; Rasella et al., 2021), and most importantly, not measuring effects after the end of exposure to programs (noticeably, Handa, Natali, Seidenfeld, Tembo, & Davis, 2018; Mueller, Gray, Handa, & Seidenfeld, 2020; Uchiyama, 2019). Citation tracking was performed on the 27 remaining sources, and additional papers found in such manner were also subjected to a similar screening process. Finally, 38 studies were selected to be reviewed by this investigation. The complete search strategy and source inclusion procedure is schematically presented by **Figure 10**, adopted from a PRISMA flow diagram.

³⁹ Any non-contributory monetary disbursement with at least a generic poverty alleviation or human development aim was considered a CT program.

⁴⁰ According to OECD’s DAC, a proper quantitative evaluation of impact requires the comparison with a counterfactual.



Source: elaborated by the author on the basis of PRISMA's flow diagram

Figure 10. Search strategy and source inclusion process of the review

4.1 OVERVIEW OF INCLUDED EVIDENCE

The recent emergence of a debate on the transformative and long-lasting effects of cash transfers is confirmed by the fact that all 38 selected studies were published after 2011. Moreover, a quite abrupt acceleration was experienced in the latest few years, with almost a third (12) of the included pool of evidence released since 2020.

Even though all sources exclusively resorted to quantitative methods, various techniques were used, equally split between experimental and quasi-experimental approaches. Regarding the geographical location of the analyzed interventions, the majority of papers evaluated CTs carried out in from either Sub-Saharan Africa, Central America, or South America (all three represented by 9 studies each), but

most ‘low- and middle-income’ regions were covered, with other articles focusing on the Near East, South and Southeast Asia. Nevertheless, 2 sources centred on programs implemented in the United States of America, providing some hints from a higher-income context, as well. The only study to analyze insights coming from multiple geographical areas was Banerjee et al. (2015), which incorporates evidence from Ethiopia, Ghana, Honduras, India, Pakistan, and Peru.

Concerning the analyzed CT’ design, great variety was captured. In fact, even though the majority of projects were either conditional (CCT) or unconditional cash transfers (UCT) – also including enterprise grants (3 studies), lump-sum transfers generally aimed at allowing beneficiaries to start or expand small business (Bastagli et al., 2016) –, other types of social assistance programs were also represented. It is the case of the already introduced ‘graduation’ transfers (analyzed by 8 of the included sources). In this context, it should be pointed out that the ‘cash’ arm of graduation programs was not conceived or conceptualized, in some cases, as the main component of the transfers. Finally, one of the included sources analyzed an actual pilot of Universal Basic Income (UBI), the Seattle-Denver Income Maintenance experiment, considered as a UCT while disaggregating the findings.

4.2 SYNTHESIS OF RESULTS

This section summarizes the main findings of the review, grouping them by outcome areas (and by their indicators). In addition, a couple of criteria were used to disaggregate the insights. In particular, distinctions were made between UCT/CCTs (from now on labelled as ‘conventional cash transfers’) and ‘graduation’ transfers, and depending on the length of the timeframe elapsed since program termination⁴¹. The latter demarcation allowed to distinguish between long- and medium-term findings (respectively, over and up to 2 years from the end of exposure), following the already cited rule by Sabates-Wheeler et al. (2018). Other disaggregations, such as a distinction between UCT and CCT effects, were not deemed meaningful, given that individual sources often analyzed multiple program designs together.

⁴¹ In the majority of cases, the included pieces of evidence analyzed nationwide cash transfer programs, relying on census or administrative data. The consequent uncertainty around the changes in recipient status of individuals over time (assumed by some articles to be coinciding with program eligibility) didn’t allow, for many sources, to determine a fixed (or at least average) period of exposure (and, hence, a length of the timeframe elapsed since the last received transfer) valid and commonly shared by all program recipients. For the sake of accuracy, then, it was established that, in such cases, this information would be indicated by ‘up to’ the number of years passed since the earliest possible date of end of exposure (or since program inception). Nevertheless, determining whether a source’s findings were to be categorized as ‘medium’ or ‘long-term’ evidence was always feasible, given that the shortest possible timeframe since program termination, in the case of long-term studies, was always clearly above the 2-year threshold.

Table 19. Selected variables used by the literature, for each outcome indicator

Outcome	Indicator	Variables
Education	Cognitive and test scores	Test scores, competencies scores, having taken exams (or not), cognitive and socio-economical scores, learning proxies, grades attained, having repeated school years (or not)
	School attainment and literacy	Years of schooling, highest grade completed, enrolment (or dropout), school attendance, completion of middle or high school, number of school days missed
	Tertiary education	Tertiary enrolment, on-time enrolment, graduation, having attended at least some university (or not)
Health and nutrition	Health status	Physical health, mental health, socio-emotional scores, psychological outlook, height, weight
	Life expectancy	Probability of having survived until 60/70/80 years old, longevity, having passed away (or not)
	Food security and nutrition	Food coping, nutrition, food consumption, macro/micronutrients' consumption
	Child health	z-scores for height- and weight-for-age, health and motor development, environment and stimulus indexes, psychosocial wellbeing, anemia, HIV, recent sickness, depression
Employment	Work status, labour supply and employment	Labour supply, labour market participation, hours worked per week, non-wage benefits, formal and informal work status, probability of working, probability of moving to a more qualified occupation
	Income and earnings	Annual income, earnings, total revenue, productive cash inflows, real profits, having earned any income (or not)
	Child labour	Labour force participation, work intensity, hours worked (for pay or not), earnings
	Migration and geographic mobility	Permanent, domestic, cross-municipality, cross-state or inter-state migration
Poverty	Expenditures and consumption	Expenditure per capita, household consumption expenditure, child expenditure, non-durable expenditure, total consumption, non-food consumption
	Living standards	Livelihood coping, rent expenditure, having spent savings to cope, being below the poverty line (or not), multidimensional poverty incidence and intensity, housing quality index
Savings, investment and production	Savings	Having savings (or not), having a bank account (or not), savings group participation
	Investment	Receiving or giving out loans (or not), financial inclusion index, productive time use, parents' discounting behavior
	Assets	Value of household, productive or non-land assets, value of sold or self-consumed livestock, value of business assets, durable goods index, tropical livestock units
Empowerment	Early pregnancy and marriage	Probability of marriage, age at marriage, probability of giving birth, age at first birth, number of children, size of household
	Decision-making power	Women's empowerment index, (autonomous) use of contraception, gender attitudes index, life skills index, control over money
	Abuse (physical and non-physical)	Sexual and physical violence, emotional violence
Social capital and agency		Crime, political involvement, social conditions, protective factors

Source: compiled by the authors on the basis of Bastagli et al. (2016) and of the reviewed studies

The outcome areas to which the delineated findings belong were inspired by, and almost entirely overlap with⁴², the domains described by Bastagli et al. (2016) in their review of the evidence around the impacts of cash transfers. The drawn indicators, representing sub-components of outcomes, were also partially informed by the same source.

Table 19 lists the main outcome categories, their indicators and some of their proxies commonly analyzed by the included sources. The clearest insights concern the education and employment dimensions, which were the most frequently analyzed ones, especially in the long run – and tended to show positive and sustained⁴³ impacts. Quite evidently positive patterns on the sustainability of effects were also deduced for what concerns food security and nutrition variables. More detailed findings (summarized by **Table 20**⁴⁴) gathered from the literature review are presented as follows, distinguishing by outcome domain and its indicators.

⁴² The only differences derive from having extended the ‘Poverty’ domain beyond monetary-only conceptualizations, and from having introduced a ‘Social capital and agency’ pillar, insertions made necessary by a thematic categorization of the evidence.

⁴³ In accordance with the adopted definition of sustainability of effects, the results section will from now on refer to ‘sustained’ impacts in the event of the mere existence of desirable (in terms of direction, with respect to the control group) effects measured after the end of exposure to a cash transfer. As a matter of fact, given that most of the included evidence do not display previously computed impacts (measured before, during, or just after program end), comparisons between post-program consequences and effects attained at earlier stages were often not possible. Consistently, the magnitude/size of impacts, their statistical significance (even though the latter will often be mentioned) and their evolutions over time (even when known), were not taken into account for determining the sustainability of effects.

⁴⁴ It should be noted that, for the visual purposes of **Table 20**’s construction, negative effects on “negatively” phrased variables were counted as positive (e.g., decreases in mortality were listed as positive impacts on life expectancy). At the same time, though, the direction of coefficients was not changed or inverted (when unnecessary) in the context of “negative” indicators (i.e., child labour, early pregnancy and marriage, and abuse), in order to maintain the visual immediacy and consistency of the insights conveyed by the table. As a consequence, for instance, a positive marker under child labour, or abuse, should be interpreted as a detrimental impact.

Table 20. Overall findings, by outcome domain and its indicators

Outcome	Indicator	Overall	Timeframe elapsed since program termination		Program design	
			Long term	Medium term	Conventional UCT/CCTs	Graduation transfers
Education	Cognitive and test scores	▲ 10	▼ 6	▲ 4	▲ 8	▲/▼ 2
	School attainment and literacy	▲ 25	▲ 20	▲ 5	▲ 23	▲/▼ 2
	Tertiary education	▲ 5	▲ 5		▲ 5	
Health and nutrition	Health status	▲ 8	▲ 5	▲ 3	▲ 5	▲ 3
	Life expectancy	▲ 3	▲ 3		▲ 3	
	Food security and nutrition	▲ 10	▲ 4	▲ 6	▲ 4	▲ 6
	Child health	▲ 8	▲ 3	▲ 5	▲ 7	▲ 1
Employment	Work status, labour supply and employment	▲ 13	▲ 10	▲ 3	▲ 10	▲ 3
	Income and earnings	▲ 18	▲ 15	◀▶ 3	▲ 13	▲ 5
	Child labour	▲/◀▶ 5	▲/▼/◀▶ 3	▲/◀▶ 2	◀▶ 4	▲ 1
	Migration and geographic mobility	▼/◀▶ 4	▼/◀▶ 4		▼/◀▶ 4	
Poverty	Expenditures and consumption	▲ 9	▲ 4	▲ 5	▲ 3	▲ 6
	Living standards	▲ 6	▲ 3	▲ 3	▲ 5	▲ 1
Savings, investment and production	Savings	▲ 5	▲ 2	▲ 3	▲ 3	▲ 2
	Investment	▲ 5	▲ 3	▲/▼ 2	▼ 1	▲ 4
	Assets	▲ 9	▲ 4	▲ 5	▲ 3	▲ 6
Empowerment	Early pregnancy and marriage	▲/▼ 7	▲/▼ 5	▲/▼ 2	▲/▼ 7	
	Decision-making power	▲ 4	◀▶ 1	▲ 3	▲ 3	▲ 1
	Abuse (physical and non-physical)	▼/◀▶ 3	▼ 1	▼/◀▶ 2	▼ 3	

Social capital and agency	▲ 4	▲ 1	▲ 3	▲ 2	▲/◀▶ 2
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Legend:

Effect direction (shape): Δ = increase/improvement, ∇ = decrease/worsening, $\langle \triangleright \rangle$ = conflicting findings (diverging effect directions).

Prevalence of most prominent effect (colour): \blacktriangle = 80% of studies, or more, \triangle = 50%-79%, \blacktriangle = less than 50%.

Number of studies (size): \blacktriangle = more than 10 studies, \blacktriangle = 6-10 studies, \blacktriangle = 1-5 studies.

Statistical significance: findings with a p-value < 0.1 in the sign test (Boon & Thomson, 2021) were highlighted in green. Conflicting findings were not included in the count of trials for the test.

The total number of studies for each indicator is mentioned in subscript.

'Long term': over 2 years after cessation of support (Sabates-Wheeler, Sabates, & Devereux, 2018). Otherwise, 'Medium term'.

4.2.1 EDUCATION

A primary source of interest for studies was represented by education-related outcomes. The extracted evidence pointed to overall positive and sustained impacts, especially on school attainment and literacy, and particularly in the longer run and in the case of conventional cash transfers.

Concerning ***cognitive and test scores***, the evidence pool indicated overall slightly positive effects, especially in the medium term. In the longer run, on the contrary, as many as half of the (6) available proofs showed negative impacts of transfers: not only were effects not sustained, but former recipients were even doing worse than the control groups. Noticeably, an analysis of the 10-year effects of the *Bono de Desarrollo Humano* (BDH) in Ecuador highlighted detrimental, albeit not statistically significant, long-term consequences of the program on a proxy of school grades (Araujo, Bosch, & Schady, 2020). A 10-year investigation of the *Red de Protección Social* (RPS) in Nicaragua discovered more mixed program impacts on test scores: whereas the transfer seemed to have improved language and math achievements, children's cognition skills were negatively (even if in a not statistically significant manner) affected (Barham, Macours, & Maluccio, 2018). As already anticipated, the medium-term evidence pool returned more optimistic insights, with 3 out of the 4 produced articles showing persisting positive CT impacts. Among these, Macours et al. (2012b) reported strongly significant and sustained positive effects on children's cognitive outcomes, providing initial confirmations for the theory that graduation grants could trigger behavioral changes by allowing beneficiary households to increase their expenditures on critical inputs (e.g., nutrient-rich foods, preventive health care) for child development. Another medium-run source, Sedlmayr et al. (2020), showed, conversely, that the Ugandan Village Enterprise Graduation Programme had yielded (not significant) aggravations in recipients' cognitive and test scores 27 months after program disbursement. In general, no definitive conclusion could be drawn on the sustainability of impacts of graduation transfers on test scores. Lastly, interesting findings derived from studies focusing on girls and female adolescents, with positive effects maintained in the medium term in Malawi (Baird et al., 2019), but negative and statistically significant long-term impacts in Colombia (Baez & Camacho, 2011), notwithstanding the comparatively higher disbursement.

The insights on ***school attainment and literacy***, grounding on the largest evidence base of all indicators, pointed at very strongly positive and sustained consequences of transfers, with the most conclusive findings related to longer timeframes and 'conventional' cash transfer programs. Alam et al. (2011) found out that, up to 5 years after receiving the Pakistani Punjab Female Stipend Program, a female-targeted CCT, beneficiary girls were (insignificantly) more likely to complete middle school, even if not more prone to transit to and complete high school. Positive (but not statistically significant) long-run effects were also recorded for *Familias en Acción* in Colombia, demonstrating its effectiveness in

fostering school attainment (Duque, Rosales-Rueda, & Sanchez, 2018). Even more beneficial CT impacts were found in Mexico, where the average youth exposed to 7 years of *PROGRESA*, had almost 3 additional years of education, in comparison to non-recipient children (Kugler & Rojas, 2018). Improvements were not only measured in the number of years of education, but also on the likelihood of completing high school. The medium term evidence is also almost only positive (4 sources out of 5), whereas more mixed intuitions were drawn from graduation transfers (2 studies). For example, the Concern Worldwide Graduation Programme in Rwanda was unable to induce additional school attendance, with the latter failure attributed by the authors to the already high pre-program levels of school presence (Sabates, Bhutoria, Sabates-Wheeler, & Devereux, 2019). In the case of the already cited article by Baez & Camacho (2011), despite the negative treatment effects on test scores, very positive and significantly persisting impacts were measured on school completion, with especially large coefficients for girls and for rural beneficiaries.

A total of 5 sources also provided evidence relating to the sustainability of cash transfers' repercussions on **tertiary education**, with slightly more mixed findings than the other education indicators. Nevertheless, most of the available proofs indicated positive and sustained effects, with the only exception coming from Colombia. Attanasio et al. (2021)'s long-run analysis of *Familias en Acción*, as a matter of fact, returned conflicting findings on university training, with both women and men sustainably benefitting from the program (but only men in a statistically significant way). Nevertheless, another paper from Colombia (focusing, this time, on the *Subsidios Condicionados a la Asistencia Escolar* program, specifically designed to foster educational outcomes) highlighted generally positive (but insignificant) CT impacts on tertiary enrolment and completion in the long term (up to 11 years after the end of exposure; Barrera-Osorio, Linden, & Saavedra, 2019). The latter acknowledgement, however, was only true for the conditional arm of the program, committing families to save a portion of transfers. Finally, long-run impacts on attending university were positive regardless of recipients' gender, in the case of the *Programa de Asignación Familiar (PRAF) II* in Honduras (Molina Millán, Macours, Maluccio, & Tejerina, 2020), partially reflecting the low educational levels at baseline. No medium-term or graduation program-derived proof was available when drafting this review.

4.2.2 HEALTH AND NUTRITION

Substantial attention was also devoted to the sustainability analysis of CT effects on health and nutrition indicators, returning rather optimistic findings. The evidence deriving from medium term and graduation investigations was clearer than the one coming from their counterparts, with more strictly positive (even if relatively scarce) insights.

The proofs regarding **health status** indicated positive and sustained effects, in most cases (6 out of 8 studies). The 3 available medium term sources all pointed to persisting beneficial impacts (Macours et al., 2012b), whereas the longer run evidence was less consistent. Negative long-term effects were

recorded, for example, by an RCT of GiveDirectly's UCTs in Kenya (on health and psychological wellbeing; Haushofer & Shapiro, 2018) and by an investigation of the enterprise grant Youth Opportunities Program (YOP) in Uganda (on physical and mental health; Blattman, Fiala, & Martinez, 2020). In general, nonetheless, it should be noted that the only statistically significant results were returned by a study on the Targeting-the-Ultra-Poor (TUP) graduation transfers in India, which generated strong improvements on proxies of physical and mental health, maintained in the long term (up to 10 years since program inception; Banerjee, Duflo, & Sharma, 2021).

As only 3 studies analyzed *life expectancy* (as possibly expected, a long term-only indicator), the related evidence was still inconclusive, besides heavily drawing on dated information from high-income contexts. The only statistically significant coefficients were computed in the context of the Mothers' Pension Program in the USA, which positively affected the longevity of male children of beneficiaries (female ones were not included in the study due to administrative issues; Aizer, Eli, Ferrie, & Lleras-Muney, 2016), confirming the hypothesis that short-term improvements yielded by CTs can generate long-lasting benefits over recipients' lifetime. On the contrary, a 30-year investigation on the UBI-pilot Seattle-Denver Income Maintenance Experiment (Price & Song, 2016) found that recipient adults were (even if slightly and insignificantly) more likely to having deceased, by the time of the measurement, with respect to their counterparts. Lastly, Blattman et al. (2020) reported a slight decrease in the probability that beneficiaries had passed away, 9 years after the cessation of support.

The health-related indicator with the most clearly positive findings was *food security and nutrition*, with 9 studies (out of 10) indicating long-lasting program benefits. Insights were exclusively positive for graduation programs and medium-term papers. A notable study found positive long-term impacts on macro and micronutrients' consumption of a Mexican program explicitly designed to target food insecurity (*Programa de Apoyo Alimentario*; Avitabile, Cunha, & Meilman Cohn, 2019). In the medium run, a graduation transfer in Rwanda also yielded positive and highly significant effects on food security (Sabates-Wheeler et al., 2018). The only source describing negative (but insignificant) program influences on the matter analyzed long-run evidence (up to 3 years after program completion; Haushofer & Shapiro, 2018).

The findings on *child health* were also mostly positive, with only 2 sources (of 8) highlighting negative program impacts. The only available proof from a graduation project returned positive insights. It was the case of *Atención a Crisis* in Nicaragua, which yielded improvements on health and motor development proxies, coherently with the observed enhancements in expenditures on child health, 2 years after program disbursement (Macours et al., 2012b). Overall negative coefficients were, instead, measured for the already mentioned *Programa de Apoyo Alimentario* in Mexico, with long-term (up to 9 years later) declines in anemia counterbalanced by non-significant effects on height- and weight-for-

age scores, and by increases in sickness status (Avitabile et al., 2019). In the medium run, the only negative impacts were recorded in Cambodia by Filmer & Schady (2014), which measured (statistically significant) rises in the probability of scholarship beneficiaries to be depressed, compared to their control counterpart. Finally, among the optimistic sources, a medium-term investigation of a program targeted at female adolescents in Malawi found generally positive and sustained, even if overall insignificant, impacts on a height-for-age z-score, across most of the analyzed program designs (Baird et al., 2019).

4.2.3 EMPLOYMENT

Employment patterns were also quite substantially inquired, with overall positive findings on the sustainability of effects on work status and earnings, especially in the long term. Other disaggregations returned less clear findings, together with general mixed insights on child labour and migration patterns.

The available studies on *work status, labour supply and employment* provided overwhelmingly positive evidence, particularly after longer timeframes since the end of exposure. Ham & Michelson (2018), for example, found positive (though, mostly insignificant) effects of PRAF II, more than a decade after the start of the transfer, on a series of labour force participation-related indicators. Interestingly, this only held valid for the program's arm including a cash component (the only one of interest, for the purposes of our study), possibly because of the enhanced investment in training spurred by the monetary transfer. Positive long-term evidence was also gathered in the context of *Bolsa Familia* in Brazil (Oliveira & Chagas, 2020), with improvements in formal labour market participation attributed to the observed beneficial impacts on schooling. The only long-run study finding negative results (curiously, once again from PRAF II) was Molina Millán et al. (2020), whereby (statistically insignificant) worsenings in work status could also be seen through a positive lens, in light of the simultaneous improvements on school completion and university studies. Interestingly gendered insights were derived from Bangladesh, with substantial and persisting long-term increases in labour supply (Bandiera et al., 2017), but medium-run mixed impacts on work status (Roy, Hidrobo, Hoddinott, & Ahmed, 2019) of female-targeted transfers, in accordance with the assumption that effects on productive outcomes need a longer timeframe to become manifest (Bastagli et al., 2019), especially for women, who face higher constraining factors than men (Covarrubias, Davis, & Winters, 2012; de Mel, McKenzie, & Woodruff, 2012).

The proofs on *income and earnings* also pointed to an overall positive direction of CT effects, mostly driven by long-term evidence. Enterprise grants in Sri Lanka returned, in fact, higher (and sustained) monthly profits around 5 years after the lump-sum transfer, but, interestingly, only for male-owned businesses. The latter finding was attributed by the authors to overlapping constraining factors represented by the diversion of transfers for women to household uses, and by the lower return rates

of typically female industries (de Mel et al., 2012). Noticeable long-term findings also included null impacts on profits of enterprise grants for female entrepreneurs in Ghana (potentially because of their, on average, lower profitability, and due to the relatively low transferred amount; Fafchamps, McKenzie, Quinn, & Woodruff, 2014) and statistically significant (but for women, only, given their low starting level) decreases in incomes in Honduras (Molina Millán et al., 2020). Negative long-term impacts on earnings were also found in Brazil (Oliveira & Chagas, 2020) and, as a result of exposure to UBI in the USA (even though the effect was potentially largely driven by the high early retirement rates enabled by its reception; Price & Song, 2016). Lastly, strongly positive and statistically significant long-term effects (larger for men and for women without children, whereas the impact was null on mothers) on labour income were measured in the context of the CCT *Chile Solidario* (Neidhöfer & Niño-Zarazúa, 2019).

The (relatively scarce) evidence on **child labour** indicated overall increases (or, at least, conflicting findings), after program termination, drawing potentially alarming insights. In this context, in fact, the only source finding (not statistically significant, furthermore) sustained declines in child labour was the long-term study by Araujo et al. (2020) in Ecuador. Interestingly, a strongly significant long-run rise in the number of days worked by children on a weekly basis was measured in Mexico (Avitabile et al., 2019), and explained by the authors through recipient households' increased ability to buy productive assets and to invest in work, illustrating why children would be more involved in labour and dedicate a reduced time to learning. Nevertheless, an impact disaggregation by age could provide more definitive answers around the overall negativity of the finding. More mixed durable results were reached by the already cited analyses of female scholarships, with a (significant) long-term decline in labour force participation compensated by a (non-significant) medium-run rise in work intensity in Pakistan (Alam, Baez, & Del Carpio, 2011) and by inconclusive findings on similar variables from Cambodia (Filmer & Schady, 2014). The only related study on graduation transfers found a decrease in the number of days worked each month by children in Rwanda (Sedlmayr, Shah, & Sulaiman, 2020), even if a non-significant manner, in the medium term.

Finally, no medium-run or graduation-derived analyses were available on proxies of **migration and geographic mobility**, but the 4 existing sources pointed to either conflicting findings or (insignificant) decreases as long-term impacts of CTs. Inconsistent long-term patterns were measured in the context of Mexico's *PROGRESA* by both Parker & Vogl (2018) in Mexico, where the program favoured migration at the cross-municipality and cross-state, but not at the inter-state level, and Rodriguez-Oreggia & Freije (2012). Clearer decreasing trends – consistent with enhanced living and labour market conditions – were, conversely, detected on permanent migration in Nicaragua (Barham et al., 2018), and on the

probability of young people to migrate in Honduras (Molina Millán et al., 2020), more than a decade after the cessation of the respective programs.

4.2.4 POVERTY

The evidence base on poverty-related indicators also suggested sustained and overall positive effects on the outcome. For both dimensions (roughly assimilable to monetary and multidimensional poverty, respectively), interestingly, the impacts seemed to be more strictly positive in the longer run, than in the medium term.

Regarding *expenditures and consumption*, as many as 7 out of the 9 available studies indicated persisting beneficial consequences of CTs. In the medium term, another investigation on the Nicaraguan *Atención a Crisis* program measured (insignificant) improvements, just like most other graduation transfers, on the analyzed monetary poverty proxy (in this case, on non-food and generic consumption, because of the better risk management and consumption smoothing practices allowed by the transfer; Macours et al., 2012a). Similarly, sustained (and statistically significant) medium-run improvements in per capita consumption were registered for the multi-country and multifaceted graduation program analyzed by Banerjee et al. (2015). Longer-term positive insights on the sustainability of effects on consumption were derived by the analysis of another TUP intervention in India (Banerjee et al., 2021), which might have enabled beneficiaries to escape the ‘poverty trap’ and its constraining factors. The only source pointing to unprolonged, and even negative post-program cash transfer impacts on the indicator was Altındağ & O’Connell (2021)⁴⁵, returning medium-term (insignificant) declines in per capita expenditure in Lebanon, attributed by the authors to the CTs’ incapability – possibly due to its relatively low monetary amount – to lift the economic and legal constraints faced by refugees.

Even if less large, the evidence base on *living standards* (multidimensional poverty; Alkire et al., 2015) pointed to similar conclusions, with almost exclusively positive CT impacts. In the longer run, and in the case of graduation programs (one source), the available proofs did actually only suggest sustained benefits of CTs on living standards. The only source to indicate conflicting effects, rather than positive, was once again Altındağ & O’Connell (2021), with medium-term mixed program consequences on variables such as livelihood coping, rent expenditure, having faced eviction, and having spent savings to cope. In the long run, on the contrary, an interesting paper from Peru found durable declines in both the incidence and intensity of multidimensional poverty (Borga & D’Ambrosio, 2021), up to 10 years after lastly benefitting from *Juntos*. Living standard enhancements were also recorded as a consequence of *PROGRESA* in Mexico, with statistically significant long-term raises in the analyzed

⁴⁵ A later version of the same article, published on an academic journal (Altındağ & O’Connell, 2023), was released outside of the adopted timeframe for study inclusion and exclusion. As a consequence, we hereby refer to the working paper version of the article, released in 2021.

housing index, regardless of gender (Parker & Vogl, 2018). Finally, the only available proof from a graduation program, the TUP in Bangladesh, found significant and persistent long-run declines in multidimensional poverty (Bandiera et al., 2017).

4.2.5 SAVINGS, INVESTMENT AND PRODUCTION

A few of the included sources also comprised medium- and long-term investigations of the sustainability of CT effects on indicators of savings, investment and production. The related evidence was mostly positive concerning savings and assets, while slightly more mixed in the case of investments. The longer run insights were more clearly positive than medium-term ones, whereas graduation programs did not prove to be comparatively more beneficial (as it would otherwise be expected, by their design and focus) than conventional cash transfers on any of the indicators (possibly, with the only exception of investments), even though the latter statement was only based on a few studies' findings.

The evidence on *savings* mostly pointed to positive and sustained effects. The only exception was represented by Altındağ & O'Connell (2021), which measured slightly negative (but not statistically significant) medium-term program impacts on savings in Lebanon. Statistically significant positive effects on savings group participation were, on the contrary, computed in the medium term in Niger, after receiving a CT bundled with support of local saving associations (Stoeffler, Mills, & Premand, 2020). Durable and persistent impacts were also calculated in the case of the TUP graduation transfer in Bangladesh, whereby improvements were sustained (and statistically significant; Bandiera et al., 2017) up to 7 years since the cessation of support.

Concerning *investments*, as anticipated, the evidence base returned more mixed insights. The only proof analyzing a conventional cash transfer program actually measured negative program impacts on beneficiary parents' discounting behaviour, in the long run (up to 9 years since the end of exposure; Contreras Suarez & Cameron, 2020). In the medium term, instead, Banerjee et al. (2015) found strongly positive, sustained and statistically significant TUP repercussions on financial inclusion in a variety of countries. Graduation programs, besides providing almost exclusively positive findings overall, interestingly also demonstrated to bear the potential to spur women's investment capabilities, with positive, significant, and sustained (in the long run) treatment coefficients on dummies for receiving and giving out loans registered in Bangladesh (Bandiera et al., 2017). Nevertheless, in the latter case, it was not possible to unleash the observed processes of change, given the lack of (unfeasible) disentanglements around the individual contribution of the multiple different TUP components.

The available studies on *assets*, given the larger evidence base, provided more conclusive discernments. In particular, the effects on assets were exclusively positive, in the long-term and in the

case of conventional cash transfers. Positive findings, in the long run, were derived from analyses of GiveDirectly transfers in Kenya (statistically significant improvements in non-land assets' value; Haushofer & Shapiro, 2018) and of *PROGRESA* in Mexico (slightly statistically significant enhancements in a durable goods index, but only for men, up to 13 years after the end of the transfer; Parker & Vogl, 2018). Interestingly, neither one of these two latter programs included a 'graduation-style' plus component. Finally, beneficial and sustained CT effects were also computed in the medium-term in the context of the Village Enterprise Graduation Programme in Uganda, with positive and strongly significant coefficients on the value of assets and of tropical livestock units (TLUs) of recipients (Sabates-Wheeler et al., 2018).

4.2.6 EMPOWERMENT

A number of studies included investigations around the sustainability of CT impacts on women's empowerment, returning a rather mixed overall picture. In this context, even though the evidence base was quite limited on all indicators, the most conflicting insights related to proxies of early pregnancy and marriage, especially in the longer run. More optimistic findings were derived from the analysis of decision-making power and abuse, but the scarce available proofs did not allow clear inferences of patterns, neither in general nor in a disaggregated manner.

As already briefly introduced, the most numerous and mixed hints concerned ***early pregnancy and marriage***. In the long term, Alam et al. (2011) found aggregate increases in the phenomenon, with the raises in the probability of getting married and in the number of birthed children, and a decrease in the age at marriage, only partially counteracted by a decline in the probability of giving birth. The female-targeted Punjab Female Stipend Program did not seem to have benefitted young girls, in this sense, even though none of the computed coefficients were significant. The authors imputed this finding to the lack of complementary and structural interventions aimed at fostering women's educational and working achievements, in the absence of which, finishing school earlier would also mean moving into marriage earlier, for young girls unable to attend higher school cycles. On the contrary, a very similar CT-only intervention, handed out in Bangladesh, had overwhelmingly positive (and strongly statistically significant) long-run repercussions on the matter, spurred by an increase in school attainment. As a matter of fact, up to 17 years after the last transfer, beneficiary girls were more likely to get married at a later age, to have fewer children, to have their first child later in time, and to desire less children, in comparison to the control group (Hahn, Islam, Nuzhat, Smyth, & Yang, 2018). In the medium term, Baird et al. (2019) found mixed impacts of the Schooling, Income and Health Risk transfer in Malawi, across distinct program designs (in terms of un/conditionality), on similar variables to the ones analyzed by Alam et al. (2011), with an overall sustained decrease in early pregnancy and marriage, but mostly insignificant coefficients. Lastly, the initially measured positive impacts of the YOP on the

indicator did not persist, in the long run: findings were conflicting, and statistically insignificant (Blattman et al., 2020).

Out of the 4 studies dedicating space to *decision-making power proxies*, 3 focused on the medium-term, with only positive findings on effects' sustainability. First, an RCT of the Girl Empower program in Liberia detected sustained improvements in indexes of gender attitudes and life skills (together, encompassing literacy and knowledge on a variety of relevant issues⁴⁶), both statistically significant (Özler et al., 2020) and attributed to a pure income effect – even though the program also offered a life skills curriculum, and notwithstanding the modesty of the cash benefit. Second, evidence from Bangladesh highlighted beneficial medium-term CT effects on women's control over received money, even if those were only significant for recipients of both cash and nutrition behaviour change communication (BCC; Roy et al., 2019), in contrast to cash-only recipients. Third, medium-run positive (despite insignificant) insights were also derived from a TUP analysis on an index of women's empowerment (mainly composed of decision-making proxies; Banerjee et al., 2015). The only available long-term article described conflicting findings on all of the investigated proxies: use of contraception, the degree to which contraception was observable by the husband, and decision-making more in general, with slight differences across distinct exposure lengths (Hahn et al., 2018). The latter inconsistent result may be attributed to the program's conditional design (Cookson, 2018), on the contrary of the aforementioned unconditional transfers.

Only 3 sources were produced regarding *abuse (physical and non-physical)*, with 1 detecting conflicting findings and 2 showing declines in the dimension. The measured sustained decreases in degree of abuse in Kenya (in the long term, slightly significant; Haushofer & Shapiro, 2018) and in sexual and physical violence in Liberia (in the medium run, but insignificant; Özler et al., 2020) were in fact counterbalanced by medium-term mixed impacts on physical violence in Bangladesh (Roy et al., 2019). In the case of the latter study, the (still diversified) effects were ascribed to simultaneously operating mechanisms – activated by the CT – of improved bargaining power, interactions with community members, and poverty status of women. No proof was available on graduation transfers.

4.2.7 SOCIAL CAPITAL AND AGENCY

The last outcome domain inquired by the included evidence pool comprised variables related to concepts of social capital and agency, analyzed by 4 sources. With regards to it, the lack of clarity concerning medium-term and graduation programs was counteracted by (scarce, but) exclusively positive intuitions from long-run evidence and conventional CTs. The only long-term study, Attanasio

⁴⁶ The operationalized gender attitudes index comprised proxies for gender equity and attitudes towards IPV, whereas the life skills index encompassed knowledge of HIV/AIDS, health, financial literacy, knowledge of condom effectiveness and health intimate (heterosexual) relationships.

et al. (2021), showed significant reductions in men's crime up to 8 years after having last been exposed to *Familias en Acción*. Positive medium-term impacts were then measured on political involvement in the various countries in which the TUP graduation program analyzed by Banerjee et al. (2015) was implemented, and on protective factors (an index for social networks⁴⁷) and gender norms (in a not statistically significant way) in Liberia (Özler et al., 2020). Finally, the only paper pointing to conflicting results was Sedlmayr et al. (2020), which registered significantly positive impacts of the Village Enterprise Graduation Programme on social conditions (an index encompassing, amongst others, senses of trust and community), but only for beneficiaries of the enterprise program arm, on the contrary of simple CT recipients.

5. DISCUSSION

This review of the literature provided a summary of the sustainability of cash transfer effects, namely, on their persistence after program end. The main finding of the study is the dismissal of the theoretical assumption that CTs would represent a short term-only solution to poverty and vulnerability, generating impacts on a variety of outcomes, but at most in a transient manner (Devereux & Sabates-Wheeler, 2015; Sabates-Wheeler & Devereux, 2013). The available evidence showed, as a matter of fact, that cash transfers tend to yield sustained (and 'transformative'; Devereux & Sabates-Wheeler, 2004; Molyneux et al., 2016) beneficial effects on deprivation proxies such as school attainment, test scores, incomes, labour supply, food security, and assets. Some of these summarizing findings were also 'statistically significant' as computed through the sign test (Boon & Thomson, 2021).

The length of the elapsed timeframe since the end of exposure to programs, nevertheless, proved to represent a fundamental factor in the explanation of the diversity of the obtained insights: while impacts on test scores, labour supply, (multidimensional) poverty, and incomes were more visible and consolidated in the 'long term' (coherently with theoretical expectations; Bastagli et al., 2019; Hajdu et al., 2020; and in line with the livelihood-promoting theory of the graduation approach; Sabates-Wheeler & Devereux, 2013; Sabates-Wheeler et al., 2018), positive CT repercussions on health status, food security, and women's decision-making power tended to fade away after the medium run. Furthermore, even though the relatively scarce evidence on 'graduation' transfers does not allow reaching definitive conclusions, it was noticed that such programs (Devereux & Sabates-Wheeler, 2015; Hashemi & Umaira, 2011), do not necessarily yield comparatively more positive and better sustained impacts on the outcomes they are explicitly designed to help beneficiaries 'graduate' on – savings, investments, assets, incomes and expenditures, among others – than conventional cash transfers. Nevertheless, it was also highlighted how alternative 'asset-based' approaches (Ellis, 2000; Sen, 1997) displayed an unexpected potential to also bear positive and sustained changes on a wider range of

⁴⁷ The described protective factors index groups together variables related to social capital, gender norms, and child rearing.

(drawn) indicators, including (child) health status, nutrition, and women's decision making-power. In general, however, it should be remembered that, for most of the analyzed outcomes and indicators, the number of existing empirical proofs is rather limited (it is the case, for instance, of child labour, early pregnancy and marriage, and social capital).

The implications drawn by the review are relevant at the policymaking, research, and evaluation levels, of social protection and development. First, implementing agencies should take them into account when designing (and evaluating) their CT interventions, bearing in mind that specific long-lasting and transformative goals can be achieved through purposefully characterized, advertised, and communicated transfers, as explicated by some of the included pieces of evidence (Barrera-Osorio et al., 2019; Macours et al., 2012a; Neidhöfer & Niño-Zarazúa, 2019; Stoeffler et al., 2020). Second, researchers should positively reconsider the ability of (even conventional) cash transfers to provide their recipients with substantial advantages on a variety of outcomes, which could turn into persisting long-term benefits (Devereux & Sabates-Wheeler, 2004; Sabates-Wheeler & Devereux, 2013). In this context, further research could be devoted to a better understanding of the mechanisms driving continuous positive impacts (e.g., their constraining/enabling factors; Devereux & Ulrichs, 2015) and of the roles of the so-called 'long-term' variables (i.e., child health and education; Molina Millán et al., 2019), of different CT design (such as, but not limited to, conditionality, targeting, and the provision of complementary support; Altındağ & O'Connell, 2023; Ham & Michelson, 2018; Kondylis & Loeser, 2021; Molina Millán et al., 2019; Roelen & Devereux, 2019; Roelen et al., 2017) and beneficiary features (such as gender; Attanasio, Sosa, Medina, Meghir, & Posso-Suárez, 2021; de Mel et al., 2012; Oliveira & Chagas, 2020) in the process. Moreover, additional (even qualitative) attention could be drawn to figuring out how different outcomes are interrelated in determining each other's sustainability (for instance, how educational outcomes, labour and early marriage patterns interact, especially for young girls; de Mel et al., 2012; Molina Millán et al., 2020). Finally, M&E professionals should extend, when feasible, the timeframe of program evaluations for at least 2 years after the cessation of support (Sabates-Wheeler et al., 2018), in order to produce more evidence-based knowledge on the sustainability of CT effects.

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APPENDIX

Table 21. Program design characteristics for each study under review

<i>Study</i>	<i>Country/ies</i>	<i>CT</i>	<i>Type</i>	<i>Plus</i>	<i>Targeting</i>
Aizer et al. (2016)	United States of America	Mother's Pension	UCT		Means-based and categorical
Alam et al. (2011)	Pakistan	Punjab Female School Stipend Program (FSSP)	CCT		Geographical and categorical
Altındağ & O'Connell (2021)	Lebanon	Multipurpose cash assistance program (cash arm)	UCT		Means-based
Araujo et al. (2020)	Ecuador	<i>Bono de Desarrollo Humano</i> (BDH)	UCT (soft conditionality)		Proxy-means
Attanasio et al. (2021)	Colombia	<i>Familias en Acción</i>	CCT+	Health education (<i>Encuentros de Cuidado</i>)	Means-based and categorical
Avitabile et al. (2019)	Mexico	<i>Programa de Apoyo Alimentario</i> (PAL) (cash arm)	UCT+ (conditionality not enforced)	Health, nutrition and hygiene classes	Categorical and means-based
Baez & Camacho (2011)	Colombia	<i>Familias en Acción</i>	CCT+	Health education (<i>Encuentros de Cuidado</i>)	Means-based and categorical
Baird et al. (2019)	Malawi	Schooling, Income and Health Risk (SIHR)	UCT and CCT		Demographical and categorical
Bandiera et al. (2017)	Bangladesh	Targeting-the-Ultra-Poor (TUP)	Graduation (UCT+)	Asset transfer, health support and training on legal, social and political rights	Proxy-means, geographical and categorical
Banerjee et al. (2015)	Ethiopia, Ghana, Honduras, India, Pakistan and Peru	Targeting-the-Ultra-Poor (TUP)	Graduation (UCT+)	Asset transfer, savings and health components	Proxy-means, geographical and categorical
Banerjee et al. (2021)	India	Targeting-the-Ultra-Poor (TUP)	Graduation (UCT+)	Asset transfer, training on income, life-skills and health information	Proxy-means, geographical and categorical
Barham et al. (2018)	Nicaragua	<i>Red de Protección Social</i> (RPS)	CCT+	Training and nutritional supplements	Geographical and household
Barrera-Osorio et al. (2019)	Colombia	<i>Subsidios Condicionados a la Asistencia Escolar</i> (SED)	CCT		Proxy-means and categorical
Blattman et al. (2020)	Uganda	Youth Opportunities Program (YOP)	Enterprise UCT		Means-based and categorical
Borga & D'Ambrosio (2021)	Peru	<i>Juntos</i>	CCT		Geographical, categorical and proxy-means
Contreras Suarez & Cameron (2020)	Colombia	<i>Familias en Acción</i>	CCT+	Health education (<i>Encuentros de Cuidado</i>)	Means-based and categorical

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de Mel et al. (2012)	Sri Lanka	2005 Microenterprise grant	Enterprise UCT+	In-kind purchases of equipment or materials for businesses	Geographical and categorical
Duque et al. (2018)	Colombia	<i>Familias en Acción</i>	CCT+	Health education (<i>Encuentros de Cuidado</i>)	Means-based and categorical
Fafchamps et al. (2014)	Ghana	Business Grant Ghana (cash arm)	Enterprise UCT		Geographical, categorical and business-related
Filmer & Schady (2014)	Cambodia	CESSP Scholarship Program (CSP)	UCT		Proxy-means and categorical
Hahn et al. (2018)	Bangladesh	Female Secondary School Stipend Program (FSSSP)	CCT		Geographical and categorical
Ham & Michelson (2018)	Honduras	<i>Programa de Asignación Familiar (PRAF) II</i>	CCT+	Vouchers or clinic and school subsidies	Means-based, categorical and geographical
Haushofer & Shapiro (2018)	Kenya	GiveDirectly	UCT		Proxy-means and categorical
Kugler & Rojas (2018)	Mexico	<i>PROGRESA/Oportunidades</i>	CCT+	Health education and nutritional supplements	Geographical and household
Macours et al. (2012a)	Nicaragua	<i>Atención a Crisis</i>	Graduation (CCT+)	Scholarship for vocational training or productive investment grant	Geographical and proxy-means
Macours et al. (2012b)	Nicaragua	<i>Atención a Crisis</i>	Graduation (CCT+)	Scholarship for vocational training or productive investment grant	Geographical and proxy-means
Molina Millán et al. (2020)	Honduras	<i>Programa de Asignación Familiar (PRAF) II</i>	CCT+	Vouchers or clinic and school subsidies	Means-based, categorical and geographical
Neidhöfer & Niño-Zarazúa (2019)	Chile	<i>Chile Solidario (SUF, Subsidio Unico Familiar)</i>	CCT+	Psychological support and employment training	Proxy-means
Oliveira & Chagas (2020)	Brazil	<i>Bolsa Familia</i>	CCT		Means-based
Özler et al. (2020)	Liberia	Girl Empower (GE+ arm only)	UCT+	Skills curriculum	Categorical
Parker & Vogl (2018)	Mexico	<i>PROGRESA/Oportunidades</i>	CCT+	Health education and nutritional supplements	Geographical and household
Price & Song (2016)	United States of America	Seattle-Denver Income Maintenance experiment	UCT		Geographical, categorical and means-based
Rodriguez-Oreggia & Freije (2012)	Mexico	<i>PROGRESA/Oportunidades</i>	CCT+	Health education and nutritional supplements	Geographical and household
Roy et al. (2019)	Bangladesh	Transfer Modality Research Initiative (TMRI, cash arm)	UCT+	Intensive nutrition behavior change communication (BCC)	Proxy-means
Sabates et al. (2019)	Rwanda	Concern Worldwide Graduation Programme Rwanda	Graduation (UCT+)	Livelihood training	Proxy-means
Sabates-Wheeler et al. (2018)	Rwanda	Concern Worldwide Graduation Programme Rwanda	Graduation (UCT+)	Livelihood training	Proxy-means

Sedlmayr et al. (2020)	Uganda	Village Enterprise Graduation Programme	Graduation (UCT+)	Encouragement to start a business and creation of saving groups	Participatory and proxy-means
Stoeffler et al. (2020)	Niger	<i>Projet Pilote des Filets Sociaux par le Cash Transfert (PPFS-CT)</i>	UCT+	Encouragement of women's participation in local savings group	Proxy-means

Table 22. Additional program and study design characteristics for each paper under review

<i>Study</i>	<i>CT</i>	<i>Amount (local currency)</i>	<i>Amount (PPP)</i>	<i>Duration</i>	<i>Frequency</i>	<i>Purpose</i>	<i>Years of program operation</i>	<i>Survey years</i>	<i>Targeted populations</i>	<i>Number of recipients</i>
Aizer et al. (2016)	Mother's Pension	State-legislated maximums spanning USD10-35 12-25% of family income	USD 10-35 in 1935 correspond to \$ 213.62 - 747.66 in 2022	3 years	Monthly	Improving the financial conditions of orphans	1911-1935	1911-1930	Children of poor mothers and missing/incapacitated fathers; no income or property thresholds	200,000 children in 1932
Alam et al. (2011)	Punjab Female School Stipend Program (FSSP)	PKR 600 in 2003	\$10 in 2003, \$15.91 in 2022	3 years	Quarterly	Improving educational attainment among girls	2003-	2003-2009	Girls in districts with the lowest literacy rates and enrolled in eligible grades (6 through 8) in public schools	245,000 in 2007
Altındağ & O'Connell (2021)	Multipurpose cash assistance program (cash arm)	USD 175 to the median-sized household	\$175 in 2016, \$213.39 in 2022	1 year	Monthly	Multiple related to poverty and vulnerability reduction	2016-2018	2016-2019	Syrian refugees in Lebanon	55,000 families
Araujo et al. (2020)	<i>Bono de Desarrollo Humano</i> (BDH)	USD 15 in 2003	\$15 in 2003, \$23.86 in 2022		Monthly	Poverty reduction	2003-	2014	Poor households	
Attanasio et al. (2021)	<i>Familias en Acción</i>	COP 50,000 in 2010	\$24.46 in 2010, \$32.83 in 2022		Monthly	Improving health and nutrition of children	2002-	2002-2015	Low-income families: 20% poorest households in the country	2.8 million households in 2011
Avitabile et al. (2019)	<i>Programa de Apoyo Alimentario</i> (PAL) (cash arm)	MXN 150 in 2004	\$15 in 2004, \$23.24 in 2022		Bimonthly	Improving nutrition and food intake	2004-	2007-2013	Poor families, especially children and mothers	
Baez & Camacho (2011)	<i>Familias en Acción</i>	COP 50,000 in 2010	\$24.46 in 2010, \$32.83 in 2022		Monthly	Improving health and nutrition of children	2002-	2003-2009	Low-income families: 20% poorest households in the country	2.8 million households in 2011
Baird et al. (2019)	Schooling, Income and Health Risk (SIHR)	USD 10 in 2007	\$10 in 2007, \$14.11 in 2022	2 years	Monthly	Improving schooling and (sexual) health outcomes for young women	2007-2009	2007-2012	Adolescent girls and young women	
Bandiera et al. (2017)	Targeting-the-Ultra-Poor (TUP)	USD 1,120	\$1,120 in 2007, \$1,580.84 in 2022		Lump sum	Improving labour conditions of disadvantaged women	2007	2007-2014	Women in ultra-poor households	360,000 households in 2014

Banerjee et al. (2015)	Targeting-the-Ultra-Poor (TUP)	USD 437-1,228 for the productive asset transfer, depending on location	USD 437-1,228 in 2007 correspond to \$ 616.81-1,733.27 in 2022	1 year for the consumption support arm	Lump sum, in the case of the productive asset transfer	Poverty reduction	2007	2007-2014	Ultra-poor households	
Banerjee et al. (2021)	Targeting-the-Ultra-Poor (TUP)	USD 437-1,228 for the productive asset transfer, depending on location	USD 437-1,228 in 2007 correspond to \$ 616.81-1,733.27 in 2022	1 year for the consumption support arm	Lump sum, in the case of the productive asset transfer	Poverty reduction	2007	2007-2017	Ultra-poor households	
Barham et al. (2018)	<i>Red de Protección Social (RPS)</i>	On average, 18% of pre-program expenditures		3 years	Bimonthly	Tackling current and future poverty	2000-2006	2000-2010	Poor households	
Barrera-Osorio et al. (2019)	<i>Subsidios Condicionados a la Asistencia Escolar (SED)</i>	USD 20-30 in 2005	USD 20-30 in 2005 correspond to \$ 29.97-44.95 in 2022		Bimonthly	Increasing student retention, reducing dropout rates, and ameliorating child labour	2005-2012	2005-2012	Poor households with school-age children	7,984 students in 2005
Blattman et al. (2020)	Youth Opportunities Program (YOP)	UGX 12.9 million in 2006 (per group)	USD 7,497 in 2008's values, corresponding to \$ 10,190.45 in 2022 (per group)		Lump sum	Improving business outcomes for poor young adults	2006	2006-2015	Young adults aged 16-35	
Borga & D'Ambrosio (2021)	<i>Juntos</i>	PEN 100 in 2005	\$30 in 2005, \$44.95 in 2022		Monthly	Reducing poverty and fostering employment	2005-	2006-2016	Poor families in rural areas	
Contreras Suarez & Cameron (2020)	<i>Familias en Acción</i>	COP 50,000 in 2010	\$24.46 in 2010, \$32.83 in 2022		Monthly	Improving health and nutrition of children	2002-	2012	Low-income families: 20% poorest households in the country	2.8 million households in 2011
de Mel et al. (2012)	2005 Microenterprise grant	LKR 10,000-20,000	USD 100-200 in 2005 correspond to \$ 149.85-299.70 in 2022		Lump sum	Improving labour and business (self-employment) patterns for women	2005	2005-2010	Microenterprises with no paid employees	408 microenterprises
Duque et al. (2018)	<i>Familias en Acción</i>	COP 50,000 in 2010	\$24.46 in 2010, \$32.83 in 2022		Monthly	Improving health and nutrition of children	2002-	2002-2017	Low-income families: 20% poorest households in the country	2.8 million households in 2011

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Fafchamps et al. (2014)	Business Grant Ghana (cash arm)	GHS 150 in 2009	USD 120 in 2009 correspond to \$ 163.69 in 2022		Lump sum	Improving labour patterns for small firms	2009	2008-2012	Microenterprises with no paid employees	198 firms
Filmer & Schady (2014)	CESSP Scholarship Program (CSP)	USD 45 in 2005	\$45 in 2005 correspond to \$67.43 in 2022	3 years	Annually	Improving school attainment of poor children	2005-	2005-2010	Students of schools in poor areas	3,800 students in 2005
Hahn et al. (2018)	Female School Stipend Program (FSSSP)	USD 18-45 in 1994	\$18-45 in 1994 correspond to \$35.55-88.86 in 2022		Annually	Improving school attainment of girls in rural areas	1994-	2004-2011	Secondary school girls in rural areas	More than 2 million girls
Ham & Michelson (2018)	<i>Programa de Asignación Familiar (PRAF) II</i>	Maximum USD 210 in 2000	\$210 in 2000 correspond to \$356.90 in 2022		Annually	Compensating extremely poor households for the negative impacts of the country's structural adjustment policies	2000-2005	2000-2013	Poor households	
Haushofer & Shapiro (2018)	GiveDirectly	On average, USD 709	\$709 in 2011 correspond to \$922.44 in 2022		Lump sum or a few monthly installments	Poverty reduction	2011-2013	2011-2014	Poor households	503 households
Kugler & Rojas (2018)	<i>PROGRESA/Oportunidades</i>	Exact amount depending on the individual household's composition, needs and income level			Monthly or bimonthly	Reducing poverty and increasing human capital	1997-	1996-2013	Poor households	26.6 million people in 2010
Macours et al. (2012a)	<i>Atención a Crisis</i>	Over the year, a minimum of USD 145	\$145 in 2005 correspond to \$217.28 in 2022	1 year	Monthly	Reducing the need for adverse coping mechanisms against an unfolding severe drought, and promoting long run upward mobility	2005-2006	2005-2009	Poor households	
Macours et al. (2012b)	<i>Atención a Crisis</i>	Over the year, a minimum of USD 145	\$145 in 2005 correspond to \$217.28 in 2022	1 year	Monthly	Reducing the need for adverse coping mechanisms against an unfolding severe drought, and promoting long run upward mobility	2005-2006	2005-2009	Poor households	

Molina Millán et al. (2020)	<i>Programa de Asignación Familiar (PRAF) II</i>	On average, 4% of total pre-program household income			Biannually	Increasing investment in human capital during early childhood ages	2000-2005	2013	Municipalities with highest malnutrition rates in the country	
Neidhöfer & Niño-Zarazúa (2019)	<i>Chile Solidario (SUF, Subsidio Unico Familiar)</i>	USD 8-21 in 2002	\$8-21 in 2002 correspond to \$13.01-34.16 in 2022	5 years	Monthly	Tackling extreme poverty	2002-	2013	Poor households	264,000 in 2011
Oliveira & Chagas (2020)	<i>Bolsa Familia</i>	Exact amount depending on the individual household's composition, needs and income level			Monthly	Reducing poverty	2003-	2004-2017	Poor households with school-age children or a pregnant woman, or extremely poor families	26.86% of the population in 2018
Özler et al. (2020)	Girl Empower (GE+ arm only)	A maximum of \$40	\$40 in 2016 correspond to \$48.77 in 2022		Lump sum	Empowering adolescent girls	2016	2015-2018	Girls aged 13-14	402 recipients of the participation incentive payment
Parker & Vogl (2018)	<i>PROGRESA/Oportunidades</i>	Exact amount depending on the individual household's composition, needs and income level			Monthly or bimonthly	Reducing poverty and increasing human capital	1997-	2010	Poor households	26.6 million people in 2010
Price & Song (2016)	Seattle-Denver Income Maintenance experiment		A maximum of \$25,900 yearly, in 2013's values, corresponding to \$32,537.18 in 2022	3-5 years	Monthly	Reducing poverty and studying the effects of a negative income tax (NIT)	1970-	1978-2013	Poor households	Around 2,400 families in 1970
Rodriguez-Oreggia & Freije (2012)	<i>PROGRESA/Oportunidades</i>	Exact amount depending on the individual household's composition, needs and income level			Monthly or bimonthly	Reducing poverty and increasing human capital	1997-	2007	Poor households	26.6 million people in 2010
Roy et al. (2019)	Transfer Modality Research Initiative (TMRI, cash arm)	BDT 1,500 in 2012	USD 19 in 2012 correspond to \$24.22 in 2022	2 years	Monthly	Empowering poor women	2012-2014	2012-2015	Women in ultra-poor households	

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Sabates et al. (2019)	Concern Worldwide Graduation Programme Rwanda	RWF 18,000 in 2012	USD 22 in 2012 correspond to \$28.04 in 2022	1 year	Monthly	Accelerating poverty eradication and promoting rural economic growth	2012-2013	2012-2015	Poor households	800 beneficiaries
Sabates-Wheeler et al. (2018)	Concern Worldwide Graduation Programme Rwanda	RWF 18,000 in 2012	USD 22 in 2012 correspond to \$28.04 in 2022	1 year	Monthly	Accelerating poverty eradication and promoting rural economic growth	2012-2013	2012-2015	Poor households	800 beneficiaries
Sedlmayr et al. (2020)	Village Enterprise Graduation Programme	UGX 120,000 per household in 2013	USD 115.15 in 2013 correspond to \$144.66 in 2022	4 months	Lump sum	Improving business and labour outcomes	2013-2014	2013-2017	Poor households	
Stoeffler et al. (2020)	<i>Projet Pilote des Filets Sociaux par le Cash Transfert</i> (PPFS-CT)	FCFA 10,000 in 2011	USD 20 in 2011 correspond to \$26.02 in 2022	18 months	Monthly	Addressing food insecurity and household vulnerability, fostering savings	2011-2012	2010-2013	Poor households	2,281 households

Table 23. Nature of the analysis (on outcomes of interest only) and risk-of-bias for each study under review

<i>Study</i>	<i>Nature</i>	<i>Research design</i>	<i>Unit of analysis</i>	<i>Data collection methods</i>	<i>Sustainability measurement (years after end of exposure)</i>	<i>Risk-of-bias</i>
Aizer et al. (2016)	Quantitative	RCT	Individual	Survey and administrative data	Up to 30	Low
Alam et al. (2011)	Quantitative	RDD+DiD	Individual	Survey and administrative data	Up to 5	Moderate
Altındağ & O'Connell (2021)	Quantitative	RDD	Household	Survey and administrative data	6 months	Moderate
Araujo et al. (2020)	Quantitative	RCT and RDD	Individual	Survey data	Up to 10	Moderate
Attanasio et al. (2021)	Quantitative	RDD	Individual	Administrative data	Up to 8	Moderate
Avitabile et al. (2019)	Quantitative	RCT (ITT)	Individual	Surveys and census data	Up to 9	Low
Baez & Camacho (2011)	Quantitative	PSM+RDD	Individual and household	Survey and administrative data	Up to 9	Moderate
Baird et al. (2019)	Quantitative	RCT (ITT)	Individual	Survey data	2 years	Low
Bandiera et al. (2017)	Quantitative	DID+ANOVA	Individual and household	Survey data	Up to 7	Moderate
Banerjee et al. (2015)	Quantitative	RCT (ITT)	Individual and household	Survey data	Up to 2	Low
Banerjee et al. (2021)	Quantitative	RCT (ITT)	Individual and household	Survey data	Up to 10	Low
Barham et al. (2018)	Quantitative	RCT (ITT)	Individual	Survey and administrative data	Up to 10	Low
Barrera-Osorio et al. (2019)	Quantitative	RCT	Individual	Survey and administrative data	Up to 11	Low
Blattman et al. (2020)	Quantitative	RCT (ITT)	Individual	Survey data	9 years	Low
Borga & D'Ambrosio (2021)	Quantitative	DiD	Household	Survey data	Up to 10	Moderate
Contreras Suarez & Cameron (2020)	Quantitative	RDD	Household	Survey data	Up to 9	Moderate
de Mel et al. (2012)	Quantitative	RCT	Enterprise	Survey data	Up to 5	Low
Duque et al. (2018)	Quantitative	RDD	Individual	Administrative data	Up to 15	Moderate
Fafchamps et al. (2014)	Quantitative	RCT (OLS)	Enterprise	Survey data	Up to 3	Low
Filmer & Schady (2014)	Quantitative	RDD	Individual	Survey data	2 years	Moderate
Hahn et al. (2018)	Quantitative	DiD	Individual	Administrative data	Up to 17	Moderate
Ham & Michelson (2018)	Quantitative	DiD	Individual	Survey and administrative data	Up to 13	Moderate
Haushofer & Shapiro (2018)	Quantitative	RCT	Household	Survey data	Up to 3	Low
Kugler & Rojas (2018)	Quantitative	PSM	Individual	Survey and administrative data	Up to 17	Serious
Macours et al. (2012a)	Quantitative	RCT	Individual and household	Survey data	2 years, on average	Low
Macours et al. (2012b)	Quantitative	RCT(ITT)	Individual and household	Survey data	2 years, on average	Low

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Molina Millán et al. (2020)	Quantitative	RCT (ITT)	Individual	Census data	Up to 13	Low
Neidhöfer & Niño-Zarazúa (2019)	Quantitative	DiD	Household	Administrative data	Up to 10	Moderate
Oliveira & Chagas (2020)	Quantitative	RCT	Individual	Administrative data	Up to 16	Low
Özler et al. (2020)	Quantitative	RCT	Individual	Survey and census data	Up to 2	Low
Parker & Vogl (2018)	Quantitative	DiD	Individual	Census data	Up to 13	Moderate
Price & Song (2016)	Quantitative	RCT	Individual	Administrative data	More than 30	Low
Rodríguez-Oreggia & Freije (2012)	Quantitative	RCT	Household	Survey and administrative data	Up to 6	Medium
Roy et al. (2019)	Quantitative	RCT (ITT)	Individual	Survey data	6 to 10 months	Low
Sabates et al. (2019)	Quantitative	PSM	Individual and household	Survey data	Up to 2	Serious
Sabates-Wheeler et al. (2018)	Quantitative	DiD	Household	Survey data	Up to 2	Serious
Sedlmayr et al. (2020)	Quantitative	DiD	Individual and business	Survey data	27 months, on average	Moderate
Stoeffler et al. (2020)	Quantitative	DiD+PSM	Household	Survey data	18 months	Serious

Legend: RCT = Randomized Controlled Trial; RDD = Regression Discontinuity Design; DiD = Difference-in-differences; ITT = Intention-to-treat; PSM = Propensity Score Matching; ANOVA = Analysis of variance; OLS = Ordinary least squares. Risk-of-bias attributed following the RoB 2 or ROBINS-I tools, for experimental and quasi-experimental evidence, respectively (Higgins et al., 2021).

Table 24. Effect direction plot

Outcome	Indicator	Number of coefficients (total = 439)	Number of studies	Aizer et al. (2016)	Alam et al. (2011)	Altındağ & O'Connell (2021)	Araujo et al. (2020)	Attanasio et al. (2021)	Avitabile et al. (2019)	Baez & Camacho (2011)	Baird et al. (2019)	Bandiera et al. (2017)	Banerjee et al. (2015)	Banerjee et al. (2021)	Barham et al. (2018)	Barrera-Osorio et al. (2019)	Blattman et al. (2020)	Borga & D'Ambrosio (2021)	Contreras Suarez & Cameron (2020)	de Mel et al. (2012)	Duque et al. (2018)	
Education	Cognitive and test scores	19	10				▽		▽ ₃	▼	▲ ₂				◁▷ ₂	△ ₅						
	School attainment and literacy	75	25	△ ₃	▽ ₄		△ ₃	▲ ₂	△	▲ ₂	▲ ₂				▲ ₂	△ ₁₁	▽ ₂	▽ ₂	◁▷ ₂			△
	Tertiary education	22	5					◁▷ ₂								△ ₁₅						
Health and nutrition	Health status	17	8	△ ₅		△							△ ₂	▲ ₂	△		▽ ₂					
	Life expectancy	6	3	▲ ₄													△					
	Food security and nutrition	13	10			△			▲				▲	▲					△			
	Child health	31	8			△			▽ ₄		△ ₁₀						△					
Employment	Work status, labour supply and employment	54	13									▲ ₂	▲		▲		◁▷ ₃					
	Income and earnings	56	18	▲								▲	▲	▲	▲ ₂		△				△ ₈	
	Child labour	11	5		◁▷ ₂		▽		▲													
	Migration and geographic mobility	12	4												▽							
Poverty	Expenditures and consumption	16	9			▽						▲	▲	▲			△ ₂					
	Living standards	16	6			◁▷ ₆						▲							▲ ₄			
Savings, investment and production	Savings	6	5			▽						▲										
	Investment	7	5									▲ ₂	▲	△ ₂						▽		
	Assets	20	9									▲ ₂	▲	▲								
Empowerment	Early pregnancy and marriage	34	7		△ ₄			▼			▽ ₁₂						◁▷ ₂					
	Decision-making power	11	4										△									
	Abuse (physical and non-physical)	8	3																			
Social capital and agency		5	4					▲					▲									

Legend:

Effect direction (shape): △ = positive impact, ▽ = negative impact, ◁▷ = conflicting findings

Statistical significance (colour): ▲ = $p \leq 0.05$; ▲ = $p > 0.05$; △ (empty arrow) = overall not statistically significant

The number of outcomes within each category synthesis is one unless indicated in subscript beside effect direction.

Synthesis of multiple outcomes within same outcome category:

- Where multiple outcomes all report effects in the same direction and with the same level of statistical significance, the effect direction and overall level of statistical significance are reported;
- Where direction of effect varies across multiple outcomes:
 - When the direction of effect and statistical significance of at least 70% of outcomes are the same, similar direction and similar statistical significance are reported;
 - If <70% of outcomes report consistent direction of effect, indicated as conflicting findings;
- Where statistical significance varies: if direction of effect similar and >60% outcomes statistically significant, reported as statistically significant. Otherwise, not statistically significant.

Procedure adapted from Thomson and Thomas (2013).

Table 25. Effect direction plot (continued)

<i>Outcome</i>	<i>Indicator</i>	Fafchamps et al. (2014)	Filmer & Schady (2014)	Hahn et al. (2018)	Ham & Michelson (2018)	Haushofer & Shapiro (2018)	Kugler & Rojas (2018)	Macours et al. (2012a)	Macours et al. (2012b)	Molina Millán et al. (2020)	Neidhofer & Niño-Zarazúa (2019)	Oliveira & Chagas (2020)	Özler et al. (2020)	Parker & Vogl (2018)	Price & Song (2016)	Rodriguez-Oreggia & Freije (2012)	Roy et al. (2019)	Sabates et al. (2019)	Sabates-Wheeler et al. (2018)	Sedlmayr et al. (2020)	Stoeffler et al. (2020)	
Education	Cognitive and test scores		△						▲	▲ ₂											▽	
	School attainment and literacy		△ ₃	▲ ₄	▲ ₂	△	▲ ₂			▲ ₁₀	▲	▲ ₄	△	▲ ₆					▽ ₂		△ ₂	
	Tertiary education						▲			▲ ₂				△ ₂								
Health and nutrition	Health status					▽ ₂															△ ₂	
	Life expectancy														▽							
	Food security and nutrition					▽		▲ ₃	▲											▲	△ ₂	
	Child health		▼	△ ₈					▲ ₄				△ ₂									
Employment	Work status, labour supply and employment			△ ₈	△ ₃		▲ ₄			▽ ₁₀		▲ ₄		△ ₆		△ ₆	◁▷ ₂				△ ₄	
	Income and earnings	△				△	▲	◁▷ ₁₈		◁▷ ₂	▲	▼ ₄		△ ₄	▽ ₄	▽ ₃					◁▷ ₂	
	Child labour		◁▷ ₆																		△	
	Migration and geographic mobility									▽ ₂				◁▷ ₆		◁▷ ₃						
Poverty	Expenditures and consumption					△		△ ₆											▲		◁▷ ₂	
	Living standards		△ ₂											▲ ₂								△
Savings, investment and production	Savings			▲ ₂																	△	▲
	Investment																				▽	
	Assets					▲		◁▷ ₆						△ ₂						▲ ₂	▲ ₂	△ ₃
Empowerment	Early pregnancy and marriage		△ ₂	▼ ₈						△ ₄												
	Decision-making power			◁▷ ₆									▲ ₂					△ ₂				
	Abuse (physical and non-physical)					▽							▽					◁▷ ₆				
Social capital and agency														△							◁▷ ₂	

Legend:

Effect direction (shape): △ = positive impact, ▽ = negative impact, ◁▷ = conflicting findings

Statistical significance (colour): ▲ = $p \leq 0.05$; ▲ = $p > 0.05$; △ (empty arrow) = overall not statistically significant

The number of outcomes within each category synthesis is one unless indicated in subscript beside effect direction.

Synthesis of multiple outcomes within same outcome category:

- Where multiple outcomes all report effects in the same direction and with the same level of statistical significance, the effect direction and overall level of statistical significance are reported;
- Where direction of effect varies across multiple outcomes:
 - When the direction of effect and statistical significance of at least 70% of outcomes are the same, similar direction and similar statistical significance are reported;
 - If <70% of outcomes report consistent direction of effect, indicated as conflicting findings;
- Where statistical significance varies: if direction of effect similar and >60% outcomes statistically significant, reported as statistically significant. Otherwise, not statistically significant.

Procedure adapted from Thomson and Thomas (2013).

Table 26. Main findings and sampling information for each study under review

<i>Study</i>	<i>Sampling information</i>	<i>Findings</i>	<i>Availability of disaggregated findings and general comments</i>
Aizer et al. (2016)	Not available	The authors conclude that, three decades after its inception, the Mothers' Pension program, the first governmental welfare project in the USA (1911-1935), had overall positive effects on male children of accepted applicants. In particular, the grown-up children later had longer life expectancy (computed through the probability of having survived until 60, 70 or 80 years old; and longevity, even though only the former group's coefficients were statistically significant), had attended more years of school (significant at 10%; and were also less likely to attend only 8 years of school) and had had better education, overall. Moreover, they had earned more than their counterparts (at 10%). In addition, they were less likely to be underweight (at 10%), taller, heavier and had better BMI, but they were also more likely to be obese. Overall, nevertheless, the impacts on health were also positive. Female children were not examined because given that they typically change their name upon marriage, they were extremely difficult to track.	Findings for male (not female) children of beneficiary mothers only. Impacts are also disaggregated on the basis of the initial (predicted) family income
Alam et al. (2011)	Not available	Up to 5 years after receiving the Pakistani Punjab Female Stipend Program, a female-targeted conditional cash transfer, beneficiary young girls were more likely to complete middle school (even if the related coefficient was not statistically significant), but less prone to transit to high school, and to complete the highest grades of it (in particular, that was statistically significant at 5% for grade 10). Nevertheless, they were still working less than control individuals (significant at 5%), although their work intensity was positively affected by the transfer. Finally, the impacts on empowerment were overall negative (without any significant coefficient), with an increase in the probability of getting married and in the number of children and a decrease in the age at marriage, only partially counteracted by a decline in the probability of giving birth. In general, however, the drawn positive effects could potentially translate in human capital accumulation gains.	Program for young girls only. Heterogeneity analysis of impacts conducted for the following groups: rural setting, poverty status, parental education (none/primary), age (12-14/15-16). Spillovers on boys are also presented
Altındağ & O'Connell (2021)	Not available	The multipurpose cash arm of the CT did not have any (statistically significant) lasting impact on any of the analyzed outcomes six months after the end of exposure. Overall, nevertheless, the program had negative effects on expenditure per capita, while positive consequences on child and adult health and food coping and mixed effects on living standards (measured, amongst others, by rent expenditure and whether having faced eviction or not, recently). Finally, a slightly negative treatment coefficient on savings was also computed.	Impacts on expenditure per capita, child hardship, adverse health, food coping and livelihood coping also available by previous assistance status
Araujo et al. (2020)	Not available	Evidence on the long-term (10-year) effects of the <i>Bono de Desarrollo Humano</i> (BDH) transfer in Ecuador was provided, finding positive impacts on being enrolled, having completed elementary and secondary school, even though only the latter's coefficient was statistically significant (at 1%). Despite statistically not significant, a decline in child labour was also computed, together with a decrease in total scores. The authors conclude that any effect of cash transfers on the intergenerational transmission of poverty in Ecuador is likely to be modest.	RCT coefficients differentiated by child age, gender and educational status of the mother, besides by subject for which the scores are considered. RDD coefficients are also available by gender
Attanasio et al. (2021)	Sample restricted to families with children aged between 7 and 17 in 2007	The long-run impacts of the urban version of <i>Familias en Acción</i> show a reduction in men's crime (arrest rates) of 2.7pp (significant at 5%) and a decline in teenage pregnancy of 2.3pp (at 5%, too). School dropout did also decrease in a statistically significant matter for both genders. The effects on tertiary education were, instead, unclear: whereas men benefitted from the program (significantly, at 10%), the same could not be stated for women.	Overall treatment coefficients not available, only disaggregated by gender. Effects on crime were measured for men only, on teenage pregnancy for women only. Impacts on school dropout and tertiary education disaggregated by gender. LATE (Local Average Treatment Effect) coefficients also available,

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			alongside ITT (Intention-to-treat) estimates
Avitabile et al. (2019)	33 households selected from each of experimental villages	The paper focuses on the medium-term effects of early-life transfers (in this case, the Mexican <i>Programa de Apoyo Alimentario</i>) on children's learning. First, it finds that cash transfers led to statistically significant (at at least 10%) reductions in test scores (in math, Spanish and a third subject), but also to positive (although insignificant) repercussions on school attainment, measured through an index of parental investments in education. The effects on child health were also negative, overall, with non-significant reductions in height-for-age and weight-for-age z-scores and an increase in recent sickness, despite the declines in anemia. Nevertheless, food security and nutrition improved, as a positive and significant (at 10%) coefficient on macro and micro-nutrients was estimated. Finally, the average number of working days per week, per children, also increased by more than 1 day (significance at 5%), conveying a negative impact on child labour. Overall, the findings provide compelling evidence that an improvement in the quality of nutrition intake, in the first years of life, is not sufficient to achieve better learning outcomes, without improvements in the health stock.	Impacts on learning by household expenditure and by indigenous ethnicity also available
Baez & Camacho (2011)	Matching analysis: 6,722 households in 57 treatment municipalities and 4,562 households in 9 control municipalities, using purposive sampling. Not available for RDD	The paper measures statistically significant (at 5%) effects on school completion, both through PSM and RDD, but negative treatment effects on overall test scores (computed through RDD and significant at 1%). The positive results on educational outcomes were particularly high for girls and beneficiaries from rural areas, concerning the likelihood to finish high school.	Estimates also available by gender and by urban/rural setting. Test score coefficients are also presented for mathematics and Spanish languages, besides overall
Baird et al. (2019)	It was given an attempt to interview all involved individuals	Two years after the end of a cash transfer (both UCT and CCT) program targeted at adolescent females in Malawi, the authors found sustained (even if not statistically significant) improvements in school attainment (highest grade completed) and cognitive tests (competencies score). The statistical significance of the CT's positive impacts on HIV prevalence, pregnancy and early marriage, observed during the program (only for UCT recipients), nevertheless, evaporated quickly after the cessation of support. Still, the program yielded sustainable reductions in early marriage and in HIV prevalence and increases on the age of the first marriage (interestingly, for the UCT arm only, even in a statistically significant manner at 5%). Across arms, conflicting findings were also registered for early pregnancy and on the age at first birth, even though impacts were consistent on an indicator of desired fertility. Finally, concerning child health (represented by a z-score for height-for-age), effects were generally positive, with the exception of UCT recipients, when they had a child late into or just outside of the program timeframe. The latter finding demonstrates the importance of receiving cash during critical periods.	The program was targeted at adolescent females only. The estimates are disaggregated by conditionality status, so not available overall. Coefficients for baseline schoolgirls included in this source, while effects on baseline dropout were excluded
Bandiera et al. (2017)	Almost all ultra-poor and near-poor households, and a random 10% sample of higher wealth classes, were interviewed. A total of 21,000 households in 1,309 villages was covered	The article investigates the long-term effects of BRAC's Targeting-the-Ultra-Poor (TUP) transfer in Bangladesh, a skills and asset transfer. The TUP program enabled ultra-poor women to dramatically expand labour supply (more hours and days, significant at 1%) and earnings (at 1%), the value of assets, both household and productive ones (at least at 10%), savings (at 1%) and investment (measured through dummies for receiving and giving out loans, both statistically significant at 1%). As a result, household poverty decreased, with improvements in consumption expenditures (at 5%) and significant steps above the multidimensional poverty line (at 5%). The effects grew in the short term, before becoming sustained and stabilizing 7 years after the start of the program. However, given the multiple different components of the TUP transfer, it is difficult to disaggregate the contributions of each of them, and to therefore unleash the observed process of change.	Program for ultra-poor women only. Some estimates are available at 7 years after the end of the program, some after 4. A medium-term measurement at 2 years is also available, but not reported by this source

Banerjee et al. (2015)	Different sampling techniques, based on country	The authors follow a pilot multifaceted Graduation program in Ethiopia, Ghana, Honduras, India, Pakistan and Peru. The programs in Ethiopia and Honduras were food-for-work ones, but treatment coefficients are only provided overall, so it was not possible to isolate their effects from the ones of countries which did include a cash component. Two years after the end of the program (impacts are measured also one year after the transfer), recipients showed strong and sustained treatment effects on 10 indexes: per capita consumption, food security, physical health, mental health, asset, financial inclusion (categorized as investment), time spent working, income and revenues, political involvement (meetings with local leaders, described as a social capital indicator) and women's empowerment (mainly relying on decision-making power variables). All presented coefficients were positive and statistically significant at 1%, with the exception of the ones for physical health and women's empowerment, which were not significant.	General treatment effect coefficients are provided, without country-level disaggregations (the latter, still available visually). The transfers in Ethiopia and Honduras were food-for-work programs, but it was not possible to isolate them and to disaggregate the effects for cash transfer projects only. Estimates also available by indexed family wealth quantiles
Banerjee et al. (2021)	It was given an attempt at interviewing all involved households	In a RCT following households over ten years, the beneficiaries of an Indian TUP program were shown to be still experiencing strongly positive and statistically significant impacts on indexes of consumption, food security, income and revenues, assets, investment (described through indicators of financial inclusion and of productive time use) and health (both physical and mental). The only coefficient not statistically significant at 1% (and not significant at all, actually) was the financial inclusion one. The effects grew for the first seven years following the transfer and persisted then up until year ten. One of the main mechanisms for impact persistence is explained as the treated households' income diversifying strategies, especially through migration.	Only the coefficients at 10 years were presented, leaving out the (available) ones for sustained effects 18 months, 3 years and 7 years after the transfer
Barham et al. (2018)	The survey sample included 42 households for each of the treatment localities, and 40 households for each of the 21 selected control municipalities	This source, evaluating the long-run effects (10 years after the start of the program) of the RPS in Nicaragua, measured significant (at 5%) and substantial gains both in school attainment (through an education z-score) and in literacy, while more mixed findings on cognitive and test scores, with better language and math achievements (at 5%) but worse (even if statistically insignificant) cognition outcomes. Strongly positive and statistically significant (at 1%) sustained effects were also measured on earnings (through two different z-scores) and labour market participation, whereas slight impacts on health status (socio-emotional z-score, positive) and migration (permanent migration, negative and therefore positive) were not statistically significant in the long-term.	Disaggregated findings on the basis of household income, age, marriage status and fertility, early treatment density and family network size also available
Barrera-Osorio et al. (2019)	Not available	A paper investigating the pilot CCT <i>Subsidios Condicionados a la Asistencia Escolar</i> (SED), conducted in Bogotá, found improved educational outcomes (enrolment in secondary school, dropout rates, tertiary enrolment and completion) 8 and 12 years after the transfer. Interestingly, the study also found substantial differences between three different implementation designs methods that were experimented by the program: Forcing families to save a portion of the transfers until they make enrollment decisions for the next academic year increases on-time enrollment in secondary school, reduces dropout rates, and promotes tertiary enrollment and completion in the long-term. Traditionally structured bimonthly transfers improve on-time enrollment and high school exit exam completion rates in the medium term, but do not affect long-term tertiary outcomes. A delayed transfer that directly incentivizes tertiary enrollment promotes secondary school on-time enrollment and enrollment— only in lower-quality tertiary institutions—in the medium term but not the long term. Almost all coefficients were positive, even though only a few were statistically significant, and only for the second and third treatment arms.	Impacts only available by treatment modality, not overall. Estimates also available by age group and by institution type
Blattman et al. (2020)	5 people were randomly sampled per each enterprise (2,677 individuals, in total) for the baseline survey	An investigation around the long-term impacts of the lump-sum entrepreneurship transfer YOP in Uganda (Blattman et al., 2020) found that the positive effects on employment, earnings and investment previously measured, had dissipated, 9 years after the start of the program. In general, the authors only computed non-statistically significant coefficients, among which, a positive impact on a standardized income index, mixed effects on labour supply and a slight decrease in the probability that the recipient had passed away (but negative consequences on physical and mental health). Child health improved but not in a significant manner, whereas	

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		results on early pregnancy were inconclusive. The measured negative impacts on school attainment were partly counteracted by decreased in poverty, measured as child expenditures (in general, and for schooling).	
Borga & D'Ambrosio (2021)	Semi-purposive random sampling based on poverty maps and geographical criteria	The paper investigates the impact of three large-scale social-protection schemes in Ethiopia, India, and Peru (being a social cash transfer in the latter country only, though), on multidimensional poverty. Both the incidence and intensity of multidimensional poverty declined (statistically significant at 1% for three of the four adopted indicators) in all countries over the period 2006-2016. In particular, the living standard indexes captured positive impacts on asset formation, livestock and resources. In addition, a slightly positive but not statistically significant impact on nutrition was observed, together with surprisingly negative effects on school enrolment (not significant) and school attendance (significant at 1%).	Multidimensional poverty indicators are available at 3 different time points (2009, 2013 and 2016). The presented impacts are average effects over all waves
Contreras Suarez & Cameron (2020)	Not available	Using a regression discontinuity (RD) design, it was found that, up to 9 years after exiting the program, participation in <i>Familias en Acción</i> had negative, but insignificant, impacts on parents' discounting behaviour (categorized as investment). Effects on parents' educational aspirations for their children were, on the contrary, mixed: positive and insignificant for secondary school, while, interestingly, strongly negative and statistically significant (at 5%) for higher education.	Coefficients by urban/rural setting also available
de Mel et al. (2012)	Not available	A randomized experiment around enterprise grants in urban Sri Lanka showed, between 4.5 and 5.5 years after receiving the lump-sum transfers, \$8-to-\$12-per-month-higher profits for male-owned businesses, while, interestingly, female-owned businesses showed no long-term (or even short-term) impacts. All estimated coefficients were positive, but, in fact, only statistically significant for men (in terms of monthly and log real profits, truncated real profits and total labour income, at least at the 5% significance level).	The impacts are only available by gender
Duque et al. (2018)	Not available	The authors show evidence on the potential sustained impacts of <i>Familias en Acción</i> on alleviating early-life shocks. In particular, through a regression discontinuity design, a positive (but not statistically significant) effect on not dropping out of school was computed for children aged 0 to 17. The other numerous findings of the paper, including combining exposure to climate shocks and CCT beneficiary status, and differentiating impacts by early or late exposure to the cash transfer during the first years of life, were left out from this source.	Impacts derived from interactions of exposure to weather shocks and cash transfer transfer also available
Fafchamps et al. (2014)	All 793 involved firms were surveyed at baseline	Up to 3 years after the start of a business grant for female entrepreneurs in Ghana, no long-term impacts on real monthly profit was found. In fact, the related estimated treatment coefficient was positive, but not statistically significant.	Gendered coefficients are also available, together with disaggregations by low/high initial profit (the latter, for women only)
Filmer & Schady (2014)	A composite dropout-risk score and individual characteristics' data were collected for all the 26,537 scholarship applicants. An household survey was also collected for 3,020 applicants selected through purposive sampling	Five years after the start of the implementation of the CESSP Scholarship in Cambodia, the authors found the scholarships to have had substantial positive effects on school attainment (statistically significant at 1% for years of completed schooling and for enrollment in grade 10, even though not significant on enrollment in grade 11). On the contrary, nevertheless, positive but insignificant impacts were measured on test scores, living standards (measured as subjective social status, both at the village/neighbourhood and at the national level) and early marriage or pregnancy. Interestingly, a strongly positive and significant coefficient was computed on the probability to be depressed (child health), whereas findings for child labour (monthly earnings, working for pay or not) were more mixed, with the only significant effect detected on hours worked for no pay, which was negative at 1%.	Coefficients on years of completed schooling and on average test scores are also presented by gender, school quality and drop-out risk-score at cutoff
Hahn et al. (2018)	Not available	The paper found overwhelmingly positive impacts of the FSSSP program in Bangladesh: girls who received it were more likely to get married later and have fewer children (and to have the first child later and to desire less children, all statistically significant at 1%), to work in the formal sector (suggesting potential for intergenerational occupational mobility), but not to work in general (even though the latter coefficient was not significant). In	Program for young girls only. The coefficients are only presented for rural girls and are disaggregated by length of exposure. Treatment

		addition, beneficiaries were much more likely to complete secondary school (at least at 10%) and to have longer education (at 1%), together with having a bank account (and, therefore, savings; at 1%). Estimates around intra-household decision-making were more mixed, with a reduction in the use of contraception, and inconsistent results on the degree to which the adopted contraception was observable by the husband. Finally, children of eligible women had better height- and weight-for-age scores (at 1%), more hemoglobin and less anemia (the latter two coefficients were not significant, though). The findings were rather consistent across treatment arms: one cohort received the stipend for 5 years, while the second one for 2 years only.	effects on characteristics of husband, also available, were not reported by this source
Ham & Michelson (2018)	Not available	The paper compared the efficacy of different delivering incentives added to the CCT PRAF II in Honduras: here, only results for the arm including cash (subsidies) were taken into account. It should still be said that, more than a decade after the start of the program, only a combination of 'plus' incentives led to measurable improvements in schooling and labour market participation. Indeed, strongly positive coefficients were computed for years of schooling (statistically significant at 1%) and having done at least some secondary studies (at 5%). Impacts on employment were positive for labour force participation, working outside of own's home and working in a non-farm job, but only statistically significant (at 5%) for the latter indicator.	Treatment coefficients for the voucher only treatment arm were excluded from this source: only estimates for the voucher+transfers group. A disaggregation by gender is also available
Haushofer & Shapiro (2018)	All involved 503 treatment and 505 control households were interviewed at baseline	Using a randomized controlled trial, the authors found that transfer recipients had higher levels of non-land asset holdings (statistically significant at 1%), non-durable expenditure and consumption (not significant), monthly revenues (not significant), female empowerment (modelled as degree of abuse; statistically significant at 10%) and school attainment (not significant). Even if insignificant, nevertheless, negative effects were recorded on indexes of food security, health and psychological well-being (hereby categorized as an indicator of health status). Little evidence was found of differential treatment effects on the basis of the CT design (whether transfers were made to men or women, in monthly payments or a single lump-sum, or a large or small transfer).	Reported coefficients are across-village estimates, which relied on pure control households. Within-village effects, calculated by using control households in treatment villages, were instead not listed. The source also provides disaggregations by whether transfers are made men or women, in monthly payments or a single lump-sum, or a large or small transfer
Kugler & Rojas (2018)	Not available	A source analyzing the impacts of <i>PROGRESA</i> measured positive effects of the exposure to the program on education (years of education, likelihood of completing high school and of studying tertiary education; the average youth exposed to 7 years of <i>PROGRESA</i> had almost 3 additional years of education, compared to someone who was never exposed; all statistically significant at 1%) and on employment (weekly worked hours, probability of being employed, non-wage benefits and earnings; all significant at least at the 10% significance level).	Disaggregation of coefficients by age and gender, and by mother's literacy and father's employment status, also available
Macours et al. (2012a)	The sample includes all the 3,002 eligible households in the treatment communities, and a random sample of 1,019 eligible households in the control communities	The <i>Atención a Crisis</i> program was a one-year pilot implemented between November 2005 and December 2006 by the Ministry of the Family in Nicaragua. The program was implemented in the aftermath of a severe drought and had two objectives. First, it aimed to serve as a short-run safety net by providing cash transfers to reduce the need for adverse coping mechanisms. Second, the program intended to promote long run upward mobility and poverty reduction by enhancing households' income diversification and risk-management capacity. Based on follow-up data collected two years after the end of <i>Atención a Crisis</i> , a program implemented in the aftermath of a severe drought in Nicaragua, the authors proved that complementary interventions reduced the variability of consumption and income. In fact, results differed significantly among beneficiaries eligible for the productive grant offsets, those receiving cash and training, and the ones benefitting from the basic CCT only, with mainly the former group only indicating strongly positive and statistically significant effects. In general, positive impacts were measured on food security, consumption and non-food expenditures, whereas findings for income and profits and for assets were more mixed.	The impacts are only available by treatment modality. Coefficients on total consumption per capita and capital income also available by intensity of climate shocks

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Macours et al. (2012b)	The sample includes all the 3,002 eligible households in the treatment communities, and a random sample of 1,019 eligible households in the control communities	This paper analyzes the impact of Atención a Crisis on early childhood cognitive development. Children in eligible households had very strongly positive and significant at 1% levels of development nine months after the start of program implementation, without fade-out two years after the end of exposure to cash. In fact, all of the child health indicators taken into account showed positive impacts (health and motor development, stimulus, health and environment indexes). Similar findings were also shown for indexes of nutrition (significant at 5%) and cognitive and socio-emotional outcomes (1%). The obtained insights provide confirmations for the hypotheses that eligible households increased expenditures on critical inputs for child development, including nutrient-rich foods and preventive health care. The program then also appeared to have caused behavioural changes, persisting after program end, even if with lower magnitude than before.	
Molina Millán et al. (2020)	Not available	The paper investigates the impacts of the PRAF II transfer in Honduras on educational and human capital, 13 years after the program began for individuals who received the transfer over a 5-year period (2000-2005). The impacts were estimated across age groups and gender (amongst other characteristics): hereby, we decided to focus on beneficiaries aged 19 to 26 at the time of the analysis. The authors found positive and robust impacts on educational outcomes (such as secondary school completion rates, grades attained and university enrolment, all of them with statistically significant). The effects on early pregnancy and marriage were mixed, with negative impacts on being married (but only for women): the overall negative direction of coefficients was driven by positive, albeit not statistically significant, consequences on household size. The probability of young people to migrate decreased, even if insignificantly. The overall negative effects on work status and labour market participation could also be seen through a positive lens, in light of the positive effects on school completion and university studies. Finally, interestingly, monthly incomes statistically decreased for women, while increasing (even if insignificantly) for men of the same age. Overall, it could be stated that both early childhood and school-age years' exposures to the CCT led to sustained long-term effects on human capital.	Coefficients not available overall, but always disaggregated by age group, indigenous status and gender. A selection of coefficients (men and women, 19-26 years old at the time of measurement) is reported by this source
Neidhöfer & Niño-Zarazúa (2019)	Not available	A non-experimental study on <i>Chile Solidario</i> measured the long-term (up to 10 years later) effects of the program on educational achievements and labour income at the ages of 25 to 28. The estimated coefficients were positive and statistically significant at 1%. The average treatment effects were in the order of about 1.2 years of schooling and an additional US\$200–\$250 in labour income per month (at that time, 15% of the Chilean average). Interestingly, the impacts on schooling were similar among genders, but the one on income was largely driven by men. In summary, the findings show that <i>Chile Solidario</i> , and in particular its SUF arm, had positive and sustained effects among the extremely poor in the country.	DiD coefficients merged with matching or RDD techniques also available. The heterogeneity of impacts includes disaggregations by urban/rural setting, indigenous/non-indigenous origin and gender. Within the female group, differentiations were also carried out among women married or in a relationship, and single ones; and among mothers and women without biological children
Oliveira & Chagas (2020)	Not available	This study on the <i>Bolsa Família</i> CCT found positive long-term effects on proxies for schooling and formal labour market participation, while, interestingly, negative results were obtained concerning earnings in the formal labour market itself. The impacts were all strong and statistically significant at least at 5% for all of the four levels of exposure described. Furthermore, heterogeneity tests suggested that the effects were larger for boys, in smaller cities, and for parents with never formally employed parents.	The impacts are only available by amount level of transfers, not overall. An heterogeneity of impacts is conducted across genders, settings and parents' employment status

Özler et al. (2020)	Not available	Girl Empower was an intervention aimed at equipping adolescent girls (13-14 years old) with the skills to make healthy, strategic life choices and to stay safe from sexual abuse. Hereby, only the treatment arm which integrated life skills with a cash incentive was considered. Using a cluster-randomized controlled trial, at 24 months, the authors found a decrease in sexual and physical violence (even if not statistically significant) but an improvement in girl's decision-making power (described through indexes of gender attitudes and life skills, both significant at 1%). In addition, proxies of social capital (protective factors and gender norms) and schooling also showed increases, even if insignificant. Finally, the impacts on child health, measured as sexual and reproductive health and as psychological wellbeing, were overall positive, but only statistically significant (strongly, at 1%) for the former.	Program for young girls only
Parker & Vogl (2018)	A 10 percent sample was taken from the Mexican Population Census of 2010	More evidence on <i>PROGRESA</i> comes from a quasi-experiment conducted by Parker and Vogl (2018), which found that childhood exposure improved women's outcomes in early adulthood, with increases in geographic mobility, labour market performance, educational attainment and household living standards. For men, effects were generally smaller and more difficult to distinguish from spatial convergence. Summarizing the results, an improvement was measured on school attainment (for both sexes and on the wide majority of the indicators on years of education and completion of different grades, at least at the 10% significance level) and on tertiary education, even if insignificant. Proxies of working and working for a wage were always positive, even if only significant (at 1%) for women, whereas mixed findings were drawn for agricultural work. Monthly earnings increased for both genders at the individual and household levels, but never in a statistically significant manner. Migration was also made more possible, statistically at the cross-municipality and cross-state levels, while not significantly at the inter-state one. An index of durable goods and assets also saw positive impacts, but significantly (at 10%) for men only; at the same time, living standards improved very significantly for both genders.	The impacts are only available by gender
Price & Song (2016)	Not available	After almost four decades, the authors investigate the long-term impacts of cash assistance for beneficiaries and their children by following up participants in the Seattle-Denver Income Maintenance Experiment. Interestingly and surprisingly, the treatment status caused adults to earn an average of \$1,800 less per year after the experiment ended. Nevertheless, the latter effect was mostly driven by people in their 50s, suggesting that it could be related by retirement. Similar impacts were also measured on children of beneficiaries, even if in a not statistically significant way. Finally, the probability of recipient adults to having died by the time of measurement increased, but slightly and insignificantly.	The effects are differentiated between having been an adult, while receiving the transfers, or having been younger than 18
Rodriguez-Oreggia & Freije (2012)	All households, both eligible and non-eligible, were interviewed	Studying the labour market long-term (10 years after the implementation, up to 6 after end of exposure) effects of <i>PROGRESA</i> , the source showed very little evidence of impacts on employment (proxied as the probability of working and moving to a more qualified occupation), wages (negative, mostly insignificant coefficients except, interestingly, for exposure of at least 6 years: at 5%) or migration (mixed insignificant findings) on treated individuals. All of the variables were disaggregated by length of exposure to the program.	The coefficients are disaggregated by length of exposure. Impacts also available by gender and by educational level
Roy et al. (2019)	It was given an attempt to interview all 5,000 involved households	The authors assess rather short-term (6 to 10 months after the transfer) impacts on (mostly) intimate partner violence for a women-targeted CT in Bangladesh. The impacts were differentiated by treatment modality: cash or food (the latter excluded from this analysis), with or without nutrition behaviour change communication. The estimates provided evidence of inconclusive (and statistically insignificant, except for physical violence on cash+ beneficiaries) findings on emotional and physical abuse. Coefficients for decision-making, described as control over the received money, returned positive impacts, albeit only statistically significant (at 5%) for BCC-allocated individuals. Additionally, the probability that a woman would work only increased (and it statistically significantly did, at 5%) for the 'plus' arm, once again. In summary, the analyzed mechanisms suggest sustained effects of the communication component on women's "threat points," men's social costs of violence, and household well-being.	The program was targeted at women only. Coefficients were disaggregated among treatment arms. Differentiations by characteristics of men and women are also available
Sabates et al. (2019)	Participative procedure selecting 800 beneficiaries	This independent evaluation of the Concern Worldwide Graduation Programme in Rwanda explores the short and medium-term (2 years after the end of the cash disbursement) effects on children of beneficiary households. The	

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	from 31 villages, and 200 households from 23 villages as a control group	findings suggest that the program enabled poor families to overcome financial constraints and to allow them to invest in education (proxy of parental investment: proportion of children with a school uniform; positive and statistically significant impact at 1%). However, since school attendance already exceeded 80% at baseline, due to Rwanda's focus on universal access to basic education, the transfer proved itself unable to induce additional access to school: the two measured coefficients on school attendance (for children 7-12 and 13-16 years old) were both negative, although not statistically significant.	
Sabates-Wheeler et al. (2018)	Participative procedure selecting 800 beneficiaries from 31 villages, and 200 households from 23 villages as a control group	2 years after the end of the cash transfer of the Rwandan Concern Worldwide Graduation Programme, the authors find sustained positive and highly significant (statistically, at 1%) impacts of the CT on food security, value of assets, and livestock assets expressed in Tropical Livestock units (TLUs). Through an heterogeneity analysis, furthermore, the paper explains how household characteristics (e.g., gender of the household head and labour availability) substantially affect the trajectories of change. The authors therefore conclude that certain types of households need longer exposure to a social assistance program, together with additional support (through local enabling factors) to graduate from it.	Heterogeneity analysis of impacts conducted across different beneficiary trajectories: recipients were sub-grouped into "improvers", "decliners" and "late improvers"
Sedlmayr et al. (2020)	Not available	Up to 27 months after the end of its cash component transfer, a study on the Village Enterprise Graduation Programme in Uganda found out that simplifying the integrated program tended to erode its impacts. In fact, enterprise program beneficiaries had significant positive effects on nutrition (at 1%), psychological outlook (1%), social conditions (a proxy of social capital; at 5%), total consumption (5%), total net assets (1%) and total productive cash inflows (5%). The different estimates provided by transfer-only receiving beneficiaries, with the only statistically significant effect on assets (at 1%), led to overall conflicting findings on expenditures, earnings and social capital proxies. Nevertheless, in general, the program showed sustained positive impacts on school attainment, health status, food security, employment, savings and assets. On a less bright side, even if not significant, aggravations in cognitive and test scores, child labour and investments, were also recorded.	Effects are disaggregated by treatment arm
Stoeffler et al. (2020)	In each project village, 20 beneficiaries and 20 non-beneficiaries were randomly sampled, for a total of 2,000 households	In the paper, the authors examine whether small, regular cash transfers bundled with support of local tontines (informal rotating saving groups) had sustained consequences after project termination (18 months later), in a very poor setting of rural Niger. Through a non-experimental approach, the article suggests that the impacts on assets were positive, for all drawn indicators (livestock, value of livestock and assets owned) with the first two statistically significant at 5%. A positive effect at 5% on tontine participation was also computed, together with an insignificant improved on an index of housing quality. Overall, the results indicate that small regular CTs, coupled with enhanced saving mechanisms, can generate improved saving patterns and asset accumulation among the extreme poor.	

Table 27. Summary of treatment coefficients and risk-of-bias: Education outcome

<i>Sustainability measurement (years after end of exposure)</i>	<i>Program type</i>	<i>Risk-of-bias</i>	<i>Study</i>	<i>Variable</i>	<i>N</i>	<i>Range</i>	<i>Coefficient</i>	<i>SE</i>	<i>95% CI</i>
Cognitive and test scores									
Long term (up to 9)	UCT+	Low	Avitabile et al. (2019)	Test score (3rd subject)	10,432		-0.156*	0.080	(-0.236, -0.076)
Long term (up to 9)	UCT+	Low	Avitabile et al. (2019)	Test score (math)	11,006		-0.182**	0.086	(-0.278, -0.096)
Long term (up to 9)	UCT+	Low	Avitabile et al. (2019)	Test score (spanish)	11,006		-0.156*	0.093	(-0.249, -0.063)
Long term (up to 10)	CCT+	Low	Barham et al. (2018)	Cognition	906		-0.016	0.095	(-0.111, 0.079)
Long term (up to 10)	CCT+	Low	Barham et al. (2018)	Learning (math and spanish)	907		0.183**	0.070	(0.113, 0.253)
Long term (up to 11)	CCT	Low	Barrera-Osorio et al. (2019)	Taking the ICFES exam, lower secondary (savings treatment)	6,586	0 to 1	0.001	0.013	(-0.012, 0.014)
Long term (up to 11)	CCT	Low	Barrera-Osorio et al. (2019)	Taking the ICFES exam, lower secondary (transfers only)	6,586	0 to 1	0.020	0.014	(0.006, 0.034)
Long term (up to 11)	CCT	Low	Barrera-Osorio et al. (2019)	Taking the ICFES exam, upper secondary (delayed transfers)	6,905	0 to 1	0.005	0.014	(-0.009, 0.019)
Long term (up to 11)	CCT	Low	Barrera-Osorio et al. (2019)	Taking the ICFES exam, upper secondary (savings treatment)	6,905	0 to 1	0.028*	0.017	(0.011, 0.045)
Long term (up to 11)	CCT	Low	Barrera-Osorio et al. (2019)	Taking the ICFES exam, upper secondary (transfers only)	6,905	0 to 1	0.021	0.016	(0.005, 0.037)
Long term (up to 13)	CCT+	Low	Molina Millán et al. (2020)	Grades attained (men, 19-26 years old)	64,663		0.351**	0.172	(0.179, 0.523)
Long term (up to 13)	CCT+	Low	Molina Millán et al. (2020)	Grades attained (women, 19-26 years old)	69,522		0.359**	0.163	(0.196, 0.522)
Long term (up to 9)	CCT+	Moderate	Baez & Camacho (2011)	Overall test scores (RDD)	17,031		-0.057***	0.009	(-0.066, -0.048)
Long term (up to 10)	UCT	Moderate	Araujo et al. (2020)	Total scores (RCT)	1,707		-0.071	0.083	(-0.154, 0.012)
Medium term (2 years)	UCT and CCT	Low	Baird et al. (2019)	Competencies score (CCT)	2,048		0.065	0.058	(0.007, 0.123)
Medium term (2 years)	UCT and CCT	Low	Baird et al. (2019)	Competencies score (UCT)	2,048		0.098	0.067	(0.031, 0.165)

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Medium term (2 years, on average)	Graduation (CCT+)	Low	Macours et al. (2012b)	Cognitive and socio-emotional outcomes	4,245		0.083***	0.029	(0.054, 0.112)
Medium term (2 years)	UCT	Moderate	Filmer & Schady (2014)	Test scores (average)	2,973		0.011	0.059	(-0.048, 0.070)
Medium term (27 months, on average)	Graduation (UCT+)	Moderate	Sedlmayr et al. (2020)	Repeated year (transfer programs)	6,497		0.878	0.090	(0.788, 0.968)
School attainment and literacy									
Long term (up to 3)	UCT	Low	Haushofer & Shapiro (2018)	Education index	1,129		0.090	0.090	(0.000, 0.180)
Long term (up to 9)	UCT+	Low	Avitabile et al. (2019)	Index of parental investment	283		0.343	0.319	(0.024, 0.662)
Long term (9 years)	Enterprise UCT	Low	Blattman et al. (2020)	Child age-adjusted educational attainment (6-24)	2,086		-0.012	0.037	(-0.049, 0.025)
Long term (9 years)	Enterprise UCT	Low	Blattman et al. (2020)	Mean of child enrollment	2,086		-0.016	0.013	(-0.029, -0.003)
Long term (up to 10)	CCT+	Low	Barham et al. (2018)	Education z-score	1,007		0.098**	0.043	(0.055, 0.141)
Long term (up to 10)	CCT+	Low	Barham et al. (2018)	Literacy (being able to read and write)	1,007	0 to 1	0.052**	0.021	(0.031, 0.073)
Long term (up to 11)	CCT	Low	Barrera-Osorio et al. (2019)	Dropout (delayed transfers)	2,345	0 to 1	-0.036***	0.014	(-0.050, -0.022)
Long term (up to 11)	CCT	Low	Barrera-Osorio et al. (2019)	Dropout (savings treatment)	9,937	0 to 1	-0.032***	0.010	(-0.042, -0.022)
Long term (up to 11)	CCT	Low	Barrera-Osorio et al. (2019)	Dropout (transfers only)	9,937	0 to 1	-0.018	0.012	(-0.030, -0.006)
Long term (up to 11)	CCT	Low	Barrera-Osorio et al. (2019)	Held back (delayed transfers)	2,345	0 to 1	0.005	0.009	(-0.004, 0.014)
Long term (up to 11)	CCT	Low	Barrera-Osorio et al. (2019)	Held back (savings treatment)	9,937	0 to 1	-0.007	0.007	(-0.014, 0.000)
Long term (up to 11)	CCT	Low	Barrera-Osorio et al. (2019)	Held back (transfers only)	9,937	0 to 1	-0.009	0.008	(-0.017, -0.001)
Long term (up to 11)	CCT	Low	Barrera-Osorio et al. (2019)	On-time enrollment, lower secondary (savings treatment)	5,962	0 to 1	0.034***	0.012	(0.022, 0.046)
Long term (up to 11)	CCT	Low	Barrera-Osorio et al. (2019)	On-time enrollment, lower secondary (transfers only)	5,962	0 to 1	0.035**	0.015	(0.020, 0.050)
Long term (up to 11)	CCT	Low	Barrera-Osorio et al. (2019)	On-time enrollment, upper secondary (delayed transfers)	6,320	0 to 1	0.022*	0.012	(0.010, 0.034)

Long term (up to 11)	CCT	Low	Barrera-Osorio et al. (2019)	On-time enrollment, upper secondary (savings treatment)	6,320	0 to 1	0.035***	0.013	(0.022, 0.048)
Long term (up to 11)	CCT	Low	Barrera-Osorio et al. (2019)	On-time enrollment, upper secondary (transfers only)	6,320	0 to 1	0.004	0.017	(-0.013, 0.021)
Long term (up to 13)	CCT+	Low	Molina Millán et al. (2020)	Completed primary (men, 19-26 years old)	64,663	0 to 1	0.019	0.023	(-0.004, 0.042)
Long term (up to 13)	CCT+	Low	Molina Millán et al. (2020)	Completed primary (women, 19-26 years old)	69,522	0 to 1	0.035	0.023	(0.012, 0.058)
Long term (up to 13)	CCT+	Low	Molina Millán et al. (2020)	Completed secondary (men, 19-26 years old)	64,663	0 to 1	0.025**	0.011	(0.014, 0.036)
Long term (up to 13)	CCT+	Low	Molina Millán et al. (2020)	Completed secondary (women, 19-26 years old)	69,522	0 to 1	0.022**	0.011	(0.011, 0.033)
Long term (up to 13)	CCT+	Low	Molina Millán et al. (2020)	Currently enrolled (men, 19-26 years old)	64,663	0 to 1	0.024***	0.009	(0.015, 0.033)
Long term (up to 13)	CCT+	Low	Molina Millán et al. (2020)	Currently enrolled (women, 19-26 years old)	69,522	0 to 1	0.012	0.014	(-0.002, 0.026)
Long term (up to 13)	CCT+	Low	Molina Millán et al. (2020)	Four or more years of education (men, 19-26 years old)	64,663	0 to 1	0.043*	0.022	(0.021, 0.065)
Long term (up to 13)	CCT+	Low	Molina Millán et al. (2020)	Four or more years of education (women, 19-26 years old)	69,522	0 to 1	0.054***	0.017	(0.037, 0.071)
Long term (up to 13)	CCT+	Low	Molina Millán et al. (2020)	Full time student (men, 19-26 years old)	64,663	0 to 1	0.010**	0.005	(0.005, 0.015)
Long term (up to 13)	CCT+	Low	Molina Millán et al. (2020)	Full time student (women, 19-26 years old)	69,522	0 to 1	0.006	0.008	(-0.002, 0.014)
Long term (up to 16)	CCT+	Low	Oliveira & Chagas (2020)	Schooling level at 18 (BFP exposure high)	116,876	0 to 5	0.997***	0.040	(0.957, 1.037)
Long term (up to 16)	CCT+	Low	Oliveira & Chagas (2020)	Schooling level at 18 (BFP exposure low)	116,876	0 to 5	0.698***	0.035	(0.663, 0.733)
Long term (up to 16)	CCT+	Low	Oliveira & Chagas (2020)	Schooling level at 18 (BFP exposure medium)	116,876	0 to 5	1.075***	0.033	(1.042, 1.108)
Long term (up to 16)	CCT+	Low	Oliveira & Chagas (2020)	Schooling level at 18 (BFP exposure medium-low)	116,876	0 to 5	0.913***	0.033	(0.880, 0.946)
Long term (up to 30)	UCT	Low	Aizer et al. (2016)	Education	2,446		0.238	0.209	
Long term (up to 30)	UCT	Low	Aizer et al. (2016)	Has exactly 8 years of school	2,446	0 to 1	-0.036	0.032	
Long term (up to 30)	UCT	Low	Aizer et al. (2016)	Years of schooling	2,099		0.368*	0.197	(0.171, 0.565)
Long term (up to 5)	CCT	Moderate	Alam et al. (2011)	Grade 10 completion	12,831	0 to 1	-0.055**	0.025	(-0.080, 0.030)
Long term (up to 5)	CCT	Moderate	Alam et al. (2011)	Grade 9 completion	19,915	0 to 1	-0.015	0.022	(-0.037, 0.007)

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Long term (up to 5)	CCT	Moderate	Alam et al. (2011)	Middle school completion	22,289		0.006	0.015	(-0.094, 0.021)
Long term (up to 5)	CCT	Moderate	Alam et al. (2011)	Middle to high school transition	22,237		-0.007	0.020	(-0.027, 0.013)
Long term (up to 8)	CCT+	Moderate	Attanasio et al. (2021)	School dropout (men)	82,647		-0.058***	0.017	(-0.075, -0.041)
Long term (up to 8)	CCT+	Moderate	Attanasio et al. (2021)	School dropout (women)	80,600		-0.058**	0.017	(-0.075, -0.041)
Long term (up to 9)	CCT+	Moderate	Baez & Camacho (2011)	School completion (PSM)	3,888	0 to 1	0.070**	0.021	(0.048, 0.091)
Long term (up to 9)	CCT+	Moderate	Baez & Camacho (2011)	School completion (RDD)	25,249	0 to 1	0.024**	0.011	(0.013, 0.035)
Long term (up to 9)	CCT+	Moderate	Contreras Suarez & Cameron (2020)	Parents' educational aspirations: higher education	3,877	0 to 100	-14.711**	6.339	(-21.050, -8.372)
Long term (up to 9)	CCT+	Moderate	Contreras Suarez & Cameron (2020)	Parents' educational aspirations: secondary school	3,945	0 to 100	1.502	4.316	(-2.814, 5.818)
Long term (up to 10)	UCT	Moderate	Araujo et al. (2020)	Completed elementary school	100,000	0 to 1	0.002	0.002	(0.000, 0.004)
Long term (up to 10)	UCT	Moderate	Araujo et al. (2020)	Completed secondary school	100,000	0 to 1	0.015***	0.006	(0.009, 0.021)
Long term (up to 10)	UCT	Moderate	Araujo et al. (2020)	Enrolled in school	100,000	0 to 1	0.005	0.005	(0.000, 0.010)
Long term (up to 10)	CCT+	Moderate	Borga & D'Ambrosio (2021)	School attendance	38,948		-0.223***	0.050	(-0.273, -0.183)
Long term (up to 10)	CCT+	Moderate	Borga & D'Ambrosio (2021)	School enrolment	37,994		-0.064	0.041	(-0.105, -0.023)
Long term (up to 10)	CCT+	Moderate	Neidhöfer & Niño-Zarazúa (2019)	Years of education	11,690		1.243***	0.355	(0.875, 1.598)
Long term (up to 13)	CCT+	Moderate	Ham & Michelson (2018)	At least some secondary studies	140	0 to 1	0.029**	0.014	(0.015, 0.043)
Long term (up to 13)	CCT+	Moderate	Ham & Michelson (2018)	Years of schooling	140		0.315***	0.111	(0.204, 0.426)
Long term (up to 13)	CCT+	Moderate	Parker & Vogl (2018)	At least some high (men)	299,906	0 to 1	0.034	0.038	(-0.004, 0.072)
Long term (up to 13)	CCT+	Moderate	Parker & Vogl (2018)	At least some high (women)	356,801	0 to 1	0.169***	0.032	(0.137, 0.201)
Long term (up to 13)	CCT+	Moderate	Parker & Vogl (2018)	At least some middle (men)	299,906	0 to 1	0.130***	0.043	(0.087, 0.173)
Long term (up to 13)	CCT+	Moderate	Parker & Vogl (2018)	At least some middle (women)	356,801	0 to 1	0.225***	0.039	(0.186, 0.264)

Long term (up to 13)	CCT+	Moderate	Parker & Vogl (2018)	Grades completed (men)	299,237		0.596*	0.315	(0.281, 0.911)
Long term (up to 13)	CCT+	Moderate	Parker & Vogl (2018)	Grades completed (women)	355,986		1.032***	0.309	(0.723, 1.341)
Long term (up to 15)	CCT+	Moderate	Duque et al. (2018)	No school drop-out (ages 0-17)	259,347	0 to 1	0.028	0.027	(0.001, 0.055)
Long term (up to 17)	CCT	Moderate	Hahn et al. (2018)	Completion of secondary school (rural cohort 1: 5 years of transfers)	24,329	0 to 1	0.050***	0.011	(0.039, 0.061)
Long term (up to 17)	CCT	Moderate	Hahn et al. (2018)	Completion of secondary school (rural cohort 2: 2 years of transfers)	24,329	0 to 1	0.025*	0.013	(0.012, 0.038)
Long term (up to 17)	CCT	Moderate	Hahn et al. (2018)	Years of education (rural cohort 1: 5 years of transfers)	24,329		1.210***	0.089	(1.121, 1.299)
Long term (up to 17)	CCT	Moderate	Hahn et al. (2018)	Years of education (rural cohort 2: 2 years of transfers)	24,329		0.666***	0.078	(0.588, 0.744)
Long term (up to 17)	CCT+	Serious	Kugler & Rojas (2018)	High school completion	14,491	0 to 1	0.029***	0.006	(0.023, 0.035)
Long term (up to 17)	CCT+	Serious	Kugler & Rojas (2018)	Years of education	14,437		0.531***	0.104	(0.427, 0.635)
Medium term (up to 2)	UCT+	Low	Özler et al. (2020)	Schooling index	1,175		0.054	0.057	(-0.003, 0.111)
Medium term (2 years)	UCT and CCT	Low	Baird et al. (2019)	Highest grade completed (CCT)	2,049		0.120	0.080	(0.040, 0.200)
Medium term (2 years)	UCT and CCT	Low	Baird et al. (2019)	Highest grade completed (UCT)	2,049		0.095	0.129	(-0.034, 0.224)
Medium term (2 years)	UCT	Moderate	Filmer & Schady (2014)	Enrollment 2008-2009 (grade 10)	2,973	0 to 1	0.081***	0.026	(0.055, 0.107)
Medium term (2 years)	UCT	Moderate	Filmer & Schady (2014)	Enrollment 2009-2010 (grade 11)	2,973	0 to 1	0.032	0.024	(0.008, 0.056)
Medium term (2 years)	UCT	Moderate	Filmer & Schady (2014)	Years of completed schooling	2,973		0.560***	0.101	(0.459, 0.661)
Medium term (27 months, on average)	Graduation (UCT+)	Moderate	Sedlmayr et al. (2020)	Enrolled in and attending school (transfer programs)	7,760		1.324**	0.162	(1.162, 1.486)
Medium term (27 months, on average)	Graduation (UCT+)	Moderate	Sedlmayr et al. (2020)	School days missed last month (transfer programs)	6,502	1 to 30	-0.227	0.156	(-0.383, -0.071)
Medium term (up to 2)	Graduation (UCT+)	Serious	Sabates et al. (2019)	School attendance (children 13-16 years old)	532	0 to 1	-0.074	0.077	(-0.151, 0.003)
Medium term (up to 2)	Graduation (UCT+)	Serious	Sabates et al. (2019)	School attendance (children 7-12 years old)	1,214	0 to 1	-0.052	0.047	(-0.099, -0.005)
Tertiary education									

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Long term (up to 11)	CCT	Low	Barrera-Osorio et al. (2019)	On-time enrollment (tertiary education), lower secondary (savings treatment)	6,586	0 to 1	-0.010	0.011	(-0.021, 0.001)
Long term (up to 11)	CCT	Low	Barrera-Osorio et al. (2019)	On-time enrollment (tertiary education), lower secondary (transfers only)	6,586	0 to 1	0.001	0.011	(-0.010, 0.012)
Long term (up to 11)	CCT	Low	Barrera-Osorio et al. (2019)	On-time enrollment (tertiary education), upper secondary (delayed transfers)	6,905	0 to 1	0.032*	0.018	(0.014, 0.050)
Long term (up to 11)	CCT	Low	Barrera-Osorio et al. (2019)	On-time enrollment (tertiary education), upper secondary (savings treatment)	6,905	0 to 1	0.039***	0.014	(0.025, 0.053)
Long term (up to 11)	CCT	Low	Barrera-Osorio et al. (2019)	On-time enrollment (tertiary education), upper secondary (transfers only)	6,095	0 to 1	0.010	0.015	(-0.005, 0.025)
Long term (up to 11)	CCT	Low	Barrera-Osorio et al. (2019)	Tertiary enrollment, lower secondary (savings treatment)	6,586	0 to 1	0.006	0.013	(-0.07, 0.019)
Long term (up to 11)	CCT	Low	Barrera-Osorio et al. (2019)	Tertiary enrollment, lower secondary (transfers only)	6,586	0 to 1	0.012	0.013	(-0.001, 0.025)
Long term (up to 11)	CCT	Low	Barrera-Osorio et al. (2019)	Tertiary enrollment, upper secondary (delayed transfers)	6,905	0 to 1	0.058***	0.021	(0.037, 0.079)
Long term (up to 11)	CCT	Low	Barrera-Osorio et al. (2019)	Tertiary enrollment, upper secondary (savings treatment)	6,905	0 to 1	0.036**	0.014	(0.022, 0.050)
Long term (up to 11)	CCT	Low	Barrera-Osorio et al. (2019)	Tertiary enrollment, upper secondary (transfers only)	6,095	0 to 1	0.007	0.016	(-0.009, 0.023)
Long term (up to 11)	CCT	Low	Barrera-Osorio et al. (2019)	Tertiary graduation, lower secondary (savings treatment)	6,586	0 to 1	0.006	0.007	(-0.001, 0.013)
Long term (up to 11)	CCT	Low	Barrera-Osorio et al. (2019)	Tertiary graduation, lower secondary (transfers only)	6,586	0 to 1	0.001	0.006	(0.000, 0.002)
Long term (up to 11)	CCT	Low	Barrera-Osorio et al. (2019)	Tertiary graduation, upper secondary (delayed transfers)	6,586	0 to 1	0.011	0.014	(-0.003, 0.025)
Long term (up to 11)	CCT	Low	Barrera-Osorio et al. (2019)	Tertiary graduation, upper secondary (savings treatment)	6,586	0 to 1	0.019*	0.011	(0.008, 0.030)
Long term (up to 11)	CCT	Low	Barrera-Osorio et al. (2019)	Tertiary graduation, upper secondary (transfers only)	6,586	0 to 1	0.016*	0.010	(0.006, 0.026)
Long term (up to 13)	CCT+	Low	Molina Millán et al. (2020)	University studies (men, 19-26 years old)	64,663	0 to 1	0.011***	0.003	(0.008, 0.014)
Long term (up to 13)	CCT+	Low	Molina Millán et al. (2020)	University studies (women, 19-26 years old)	69,522	0 to 1	0.011**	0.005	(0.006, 0.016)
Long term (up to 8)	CCT+	Moderate	Attanasio et al. (2021)	Tertiary education (men)	82,647		0.017*	0.009	(0.008, 0.026)
Long term (up to 8)	CCT+	Moderate	Attanasio et al. (2021)	Tertiary education (women)	80,600		0.000	0.010	(-0.010, 0.010)
Long term (up to 13)	CCT+	Moderate	Parker & Vogl (2018)	At least some university (men)	299,906	0 to 1	0.016	0.024	(-0.008, 0.040)

Long term (up to 13)	CCT+	Moderate	Parker & Vogl (2018)	At least some university (women)	356,801	0 to 1	0.017	0.020	(-0.003, 0.037)
Long term (up to 17)	CCT+	Serious	Kugler & Rojas (2018)	Tertiary education	14,483	0 to 1	0.009***	0.002	(0.008, 0.011)

Legend: *, ** and *** respectively indicate statistical significance at the 10%, 5% and 1% levels. 95% CI = Confidence intervals at 95% confidence level. Risk-of-bias attributed following the RoB 2 or ROBINS-I tools, for experimental and quasi-experimental evidence, respectively (Higgins et al., 2021). When reported differently, statistics were rounded to the nearest three decimals.

Table 28. Summary of treatment coefficients and risk-of-bias: Health and nutrition outcome

<i>Sustainability measurement (years after end of exposure)</i>	<i>Program type</i>	<i>Risk-of-bias</i>	<i>Study</i>	<i>Variable</i>	<i>N</i>	<i>Range</i>	<i>Coefficient</i>	<i>SE</i>	<i>95% CI</i>
Health status									
Long term (up to 3)	UCT	Low	Haushofer & Shapiro (2018)	Health index	1,286		-0.060	0.060	(-0.120, 0.000)
Long term (up to 3)	UCT	Low	Haushofer & Shapiro (2018)	Psychological well-being index	2,097		-0.020	0.060	(-0.080, 0.040)
Long term (9 years)	Enterprise UCT	Low	Blattman et al. (2020)	Mental health index (z-score)	2,086		-0.056	0.047	(-0.103, -0.009)
Long term (9 years)	Enterprise UCT	Low	Blattman et al. (2020)	Physical health index (z-score)	2,086		-0.028	0.047	(-0.075, 0.019)
Long term (up to 10)	Graduation (UCT+)	Low	Banerjee et al. (2021)	Mental health index	1,229		0.203***	0.044	(0.159, 0.247)
Long term (up to 10)	Graduation (UCT+)	Low	Banerjee et al. (2021)	Physical health index	1,229		0.187***	0.040	(0.147, 0.227)
Long term (up to 10)	CCT+	Low	Barham et al. (2018)	Socio-emotional z-score	900		0.053	0.039	(0.014, 0.092)
Long term (up to 30)	UCT	Low	Aizer et al. (2016)	BMI	1,706		0.464	0.355	(0.109, 0.819)
Long term (up to 30)	UCT	Low	Aizer et al. (2016)	Height (cms)	1,844		1.142	1.229	(-0.087, 2.371)
Long term (up to 30)	UCT	Low	Aizer et al. (2016)	Obese	1,706	0 to 1	0.998	0.612	(0.386, 1.610)
Long term (up to 30)	UCT	Low	Aizer et al. (2016)	Underweight	1,706	0 to 1	-0.638*	0.336	(-0.974, -0.302)
Long term (up to 30)	UCT	Low	Aizer et al. (2016)	Weight (pounds)	1,706		3.417	2.330	(1.087, 5.747)
Medium term (up to 2)	Graduation (UCT+)	Low	Banerjee et al. (2015)	Mental health index			0.071***	0.020	(0.051, 0.091)
Medium term (up to 2)	Graduation (UCT+)	Low	Banerjee et al. (2015)	Physical health index			0.029	0.020	(0.009, 0.049)
Medium term (6 months)	UCT	Moderate	Altındağ & O'Connell (2021)	Adverse health	1,320		-0.110	0.100	(-0.210, -0.010)

Medium term (27 months, on average)	Graduation (UCT+)	Moderate	Sedlmayr et al. (2020)	Psychological outlook (current UGX, microenterprise programs)			0.143***	0.042	(0.101, 0.185)
Medium term (27 months, on average)	Graduation (UCT+)	Moderate	Sedlmayr et al. (2020)	Psychological outlook (current UGX, transfer programs)			0.107	0.067	(0.040, 0.174)
Life expectancy									
Long term (9 years)	Enterprise UCT	Low	Blattman et al. (2020)	Respondent passed away	2,086	0 to 1	-0.004	0.006	(-0.010, 0.002)
Long term (up to 30)	UCT	Low	Aizer et al. (2016)	Longevity: log(age at death)	8,255		0.010	0.007	(0.009, 0.011)
Long term (up to 30)	UCT	Low	Aizer et al. (2016)	Probability of having survived until 60 years old	16,289	0 to 1	0.192***	0.047	(0.045, 0.239)
Long term (up to 30)	UCT	Low	Aizer et al. (2016)	Probability of having survived until 70 years old	16,289	0 to 1	0.263***	0.052	
Long term (up to 30)	UCT	Low	Aizer et al. (2016)	Probability of having survived until 80 years old	16,289	0 to 1	0.229***	0.066	
Long term (more than 30)	UCT	Low	Price & Song (2016)	Having died	2,280	0 to 1	0.014	0.020	(-0.006, 0.033)
Food security and nutrition									
Long term (up to 3)	UCT	Low	Haushofer & Shapiro (2018)	Food security index	1,286		-0.050	0.100	(-0.150, 0.050)
Long term (up to 9)	UCT+	Low	Avitabile et al. (2019)	Principal component macro/micronutrients	2,419		0.132*	0.076	(0.056, 0.208)
Long term (up to 10)	Graduation (UCT+)	Low	Banerjee et al. (2021)	Food security index	885		0.127**	0.063	(0.064, 0.190)
Long term (up to 10)	CCT+	Moderate	Borga & D'Ambrosio (2021)	Nutrition	38,707		0.031	0.047	(-0.016, 0.078)
Medium term (up to 2)	Graduation (UCT+)	Low	Banerjee et al. (2015)	Food security index			0.113***	0.022	(0.091, 0.135)
Medium term (2 years, on average)	Graduation (CCT+)	Low	Macours et al. (2012a)	Log total food consumption per capita (cash only arm)	3,918	0 to 1	0.052*	0.028	(0.024, 0.080)
Medium term (2 years, on average)	Graduation (CCT+)	Low	Macours et al. (2012a)	Log total food consumption per capita (productive grant arm)	3,918	0 to 1	0.093***	0.026	(0.067, 0.119)
Medium term (2 years, on average)	Graduation (CCT+)	Low	Macours et al. (2012a)	Log total food consumption per capita (training arm)	3,918	0 to 1	0.048*	0.025	(0.023, 0.073)

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Medium term (2 years, on average)	Graduation (CCT+)	Low	Macours et al. (2012b)	Nutrition index	4,245		0.074**	0.035	(0.039, 0.109)
Medium term (6 months)	UCT	Moderate	Altındağ & O'Connell (2021)	Food coping	1,434		0.060	0.090	(-0.030, 0.150)
Medium term (27 months, on average)	Graduation (UCT+)	Moderate	Sedlmayr et al. (2020)	Nutrition (current UGX, microenterprise programs)			0.135***	0.034	(0.101, 0.169)
Medium term (27 months, on average)	Graduation (UCT+)	Moderate	Sedlmayr et al. (2020)	Nutrition (current UGX, transfer programs)			0.021	0.050	(-0.029, 0.071)
Medium term (up to 2)	Graduation (UCT+)	Serious	Sabates-Wheeler et al. (2018)	Food security and basic needs			1.970***	0.180	(1.790, 2.150)
Child health									
Long term (up to 9)	UCT+	Low	Avitabile et al. (2019)	Anemia	2,403		-0.024	0.030	(-0.054, 0.006)
Long term (up to 9)	UCT+	Low	Avitabile et al. (2019)	Being sick during last 4 weeks	4,266		0.001	0.032	(-0.031, 0.033)
Long term (up to 9)	UCT+	Low	Avitabile et al. (2019)	Z score height-for-age	3,817		-0.109	0.136	(-0.245, 0.027)
Long term (up to 9)	UCT+	Low	Avitabile et al. (2019)	Z score weight-for-age	3,861		-0.005	0.099	(-0.104, 0.094)
Long term (9 years)	Enterprise UCT	Low	Blattman et al. (2020)	Mean health index per child, ages 3-9, family average	2,086		0.078	0.043	(0.035, 0.121)
Long term (up to 17)	CCT	Moderate	Hahn et al. (2018)	Anemia (rural cohort 1: 5 years of transfers)	1,257		-0.025	0.045	(-0.070, 0.020)
Long term (up to 17)	CCT	Moderate	Hahn et al. (2018)	Anemia (rural cohort 2: 2 years of transfers)	1,257		-0.038	0.052	(-0.090, 0.014)
Long term (up to 17)	CCT	Moderate	Hahn et al. (2018)	Height for age (rural cohort 1: 5 years of transfers)	11,951		0.143***	0.032	(0.111, 0.175)
Long term (up to 17)	CCT	Moderate	Hahn et al. (2018)	Height for age (rural cohort 2: 2 years of transfers)	11,951		0.205***	0.038	(0.167, 0.243)
Long term (up to 17)	CCT	Moderate	Hahn et al. (2018)	Hemoglobin (rural cohort 1: 5 years of transfers)	1,257		1.377	0.878	(0.499, 2.255)
Long term (up to 17)	CCT	Moderate	Hahn et al. (2018)	Hemoglobin (rural cohort 2: 2 years of transfers)	1,257		0.058	0.980	(-0.922, 1.038)
Long term (up to 17)	CCT	Moderate	Hahn et al. (2018)	Weight for age (rural cohort 1: 5 years of transfers)	11,951		0.106**	0.042	(0.064, 0.148)
Long term (up to 17)	CCT	Moderate	Hahn et al. (2018)	Weight for age (rural cohort 2: 2 years of transfers)	11,951		0.093*	0.049	(0.044, 0.142)

Medium term (up to 2)	UCT+	Low	Özler et al. (2020)	Psychosocial wellbeing index	1,159		0.102	0.071	(0.031, 0.173)
Medium term (up to 2)	UCT+	Low	Özler et al. (2020)	Sexual and reproductive health index (SRH)	1,174		0.372***	0.084	(0.286, 0.456)
Medium term (2 years, on average)	Graduation (CCT+)	Low	Macours et al. (2012b)	Environment index	4,245		0.073***	0.017	(0.056, 0.090)
Medium term (2 years, on average)	Graduation (CCT+)	Low	Macours et al. (2012b)	Health and motor development	4,245		0.067***	0.026	(0.041, 0.093)
Medium term (2 years, on average)	Graduation (CCT+)	Low	Macours et al. (2012b)	Health index	4,245		0.082***	0.024	(0.058, 0.106)
Medium term (2 years, on average)	Graduation (CCT+)	Low	Macours et al. (2012b)	Stimulus index	4,245		0.121***	0.033	(0.088, 0.154)
Medium term (2 years)	UCT and CCT	Low	Baird et al. (2019)	Anemic (CCT)	1,979		0.012	0.031	(-0.019, 0.043)
Medium term (2 years)	UCT and CCT	Low	Baird et al. (2019)	Anemic (UCT)	1,979		-0.065*	0.033	(-0.098, -0.032)
Medium term (2 years)	UCT and CCT	Low	Baird et al. (2019)	HIV positive (CCT)	1,977		-0.001	0.019	(-0.020, 0.018)
Medium term (2 years)	UCT and CCT	Low	Baird et al. (2019)	HIV positive (UCT)	1,977		-0.002	0.023	(-0.025, 0.021)
Medium term (2 years)	UCT and CCT	Low	Baird et al. (2019)	Z score height-for-age (child born during program, CCT)	315		0.114	0.156	(-0.042, 0.270)
Medium term (2 years)	UCT and CCT	Low	Baird et al. (2019)	Z score height-for-age (child born during program, UCT)	315		0.534*	0.302	(0.232, 0.836)
Medium term (2 years)	UCT and CCT	Low	Baird et al. (2019)	Z score height-for-age (child born more than 9 months after program end, CCT)	506		0.257	0.179	(0.078, 0.436)
Medium term (2 years)	UCT and CCT	Low	Baird et al. (2019)	Z score height-for-age (child born more than 9 months after program end, UCT)	506		-0.123	0.183	(-0.306, 0.060)
Medium term (2 years)	UCT and CCT	Low	Baird et al. (2019)	Z score height-for-age (child born within 9 months of program end, CCT)	211		0.086	0.194	(-0.108, 0.280)
Medium term (2 years)	UCT and CCT	Low	Baird et al. (2019)	Z score height-for-age (child born within 9 months of program end, UCT)	212		-0.434**	0.193	(-0.627, -0.241)
Medium term (6 months)	UCT	Moderate	Altındağ & O'Connell (2021)	Child hardship	1,050		-0.010	0.090	(-0.100, 0.080)
Medium term (2 years)	UCT	Moderate	Filmer & Schady (2014)	Depression	2,973	0 to 1	0.118**	0.047	(0.071, 0.165)

Legend: *, ** and *** respectively indicate statistical significance at the 10%, 5% and 1% levels. 95% CI = Confidence intervals at 95% confidence level. Risk-of-bias attributed following the RoB 2 or ROBINS-I tools, for experimental and quasi-experimental evidence, respectively (Higgins et al., 2021). When reported differently, statistics were rounded to the nearest three decimals.

Table 29. Summary of treatment coefficients and risk-of-bias: Employment outcome

<i>Sustainability measurement (years after end of exposure)</i>	<i>Program type</i>	<i>Risk-of-bias</i>	<i>Study</i>	<i>Variable</i>	<i>N</i>	<i>Range</i>	<i>Coefficient</i>	<i>SE</i>	<i>95% CI</i>
Work status, labour supply and employment									
Long term (9 years)	Enterprise UCT	Low	Blattman et al. (2020)	Average employment hours per week	1,981		0.513	1.593	(-1.080, 2.106)
Long term (9 years)	Enterprise UCT	Low	Blattman et al. (2020)	No employment hours in past month	1,981	0 to 1	-0.004	0.008	(-0.012, 0.004)
Long term (9 years)	Enterprise UCT	Low	Blattman et al. (2020)	Working over 30 hours per week in skilled trade	1,981	0 to 1	-0.029	0.011	(-0.040, -0.018)
Long term (up to 10)	CCT+	Low	Barham et al. (2018)	Labor market participation z-score	1,006		0.272***	0.075	(0.197, 0.347)
Long term (up to 13)	CCT+	Low	Molina Millán et al. (2020)	Agricultural sector (men, 19-26 years old)	64,726	0 to 1	-0.022	0.074	(-0.096, 0.052)
Long term (up to 13)	CCT+	Low	Molina Millán et al. (2020)	Agricultural sector (women, 19-26 years old)		0 to 1	-0.013	0.030	(-0.043, 0.017)
Long term (up to 13)	CCT+	Low	Molina Millán et al. (2020)	Formal worker (men, 19-26 years old)	64,726	0 to 1	-0.050*	0.027	(-0.077, -0.023)
Long term (up to 13)	CCT+	Low	Molina Millán et al. (2020)	Formal worker (women, 19-26 years old)		0 to 1	-0.004	0.008	(-0.012, 0.004)
Long term (up to 13)	CCT+	Low	Molina Millán et al. (2020)	Hours worked weekly (men, 19-26 years old)	64,726		0.859	2.467	(-1.608, 3.326)
Long term (up to 13)	CCT+	Low	Molina Millán et al. (2020)	Hours worked weekly (women, 19-26 years old)			-4.369**	1.762	(-6.131, -2.607)
Long term (up to 13)	CCT+	Low	Molina Millán et al. (2020)	Labor market participation (men, 19-26 years old)	64,726	0 to 1	-0.025	0.042	(-0.067, 0.017)
Long term (up to 13)	CCT+	Low	Molina Millán et al. (2020)	Labor market participation (women, 19-26 years old)		0 to 1	-0.054	0.040	(-0.094, -0.014)
Long term (up to 13)	CCT+	Low	Molina Millán et al. (2020)	Non-agricultural sector (men, 19-26 years old)	64,726	0 to 1	-0.021	0.054	(-0.075, 0.033)
Long term (up to 13)	CCT+	Low	Molina Millán et al. (2020)	Non-agricultural sector (women, 19-26 years old)		0 to 1	-0.040	0.033	(-0.033, -0.007)
Long term (up to 16)	CCT+	Low	Oliveira & Chagas (2020)	Formal labor market participation (BFP exposure high)	145,273		0.183***	0.041	(0.142, 0.224)
Long term (up to 16)	CCT+	Low	Oliveira & Chagas (2020)	Formal labor market participation (BFP exposure low)	145,273		0.078**	0.031	(0.047, 0.109)

Long term (up to 16)	CCT+	Low	Oliveira & Chagas (2020)	Formal labor market participation (BFP exposure medium)	145,273		0.175***	0.029	(0.146, 0.184)
Long term (up to 16)	CCT+	Low	Oliveira & Chagas (2020)	Formal labor market participation (BFP exposure medium-low)	145,273		0.140***	0.029	(0.111, 0.169)
Long term (up to 6)	CCT+	Medium	Rodriguez-Oreggia & Freije (2012)	Moving to a more qualified occupation (3 years' exposure)	3,584		0.080		
Long term (up to 6)	CCT+	Medium	Rodriguez-Oreggia & Freije (2012)	Moving to a more qualified occupation (3-6 years' exposure)	3,584		0.130		
Long term (up to 6)	CCT+	Medium	Rodriguez-Oreggia & Freije (2012)	Moving to a more qualified occupation (more than 6 years' exposure)	3,584		0.256		
Long term (up to 6)	CCT+	Medium	Rodriguez-Oreggia & Freije (2012)	Probability of working (3 years' exposure)	10,166	0 to 1	-0.129		
Long term (up to 6)	CCT+	Medium	Rodriguez-Oreggia & Freije (2012)	Probability of working (3-6 years' exposure)	10,166	0 to 1	0.074		
Long term (up to 6)	CCT+	Medium	Rodriguez-Oreggia & Freije (2012)	Probability of working (more than 6 years' exposure)	10,166	0 to 1	0.104		
Long term (up to 7)	Graduation (UCT+)	Moderate	Bandiera et al. (2017)	Labor supply (days, after 4 years)	20,196		61.100***	12.500	(48.600, 73.600)
Long term (up to 7)	Graduation (UCT+)	Moderate	Bandiera et al. (2017)	Labor supply (hours, after 4 years)	20,196		206.000***	73.000	(133.000, 279.000)
Long term (up to 13)	CCT+	Moderate	Ham & Michelson (2018)	Labor force participation	140	0 to 1	0.013	0.017	(-0.004, 0.030)
Long term (up to 13)	CCT+	Moderate	Ham & Michelson (2018)	Works in non-farm job	140	0 to 1	0.041**	0.019	(0.022, 0.060)
Long term (up to 13)	CCT+	Moderate	Ham & Michelson (2018)	Works outside home	140	0 to 1	0.015	0.017	(-0.002, 0.032)
Long term (up to 13)	CCT+	Moderate	Parker & Vogl (2018)	Working (men)	299,515	0 to 1	0.001	0.030	(-0.029, 0.031)
Long term (up to 13)	CCT+	Moderate	Parker & Vogl (2018)	Working (women)	357,018	0 to 1	0.093***	0.031	(0.062, 0.124)
Long term (up to 13)	CCT+	Moderate	Parker & Vogl (2018)	Working for a wage (men)	193,165	0 to 1	0.059	0.042	(0.017, 0.101)
Long term (up to 13)	CCT+	Moderate	Parker & Vogl (2018)	Working for a wage (women)	354,440	0 to 1	0.073***	0.027	(0.046, 0.100)
Long term (up to 13)	CCT+	Moderate	Parker & Vogl (2018)	Working in agriculture (men)	297,315	0 to 1	-0.050	0.035	(-0.085, -0.015)
Long term (up to 13)	CCT+	Moderate	Parker & Vogl (2018)	Working in agriculture (women)	355,898	0 to 1	0.009	0.009	(0.000, 0.018)
Long term (up to 17)	CCT	Moderate	Hahn et al. (2018)	Work (rural cohort 1: 5 years of transfers)	24,329	0 to 1	-0.018	0.011	(-0.029, -0.007)
Long term (up to 17)	CCT	Moderate	Hahn et al. (2018)	Work (rural cohort 2: 2 years of transfers)	24,329	0 to 1	-0.014	0.011	(-0.025, -0.003)

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Long term (up to 17)	CCT	Moderate	Hahn et al. (2018)	Work in agricultural sector (rural cohort 1: 5 years of transfers)	24,329	0 to 1	-0.028***	0.008	(-0.036, -0.020)
Long term (up to 17)	CCT	Moderate	Hahn et al. (2018)	Work in agricultural sector (rural cohort 2: 2 years of transfers)	24,329	0 to 1	-0.006	0.008	(-0.014, 0.002)
Long term (up to 17)	CCT	Moderate	Hahn et al. (2018)	Work in formal sector (rural cohort 1: 5 years of transfers)	24,329	0 to 1	0.012**	0.006	(0.006, 0.018)
Long term (up to 17)	CCT	Moderate	Hahn et al. (2018)	Work in formal sector (rural cohort 2: 2 years of transfers)	24,329	0 to 1	0.008	0.006	(0.002, 0.014)
Long term (up to 17)	CCT	Moderate	Hahn et al. (2018)	Work in informal sector (rural cohort 1: 5 years of transfers)	24,329	0 to 1	-0.001	0.005	(-0.006, 0.004)
Long term (up to 17)	CCT	Moderate	Hahn et al. (2018)	Work in informal sector (rural cohort 2: 2 years of transfers)	24,329	0 to 1	-0.016**	0.006	(-0.022, -0.010)
Long term (up to 17)	CCT+	Serious	Kugler & Rojas (2018)	Contract	4,379	0 to 1	0.008*	0.005	(0.003, 0.013)
Long term (up to 17)	CCT+	Serious	Kugler & Rojas (2018)	Employment	11,830	0 to 1	0.046**	0.019	(0.027, 0.065)
Long term (up to 17)	CCT+	Serious	Kugler & Rojas (2018)	Hours worked per week	14,431		3.048***	0.457	(2.591, 3.505)
Long term (up to 17)	CCT+	Serious	Kugler & Rojas (2018)	Non-wage benefits	11,483	0 to 1	0.005**	0.002	(0.003, 0.007)
Medium term (6 to 10 months)	UCT+	Low	Roy et al. (2019)	Probability that a woman works (transfer only)	2,231		0.000	0.020	(-0.020, 0.020)
Medium term (6 to 10 months)	UCT+	Low	Roy et al. (2019)	Probability that a woman works (transfer+BCC)	2,231		0.050**	0.020	(0.030, 0.070)
Medium term (up to 2)	Graduation (UCT+)	Low	Banerjee et al. (2015)	Total time spent working, standardized			0.054***	0.018	(0.036, 0.072)
Medium term (27 months, on average)	Graduation (UCT+)	Moderate	Sedlmayr et al. (2020)	Active as employee or day labourer (transfer programs)	9,619		0.945	0.124	(0.821, 1.069)
Medium term (27 months, on average)	Graduation (UCT+)	Moderate	Sedlmayr et al. (2020)	Active in labour force (transfer programs)	9,609		1.150	0.153	(0.997, 1.303)
Medium term (27 months, on average)	Graduation (UCT+)	Moderate	Sedlmayr et al. (2020)	Active in microenterprise (transfer programs)	9,611		1.278**	0.151	(1.127, 1.429)
Medium term (27 months, on average)	Graduation (UCT+)	Moderate	Sedlmayr et al. (2020)	Active in more than one livelihood (transfer programs)	9,621		0.981	0.108	(0.873, 1.089)

Income and earnings									
Long term (up to 3)	Enterprise UCT	Low	Fafchamps et al. (2014)	Real monthly profits (cedi)	544		22.560	26.380	(-3.820, 48.940)
Long term (up to 3)	UCT	Low	Haushofer & Shapiro (2018)	Total revenue, monthly (USD)	1,286		2.670	12.300	(-9.630, 14.970)
Long term (up to 5)	Enterprise UCT+	Low	de Mel et al. (2012)	Log real profits (LKR, men)	2,201	0 to 1	0.142***	0.049	(0.093, 0.191)
Long term (up to 5)	Enterprise UCT+	Low	de Mel et al. (2012)	Log real profits (LKR, women)	2,140	0 to 1	0.050	0.064	(-0.014, 0.114)
Long term (up to 5)	Enterprise UCT+	Low	de Mel et al. (2012)	Monthly real profits (LKR, men)	2,212		648.200**	285.600	(362.600, 933.800)
Long term (up to 5)	Enterprise UCT+	Low	de Mel et al. (2012)	Monthly real profits (LKR, women)	2,148		94.790	265.100	(-170.310, 359.890)
Long term (up to 5)	Enterprise UCT+	Low	de Mel et al. (2012)	Total labor income (LKR, men)	2,329		799.700***	278.900	(520.800, 1078.600)
Long term (up to 5)	Enterprise UCT+	Low	de Mel et al. (2012)	Total labor income (LKR, women)	2,233		66.180	254.000	(-187.820, 320.180)
Long term (up to 5)	Enterprise UCT+	Low	de Mel et al. (2012)	Truncated real profits (LKR, men)	2,212		685.300**	272.500	(412.800, 957.800)
Long term (up to 5)	Enterprise UCT+	Low	de Mel et al. (2012)	Truncated real profits (LKR, women)	2,148		107.000	249.100	(-142.100, 256.100)
Long term (9 years)	Enterprise UCT	Low	Blattman et al. (2020)	Standardized income index	1,981		0.078	0.018	(0.060, 0.096)
Long term (up to 10)	Graduation (UCT+)	Low	Banerjee et al. (2021)	Income and revenues index	885		0.264***	0.080	(0.184, 0.344)
Long term (up to 10)	CCT+	Low	Barham et al. (2018)	Earnings z-score (five percent trim)	997		0.192***	0.067	(0.125, 0.259)
Long term (up to 10)	CCT+	Low	Barham et al. (2018)	Earnings z-score (rank of earnings)	1,006		0.194***	0.057	(0.137, 0.251)
Long term (up to 13)	CCT+	Low	Molina Millán et al. (2020)	Monthly income (men, 19-26 years old)	64,726		190.221	433.469	(-243.248, 623.690)
Long term (up to 13)	CCT+	Low	Molina Millán et al. (2020)	Monthly income (women, 19-26 years old)			-320.472***	116.659	(-437.131, -203.813)
Long term (up to 16)	CCT+	Low	Oliveira & Chagas (2020)	Earnings in the formal labor market (BFP exposure high)	113,162		-0.015**	0.006	(-0.021, -0.009)
Long term (up to 16)	CCT+	Low	Oliveira & Chagas (2020)	Earnings in the formal labor market (BFP exposure low)	113,162		-0.013***	0.004	(-0.017, -0.009)
Long term (up to 16)	CCT+	Low	Oliveira & Chagas (2020)	Earnings in the formal labor market (BFP exposure medium)	113,162		-0.012***	0.004	(-0.016, -0.008)
Long term (up to 16)	CCT+	Low	Oliveira & Chagas (2020)	Earnings in the formal labor market (BFP exposure medium-low)	113,162		-0.013***	0.004	(-0.017, -0.009)

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Long term (up to 30)	UCT	Low	Aizer et al. (2016)	Annual income (last measured)	1,960		89.500*	48.461	(41.039, 137.961)
Long term (more than 30)	UCT	Low	Price & Song (2016)	Annual earnings (real USD)	52,867		-1761.000**	816.000	(-2577.000, -945.000)
Long term (more than 30)	UCT	Low	Price & Song (2016)	Annual earnings (real USD)	163,340		-356.000	601.000	(-957.000, 245.000)
Long term (more than 30)	UCT	Low	Price & Song (2016)	Having earned any income (yearly basis)	52,867	0 to 1	-0.033**	0.014	(-0.047, -0.019)
Long term (more than 30)	UCT	Low	Price & Song (2016)	Having earned any income (yearly basis)	163,340	0 to 1	0.002	0.009	(-0.007, 0.010)
Long term (up to 6)	CCT+	Medium	Rodriguez-Oreggia & Freije (2012)	Monthly labor earnings (3 years' exposure)	4,123		-0.284		
Long term (up to 6)	CCT+	Medium	Rodriguez-Oreggia & Freije (2012)	Monthly labor earnings (3-6 years' exposure)	4,123		-0.325		
Long term (up to 6)	CCT+	Medium	Rodriguez-Oreggia & Freije (2012)	Monthly labor earnings (more than 6 years' exposure)	4,123		-0.283**		
Long term (up to 7)	Graduation (UCT+)	Moderate	Bandiera et al. (2017)	Earnings (after 4 years)	20,135		87.800***	28.580	(59.220, 116.380)
Long term (up to 10)	CCT+	Moderate	Neidhöfer & Niño-Zarazúa (2019)	Labor income (USD)	8,149		268.752***	98.600	(170.152, 367.352)
Long term (up to 13)	CCT+	Moderate	Parker & Vogl (2018)	HH monthly earnings per capita (men)	292,360		34.000	148.000	(-114.000, 182.000)
Long term (up to 13)	CCT+	Moderate	Parker & Vogl (2018)	HH monthly earnings per capita (women)	356,100		0.050	0.097	(-0.047, 0.147)
Long term (up to 13)	CCT+	Moderate	Parker & Vogl (2018)	Monthly earnings (men)	288,431		268.000	261.000	(7.000, 529.000)
Long term (up to 13)	CCT+	Moderate	Parker & Vogl (2018)	Monthly earnings (women)	354,156		255.000	139.000	(116.000, 394.000)
Long term (up to 17)	CCT+	Serious	Kugler & Rojas (2018)	Hourly wage	11,362		1.181***	0.243	(0.938, 1.424)
Medium term (up to 2)	Graduation (UCT+)	Low	Banerjee et al. (2015)	Incomes and revenues index			0.273***	0.029	(0.244, 0.302)
Medium term (2 years, on average)	Graduation (CCT+)	Low	Macours et al. (2012a)	Expected increase in profits in 12 months (cash only arm)	1,204		72.440	65.400	(7.040, 137.840)
Medium term (2 years, on average)	Graduation (CCT+)	Low	Macours et al. (2012a)	Expected increase in profits in 12 months (productive grant arm)	1,204		164.200***	63.500	(100.700, 227.700)
Medium term (2 years, on average)	Graduation (CCT+)	Low	Macours et al. (2012a)	Expected increase in profits in 12 months (training arm)	1,204		-56.880	54.800	(-111.680, -2.080)

Medium term (2 years, on average)	Graduation (CCT+)	Low	Macours et al. (2012a)	Log capital income (cash only arm)	3,892	0 to 1	-0.010	0.025	(-0.035, 0.015)
Medium term (2 years, on average)	Graduation (CCT+)	Low	Macours et al. (2012a)	Log capital income (productive grant arm)	3,892	0 to 1	0.039	0.026	(0.013, 0.065)
Medium term (2 years, on average)	Graduation (CCT+)	Low	Macours et al. (2012a)	Log capital income (training arm)	3,892	0 to 1	-0.005	0.025	(-0.030, 0.020)
Medium term (2 years, on average)	Graduation (CCT+)	Low	Macours et al. (2012a)	Non-agricultural wage income (cash only arm)	3,879		-148.800	340.000	(-488.800, 191.200)
Medium term (2 years, on average)	Graduation (CCT+)	Low	Macours et al. (2012a)	Non-agricultural wage income (productive grant arm)	3,879		-242.400	351.000	(-593.400, 108.600)
Medium term (2 years, on average)	Graduation (CCT+)	Low	Macours et al. (2012a)	Non-agricultural wage income (training arm)	3,879		-166.000	332.000	(-498.000, 166.000)
Medium term (2 years, on average)	Graduation (CCT+)	Low	Macours et al. (2012a)	Non-agriculture self-employment (cash only arm)	3,918		0.040*	0.021	(0.019, 0.061)
Medium term (2 years, on average)	Graduation (CCT+)	Low	Macours et al. (2012a)	Non-agriculture self-employment (productive grant arm)	3,918		0.126***	0.021	(0.105, 0.147)
Medium term (2 years, on average)	Graduation (CCT+)	Low	Macours et al. (2012a)	Non-agriculture self-employment (training arm)	3,918		0.038*	0.021	(0.017, 0.059)
Medium term (2 years, on average)	Graduation (CCT+)	Low	Macours et al. (2012a)	Non-agriculture wage employment (cash only arm)	3,918		0.022	0.022	(0.000, 0.044)
Medium term (2 years, on average)	Graduation (CCT+)	Low	Macours et al. (2012a)	Non-agriculture wage employment (productive grant arm)	3,918		-0.021	0.023	(-0.044, 0.002)
Medium term (2 years, on average)	Graduation (CCT+)	Low	Macours et al. (2012a)	Non-agriculture wage employment (training arm)	3,918		0.018	0.024	(-0.006, 0.042)
Medium term (2 years, on average)	Graduation (CCT+)	Low	Macours et al. (2012a)	Profits of non-agricultural business (cash only arm)	3,878		98.510	167.000	(-68.490, 265.510)
Medium term (2 years, on average)	Graduation (CCT+)	Low	Macours et al. (2012a)	Profits of non-agricultural business (productive grant arm)	3,878		602.800***	160.000	(442.800, 762.800)

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Medium term (2 years, on average)	Graduation (CCT+)	Low	Macours et al. (2012a)	Profits of non-agricultural business (training arm)	3,878		-296.900*	158.000	(-414.900, -138.900)
Medium term (27 months, on average)	Graduation (UCT+)	Moderate	Sedlmayr et al. (2020)	Total productive cash inflows (current UGX, microenterprise programs)	4,021		13483.000**	6747.000	(6736.000, 20230.000)
Medium term (27 months, on average)	Graduation (UCT+)	Moderate	Sedlmayr et al. (2020)	Total productive cash inflows (current UGX, transfer programs)	2,916		-8453.000	11740.000	(-20193.000, 3287.000)
Child labour									
Long term (up to 9)	UCT+	Low	Avitabile et al. (2019)	Average number of working days per week	310		1.313**	0.593	(0.720, 1.906)
Long term (up to 5)	CCT	Moderate	Alam et al. (2011)	Labor force participation	27,748	0 to 1	-0.047**	0.020	(-0.068, -0.023)
Long term (up to 5)	CCT	Moderate	Alam et al. (2011)	Work intensity (days per month)	292	1 to 30	0.897	1.671	(-0.774, 2.568)
Long term (up to 10)	UCT	Moderate	Araujo et al. (2020)	Working	100,000	0 to 1	-0.005	0.005	(-0.010, 0.000)
Medium term (2 years)	UCT	Moderate	Filmer & Schady (2014)	Hours worked for no pay	2,973		-0.325	0.971	(-1.296, 0.646)
Medium term (2 years)	UCT	Moderate	Filmer & Schady (2014)	Hours worked for pay	2,973		-2.139*	1.252	(-3.391, -0.887)
Medium term (2 years)	UCT	Moderate	Filmer & Schady (2014)	ln(monthly earnings)	2,973		0.125	0.426	(0.301, 0.551)
Medium term (2 years)	UCT	Moderate	Filmer & Schady (2014)	ln(monthly earnings) only work for pay	2,973		0.045	0.108	(-0.063, 0.153)
Medium term (2 years)	UCT	Moderate	Filmer & Schady (2014)	Works for no pay	2,973	0 to 1	-0.008	0.028	(-0.036, 0.020)
Medium term (2 years)	UCT	Moderate	Filmer & Schady (2014)	Works for pay	2,973	0 to 1	0.003	0.026	(-0.023, 0.029)
Medium term (27 months, on average)	Graduation (UCT+)	Moderate	Sedlmayr et al. (2020)	Days worked last month (children, transfer programs)	7,889	1 to 30	0.498	2.147	(-1.649, 2.645)
Migration and geographic mobility									
Long term (up to 10)	CCT+	Low	Barham et al. (2018)	Permanent migration out of municipality	1,007	0 to 1	-0.019	0.028	(-0.047, 0.009)
Long term (up to 13)	CCT+	Low	Molina Millán et al. (2020)	Domestic migrant (men, 19-26 years old)	64,663	0 to 1	-0.037	0.025	(-0.062, -0.012)
Long term (up to 13)	CCT+	Low	Molina Millán et al. (2020)	Domestic migrant (women, 19-26 years old)	69,522	0 to 1	-0.031	0.060	(-0.091, 0.029)

Long term (up to 6)	CCT+	Medium	Rodriguez-Oreggia & Freije (2012)	Migration (3 years' exposure)	38,000		-0.142		
Long term (up to 6)	CCT+	Medium	Rodriguez-Oreggia & Freije (2012)	Migration (3-6 years' exposure)	38,000		0.136		
Long term (up to 6)	CCT+	Medium	Rodriguez-Oreggia & Freije (2012)	Migration (more than 6 years' exposure)	38,000		0.099		
Long term (up to 13)	CCT+	Moderate	Parker & Vogl (2018)	Cross-municipality migration (men)	301,140		0.072*	0.041	(0.031, 0.113)
Long term (up to 13)	CCT+	Moderate	Parker & Vogl (2018)	Cross-municipality migration (women)	358,339		0.062**	0.029	(0.033, 0.091)
Long term (up to 13)	CCT+	Moderate	Parker & Vogl (2018)	Cross-state migration (men)	301,140		0.074**	0.036	(0.038, 0.110)
Long term (up to 13)	CCT+	Moderate	Parker & Vogl (2018)	Cross-state migration (women)	358,339		0.063**	0.026	(0.037, 0.089)
Long term (up to 13)	CCT+	Moderate	Parker & Vogl (2018)	Inter-state migration (men)	301,140		-0.002	0.018	(-0.020, 0.016)
Long term (up to 13)	CCT+	Moderate	Parker & Vogl (2018)	Inter-state migration (women)	358,339		-0.001	0.016	(-0.017, 0.015)

Legend: *, ** and *** respectively indicate statistical significance at the 10%, 5% and 1% levels. 95% CI = Confidence intervals at 95% confidence level. Risk-of-bias attributed following the RoB 2 or ROBINS-I tools, for experimental and quasi-experimental evidence, respectively (Higgins et al., 2021). When reported differently, statistics were rounded to the nearest three decimals.

Table 30. Summary of treatment coefficients and risk-of-bias: Poverty outcome

<i>Sustainability measurement (years after end of exposure)</i>	<i>Program type</i>	<i>Risk-of-bias</i>	<i>Study</i>	<i>Variable</i>	<i>N</i>	<i>Range</i>	<i>Coefficient</i>	<i>SE</i>	<i>95% CI</i>
Expenditures and consumption									
Long term (up to 3)	UCT	Low	Haushofer & Shapiro (2018)	Non-durable expenditure (USD)	1,286		17.410	12.090	(5.320, 29.500)
Long term (9 years)	Enterprise UCT	Low	Blattman et al. (2020)	Current child expenditures (clothes and school)	2,086		0.411	2.784	(-2.373, 3.195)
Long term (9 years)	Enterprise UCT	Low	Blattman et al. (2020)	Current child expenditures per child	2,086		0.502	1.071	(-0.569, 1.573)
Long term (up to 10)	Graduation (UCT+)	Low	Banerjee et al. (2021)	Per capita consumption	880		0.579***	0.175	(0.404, 0.754)
Long term (up to 7)	Graduation (UCT+)	Moderate	Bandiera et al. (2017)	Household consumption expenditure (after 7 years)	25,176		281.000**	119.600	(161.400, 400.600)
Medium term (up to 2)	Graduation (UCT+)	Low	Banerjee et al. (2015)	Total per capita consumption, standardized			0.120***	0.024	(0.096, 0.144)
Medium term (2 years, on average)	Graduation (CCT+)	Low	Macours et al. (2012a)	Log total consumption per capita (cash only arm)	3,918	0 to 1	0.021	0.023	(-0.002, 0.044)
Medium term (2 years, on average)	Graduation (CCT+)	Low	Macours et al. (2012a)	Log total consumption per capita (productive grant arm)	3,918	0 to 1	0.083***	0.023	(0.060, 0.106)
Medium term (2 years, on average)	Graduation (CCT+)	Low	Macours et al. (2012a)	Log total consumption per capita (training arm)	3,918	0 to 1	0.028	0.022	(0.006, 0.050)
Medium term (2 years, on average)	Graduation (CCT+)	Low	Macours et al. (2012a)	Log total non-food consumption per capita (cash only arm)	3,918	0 to 1	0.032	0.039	(-0.007, 0.071)
Medium term (2 years, on average)	Graduation (CCT+)	Low	Macours et al. (2012a)	Log total non-food consumption per capita (productive grant arm)	3,918	0 to 1	0.086**	0.037	(0.049, 0.123)
Medium term (2 years, on average)	Graduation (CCT+)	Low	Macours et al. (2012a)	Log total non-food consumption per capita (training arm)	3,918	0 to 1	0.025	0.038	(-0.013, 0.063)
Medium term (6 months)	UCT	Moderate	Altındağ & O’Connell (2021)	Expenditure per capita	1,710		-0.080	0.040	(-0.120, -0.040)

Medium term (27 months, on average)	Graduation (UCT+)	Moderate	Sedlmayr et al. (2020)	Total consumption (current UGX, microenterprise programs)	4,906		26601.000**	11248.000	(15353.000, 37849.000)
Medium term (27 months, on average)	Graduation (UCT+)	Moderate	Sedlmayr et al. (2020)	Total consumption (current UGX, transfer programs)	3,545		-17141.000	19679.000	(-36820.000, 2538.000)
Medium term (up to 2)	Graduation (UCT+)	Serious	Sabates et al. (2019)	Parents' educational investment: proportion of children with school uniforms	1,029	0 to 1	0.278***	0.061	(0.217, 0.339)
Living standards									
Long term (up to 7)	Graduation (UCT+)	Moderate	Bandiera et al. (2017)	Below poverty line (after 4 years)	18,882	0 to 1	-0.084**	0.038	(-0.122, -0.046)
Long term (up to 10)	CCT+	Moderate	Borga & D'Ambrosio (2021)	Poverty incidence (k=33%)	38,274		0.004	0.035	(-0.031, 0.039)
Long term (up to 10)	CCT+	Moderate	Borga & D'Ambrosio (2021)	Poverty incidence (k=50%)	38,601		-0.211***	0.061	(-0.272, -0.150)
Long term (up to 10)	CCT+	Moderate	Borga & D'Ambrosio (2021)	Poverty intensity (k=33%)	38,318		-0.072***	0.025	(-0.097, -0.047)
Long term (up to 10)	CCT+	Moderate	Borga & D'Ambrosio (2021)	Poverty intensity (k=50%)	38,717		-0.162***	0.038	(-0.200, -0.124)
Long term (up to 13)	CCT+	Moderate	Parker & Vogl (2018)	Housing index (men)	294,969		0.146**	0.062	(0.084, 0.208)
Long term (up to 13)	CCT+	Moderate	Parker & Vogl (2018)	Housing index (women)	351,077		0.187***	0.072	(0.115, 0.259)
Medium term (6 months)	UCT	Moderate	Altındağ & O'Connell (2021)	Having changed accommodation in the past 6 months	1,022	0 to 1	0.010	0.040	(-0.030, 0.050)
Medium term (6 months)	UCT	Moderate	Altındağ & O'Connell (2021)	Having faced eviction recently	1,126	0 to 1	-0.010	0.020	(-0.030, 0.010)
Medium term (6 months)	UCT	Moderate	Altındağ & O'Connell (2021)	Having paid any rent recently	1,542	0 to 1	0.020	0.040	(-0.020, 0.060)
Medium term (6 months)	UCT	Moderate	Altındağ & O'Connell (2021)	Having spent savings to cope	1,367	0 to 1	0.020	0.040	(-0.020, 0.060)
Medium term (6 months)	UCT	Moderate	Altındağ & O'Connell (2021)	Livelihood coping	1,146		0.040	0.100	(-0.060, 0.140)
Medium term (6 months)	UCT	Moderate	Altındağ & O'Connell (2021)	Rent expenditure	1,786		-0.840	1.510	(-2.350, 0.670)
Medium term (2 years)	UCT	Moderate	Filmer & Schady (2014)	Ladder 1 (village/neighborhood)	2,973		0.020	0.083	(-0.063, 0.103)
Medium term (2 years)	UCT	Moderate	Filmer & Schady (2014)	Ladder 2 (Cambodia)	2,973		0.021	0.078	(-0.057, 0.099)
Medium term (18 months)	UCT+	Serious	Stoeffler et al. (2020)	Index of housing quality	786		0.262		

Legend: *, ** and *** respectively indicate statistical significance at the 10%, 5% and 1% levels. 95% CI = Confidence intervals at 95% confidence level. Risk-of-bias attributed following the RoB 2 or ROBINS-I tools, for experimental and quasi-experimental evidence, respectively (Higgins et al., 2021). When reported differently, statistics were rounded to the nearest three decimals.

Table 31. Summary of treatment coefficients and risk-of-bias: Savings, investment and production outcome

<i>Sustainability measurement (years after end of exposure)</i>	<i>Program type</i>	<i>Risk-of-bias</i>	<i>Study</i>	<i>Variable</i>	<i>N</i>	<i>Range</i>	<i>Coefficient</i>	<i>SE</i>	<i>95% CI</i>
Savings									
Long term (up to 7)	Graduation (UCT+)	Moderate	Bandiera et al. (2017)	Household cash savings (after 7 years)	26,437		21.430***	3.935	(17.495, 25.365)
Long term (up to 17)	CCT	Moderate	Hahn et al. (2018)	Having a bank account (rural cohort 1: 5 years of transfers)	10,425	0 to 1	0.058***	0.014	(0.044, 0.072)
Long term (up to 17)	CCT	Moderate	Hahn et al. (2018)	Having a bank account (rural cohort 2: 2 years of transfers)	10,425	0 to 1	0.062***	0.018	(0.044, 0.080)
Medium term (6 months)	UCT	Moderate	Altındağ & O'Connell (2021)	Having savings	1,617	0 to 1	-0.030	0.040	(-0.070, 0.010)
Medium term (27 months, on average)	Graduation (UCT+)	Moderate	Sedlmayr et al. (2020)	Savings (UGX per capita, transfer programs)	3,560		2227.000	1504.000	(723.000, 3731.000)
Medium term (18 months)	UCT+	Serious	Stoeffler et al. (2020)	Savings group (tontine) participation	786		0.093**	0.040	(0.053, 0.133)
Investment									
Long term (up to 10)	Graduation (UCT+)	Low	Banerjee et al. (2021)	Financial inclusion index	885		0.121	0.152	(-0.031, 0.273)
Long term (up to 10)	Graduation (UCT+)	Low	Banerjee et al. (2021)	Productive time use	1,229		0.148***	0.052	(0.096, 0.200)
Long term (up to 7)	Graduation (UCT+)	Moderate	Bandiera et al. (2017)	Household gives loans (after 4 years)	20,196	0 to 1	0.051***	0.010	(0.041, 0.061)
Long term (up to 7)	Graduation (UCT+)	Moderate	Bandiera et al. (2017)	Household receives loans (after 4 years)	20,196	0 to 1	0.110***	0.030	(0.080, 0.140)
Long term (up to 9)	CCT+	Moderate	Contreras Suarez & Cameron (2020)	Parents' discounting behaviour	3,065	0 to 1	-0.014	0.052	(-0.0654, 0.0382)
Medium term (up to 2)	Graduation (UCT+)	Low	Banerjee et al. (2015)	Financial inclusion index			0.212***	0.031	(0.181, 0.243)
Medium term (27 months, on average)	Graduation (UCT+)	Moderate	Sedlmayr et al. (2020)	Loans (UGX per capita, transfer programs)	3,560		-821.000	618.000	(-1439.000, -203.000)
Assets									
Long term (up to 3)	UCT	Low	Haushofer & Shapiro (2018)	Value of non-land assets (USD)	1,286		421.910***	57.120	(364.790, 479.030)

Long term (up to 10)	Graduation (UCT+)	Low	Banerjee et al. (2021)	Asset index	885		0.346***	0.121	(0.225, 0.467)
Long term (up to 7)	Graduation (UCT+)	Moderate	Bandiera et al. (2017)	Value of household assets (after 7 years)	26,437		27.090*	13.930	(13.160, 41.02)
Long term (up to 7)	Graduation (UCT+)	Moderate	Bandiera et al. (2017)	Value of productive assets (after 7 years)	26,435		662.000***	214.4	(447.600, 876.400)
Long term (up to 13)	CCT+	Moderate	Parker & Vogl (2018)	Durable goods index (men)	295,927		0.199*	0.103	(0.096, 0.302)
Long term (up to 13)	CCT+	Moderate	Parker & Vogl (2018)	Durable goods index (women)	352,337		71.000	94.000	(-23.000, 165.000)
Medium term (up to 2)	Graduation (UCT+)	Low	Banerjee et al. (2015)	Asset index			0.249***	0.024	(0.225, 0.273)
Medium term (2 years, on average)	Graduation (CCT+)	Low	Macours et al. (2012a)	Value business assets (cash only arm)	3,882		-92.680	99.900	(-192.580, 7.220)
Medium term (2 years, on average)	Graduation (CCT+)	Low	Macours et al. (2012a)	Value business assets (productive grant arm)	3,882		235.300***	81.600	(153.700, 316.900)
Medium term (2 years, on average)	Graduation (CCT+)	Low	Macours et al. (2012a)	Value business assets (training arm)	3,882		-17.800	90.200	(108.000, 72.400)
Medium term (2 years, on average)	Graduation (CCT+)	Low	Macours et al. (2012a)	Value livestock sold or self-consumed (cash only arm)	3,880		-2.519	40.900	(-43.419, 38.381)
Medium term (2 years, on average)	Graduation (CCT+)	Low	Macours et al. (2012a)	Value livestock sold or self-consumed (productive grant arm)	3,880		221.800***	46.100	(175.700, 267.900)
Medium term (2 years, on average)	Graduation (CCT+)	Low	Macours et al. (2012a)	Value livestock sold or self-consumed (training arm)	3,880		-33.570	38.500	(-72.070, 4.930)
Medium term (up to 2)	Graduation (UCT+)	Serious	Sabates-Wheeler et al. (2018)	Tropical livestock units (TLU)			0.260***	0.020	(0.240, 0.280)
Medium term (up to 2)	Graduation (UCT+)	Serious	Sabates-Wheeler et al. (2018)	Value of assets			9.430***	0.820	(8.610, 10.250)
Medium term (27 months, on average)	Graduation (UCT+)	Moderate	Sedlmayr et al. (2020)	Total net assets (current UGX, microenterprise programs)	3,796		16343.000***	5449.000	(10894.000, 21792.000)
Medium term (27 months, on average)	Graduation (UCT+)	Moderate	Sedlmayr et al. (2020)	Total net assets (current UGX, transfer programs)	2,773		15852.000*	8397.000	(7455.000, 24249.000)
Medium term (18 months)	UCT+	Serious	Stoeffler et al. (2020)	Assets owned	786		0.125		

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Medium term (18 months)	UCT+	Serious	Stoeffler et al. (2020)	Livestock (TLU)	786		0.379**		
Medium term (18 months)	UCT+	Serious	Stoeffler et al. (2020)	Value of livestock (FCFA)	786		73603.500**		

Legend: *, ** and *** respectively indicate statistical significance at the 10%, 5% and 1% levels. 95% CI = Confidence intervals at 95% confidence level. Risk-of-bias attributed following the RoB 2 or ROBINS-I tools, for experimental and quasi-experimental evidence, respectively (Higgins et al., 2021). When reported differently, statistics were rounded to the nearest three decimals.

Table 32. Summary of treatment coefficients and risk-of-bias: Empowerment outcome

<i>Sustainability measurement (years after end of exposure)</i>	<i>Program type</i>	<i>Risk-of-bias</i>	<i>Study</i>	<i>Variable</i>	<i>N</i>	<i>Range</i>	<i>Coefficient</i>	<i>SE</i>	<i>95% CI</i>
Early pregnancy and marriage									
Long term (9 years)	Enterprise UCT	Low	Blattman et al. (2020)	Mean age of children (0-15)	2,086		0.014	0.138	(-0.124, 0.152)
Long term (9 years)	Enterprise UCT	Low	Blattman et al. (2020)	Number of pregnancies 2007 or later	2,086		0.097	0.101	(-0.004, 0.198)
Long term (9 years)	Enterprise UCT	Low	Blattman et al. (2020)	Size of household	2,086		-0.127	0.162	(-0.289, 0.035)
Long term (up to 13)	CCT+	Low	Molina Millán et al. (2020)	Ever married (men, 19-26 years old)	64,663	0 to 1	0.030*	0.018	(0.012, 0.048)
Long term (up to 13)	CCT+	Low	Molina Millán et al. (2020)	Ever married (women, 19-26 years old)	69,522	0 to 1	-0.002	0.020	(-0.022, 0.018)
Long term (up to 13)	CCT+	Low	Molina Millán et al. (2020)	Household size (men, 19-26 years old)	64,663		0.069	0.154	(-0.085, 0.223)
Long term (up to 13)	CCT+	Low	Molina Millán et al. (2020)	Household size (women, 19-26 years old)	69,522		0.133	0.098	(0.035, 0.231)
Long term (up to 5)	CCT	Moderate	Alam et al. (2011)	Age at marriage	339		-0.151	0.388	(-0.539, 0.237)
Long term (up to 5)	CCT	Moderate	Alam et al. (2011)	Number of children	392		0.096	0.150	(-0.054, 0.246)
Long term (up to 5)	CCT	Moderate	Alam et al. (2011)	Probability of giving birth	392		-0.011	0.121	(-0.132, 0.110)
Long term (up to 5)	CCT	Moderate	Alam et al. (2011)	Probability of marriage	19,177		0.010	0.009	(0.001, 0.019)
Long term (up to 8)	CCT+	Moderate	Attanasio et al. (2021)	Teenage pregnancy (women)	80,600		-0.023**	0.008	(-0.031, -0.015)
Long term (up to 17)	CCT	Moderate	Hahn et al. (2018)	Age at first birth (rural cohort 1: 5 years of transfers)	22,397		0.476***	0.097	(0.379, 0.573)
Long term (up to 17)	CCT	Moderate	Hahn et al. (2018)	Age at first birth (rural cohort 2: 2 years of transfers)	22,397		0.304***	0.077	(0.227, 0.381)
Long term (up to 17)	CCT	Moderate	Hahn et al. (2018)	Age at first marriage (rural cohort 1: 5 years of transfers)	24,329		0.574***	0.082	(0.492, 0.656)
Long term (up to 17)	CCT	Moderate	Hahn et al. (2018)	Age at first marriage (rural cohort 2: 2 years of transfers)	24,329		0.340***	0.081	(0.259, 0.421)
Long term (up to 17)	CCT	Moderate	Hahn et al. (2018)	Desired number of children (rural cohort 1: 5 years of transfers)	23,958		-0.067***	0.014	(-0.081, -0.053)

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Long term (up to 17)	CCT	Moderate	Hahn et al. (2018)	Desired number of children (rural cohort 2: 2 years of transfers)	23,958		-0.049**	0.020	(-0.069, -0.029)
Long term (up to 17)	CCT	Moderate	Hahn et al. (2018)	Number of children (rural cohort 1: 5 years of transfers)	24,329		-0.285***	0.039	(-0.324, -0.246)
Long term (up to 17)	CCT	Moderate	Hahn et al. (2018)	Number of children (rural cohort 2: 2 years of transfers)	24,329		-0.195***	0.032	(-0.227, -0.163)
Medium term (2 years)	UCT and CCT	Low	Baird et al. (2019)	Age at first birth (CCT)	998		-0.144	0.136	(-0.280, -0.008)
Medium term (2 years)	UCT and CCT	Low	Baird et al. (2019)	Age at first birth (UCT)	998		0.001	0.168	(-0.167, 0.169)
Medium term (2 years)	UCT and CCT	Low	Baird et al. (2019)	Age first marriage (CCT)	821		-0.011	0.148	(-0.159, 0.137)
Medium term (2 years)	UCT and CCT	Low	Baird et al. (2019)	Age first marriage (UCT)	821		0.486**	0.200	(0.286, 0.686)
Medium term (2 years)	UCT and CCT	Low	Baird et al. (2019)	Desired fertility (CCT)	2,048		-0.072	0.064	(-0.136, -0.008)
Medium term (2 years)	UCT and CCT	Low	Baird et al. (2019)	Desired fertility (UCT)	2,048		-0.017	0.056	(-0.073, 0.039)
Medium term (2 years)	UCT and CCT	Low	Baird et al. (2019)	Ever married (CCT)	2,049	0 to 1	-0.035	0.027	(-0.062, -0.008)
Medium term (2 years)	UCT and CCT	Low	Baird et al. (2019)	Ever married (UCT)	2,049	0 to 1	-0.010	0.046	(-0.056, 0.036)
Medium term (2 years)	UCT and CCT	Low	Baird et al. (2019)	Ever pregnant (CCT)	2,049		-0.024	0.034	(-0.058, 0.010)
Medium term (2 years)	UCT and CCT	Low	Baird et al. (2019)	Ever pregnant (UCT)	2,049		-0.001	0.042	(-0.043, 0.041)
Medium term (2 years)	UCT and CCT	Low	Baird et al. (2019)	Number of live births (CCT)	2,049		0.020	0.036	(-0.016, 0.056)
Medium term (2 years)	UCT and CCT	Low	Baird et al. (2019)	Number of live births (UCT)	2,049		-0.024	0.046	(-0.070, 0.022)
Medium term (2 years)	UCT	Moderate	Filmer & Schady (2014)	Has children	2,973	0 to 1	0.001	0.016	(-0.015, 0.017)
Medium term (2 years)	UCT	Moderate	Filmer & Schady (2014)	Married	2,973	0 to 1	0.001	0.024	(-0.023, 0.025)
Decision-making power									
Long term (up to 17)	CCT	Moderate	Hahn et al. (2018)	Contraception observable by husband (rural cohort 1: 5 years of transfers)	24,329	0 to 1	0.027***	0.009	(0.018, 0.036)
Long term (up to 17)	CCT	Moderate	Hahn et al. (2018)	Contraception observable by husband (rural cohort 2: 2 years of transfers)	24,329	0 to 1	-0.005	0.011	(-0.016, 0.006)

Long term (up to 17)	CCT	Moderate	Hahn et al. (2018)	Use of contraception (rural cohort 1: 5 years of transfers)	24,329	0 to 1	-0.007	0.011	(-0.018, 0.004)
Long term (up to 17)	CCT	Moderate	Hahn et al. (2018)	Use of contraception (rural cohort 2: 2 years of transfers)	24,329	0 to 1	-0.013	0.013	(-0.026, 0.000)
Long term (up to 17)	CCT	Moderate	Hahn et al. (2018)	Women's empowerment (rural cohort 1: 5 years of transfers)	23,792		0.039*	0.021	(0.018, 0.060)
Long term (up to 17)	CCT	Moderate	Hahn et al. (2018)	Women's empowerment (rural cohort 2: 2 years of transfers)	23,792		-0.029	0.030	(-0.059, 0.001)
Medium term (6 to 10 months)	UCT+	Low	Roy et al. (2019)	Control over money (transfer only)	2,231		0.040	0.030	(0.010, 0.070)
Medium term (6 to 10 months)	UCT+	Low	Roy et al. (2019)	Control over money (transfer+BCC)	2,231		0.100***	0.030	(0.070, 0.130)
Medium term (up to 2)	Graduation (UCT+)	Low	Banerjee et al. (2015)	Women's empowerment index			0.022	0.025	(-0.003, 0.047)
Medium term (up to 2)	UCT+	Low	Özler et al. (2020)	Gender attitudes index	1,161		0.228***	0.081	(0.147, 0.309)
Medium term (up to 2)	UCT+	Low	Özler et al. (2020)	Life skills index	1,156		0.289***	0.094	(0.195, 0.383)
Abuse (physical and non-physical)									
Long term (up to 3)	UCT	Low	Haushofer & Shapiro (2018)	Female empowerment index	943		0.150*	0.080	(0.070, 0.230)
Medium term (6 to 10 months)	UCT+	Low	Roy et al. (2019)	Emotional or physical violence (transfer only)	2,231		0.020	0.040	(-0.020, 0.060)
Medium term (6 to 10 months)	UCT+	Low	Roy et al. (2019)	Emotional or physical violence (transfer+BCC)	2,231		-0.040	0.040	(-0.080, 0.000)
Medium term (6 to 10 months)	UCT+	Low	Roy et al. (2019)	Emotional violence (transfer only)	2,231		0.030	0.040	(-0.010, 0.070)
Medium term (6 to 10 months)	UCT+	Low	Roy et al. (2019)	Emotional violence (transfer+BCC)	2,231		-0.020	0.040	(-0.060, 0.020)
Medium term (6 to 10 months)	UCT+	Low	Roy et al. (2019)	Physical violence (transfer only)	2,231		0.000	0.020	(-0.020, 0.020)
Medium term (6 to 10 months)	UCT+	Low	Roy et al. (2019)	Physical violence (transfer+BCC)	2,231		-0.070**	0.030	(-0.110, -0.040)

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Medium term (up to 2)	UCT+	Low	Özler et al. (2020)	Sexual and physical violence index	1,175		-0.031	0.060	(-0.091, 0.029)
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Legend: *, ** and *** respectively indicate statistical significance at the 10%, 5% and 1% levels. 95% CI = Confidence intervals at 95% confidence level. Risk-of-bias attributed following the RoB 2 or ROBINS-I tools, for experimental and quasi-experimental evidence, respectively (Higgins et al., 2021). When reported differently, statistics were rounded to the nearest three decimals.

Table 33. Summary of treatment coefficients and risk-of-bias: Social capital and agency outcome

<i>Sustainability measurement (years after end of exposure)</i>	<i>Program type</i>	<i>Risk-of-bias</i>	<i>Study</i>	<i>Variable</i>	<i>N</i>	<i>Range</i>	<i>Coefficient</i>	<i>SE</i>	<i>95% CI</i>
Long term (up to 8)	CCT+	Moderate	Attanasio et al. (2021)	Crime (men)	82,647		-0.027**	0.009	(-0.036, -0.018)
Medium term (up to 2)	Graduation (UCT+)	Low	Banerjee et al. (2015)	Political involvement index			0.064***	0.019	(0.045, 0.083)
Medium term (up to 2)	UCT+	Low	Özler et al. (2020)	Protective factors (social capital and gender norms)	1,052		0.099	0.106	(-0.007, 0.205)
Medium term (27 months, on average)	Graduation (UCT+)	Moderate	Sedlmayr et al. (2020)	Social conditions (current UGX, microenterprise programs)			0.088**	0.041	(0.047, 0.129)
Medium term (27 months, on average)	Graduation (UCT+)	Moderate	Sedlmayr et al. (2020)	Social conditions (current UGX, transfer programs)			-0.025	0.061	(-0.086, 0.036)

Legend: *, ** and *** respectively indicate statistical significance at the 10%, 5% and 1% levels. 95% CI = Confidence intervals at 95% confidence level. Risk-of-bias attributed following the RoB 2 or ROBINS-I tools, for experimental and quasi-experimental evidence, respectively (Higgins et al., 2021). When reported differently, statistics were rounded to the nearest three decimals.

Table 34. Revised Cochrane Risk-of-bias Tool for Randomized Trials (RoB 2) quality assessment grid applied to the studies included by the review

	1. Risk of bias arising from the randomization process	2. Risk of bias due to deviations from the intended interventions	3. Risk of bias due to missing outcome data	4. Risk of bias in the measurement of the outcome	5. Risk of bias in the selection of the reported result	6. Has the relationship between researcher and participants been adequately considered?	Overall risk of bias
Aizer et al. (2016)	Low	Low	Low	Low	Low	Low	Low
Avitabile et al. (2019)	Low	Low	Low	Low	Low	Low	Low
Baird et al. (2019)	Low	Low	Low	Low	Low	Low	Low
Barham et al. (2018)	Low	Low	Low	Low	Low	Low	Low
Banerjee et al. (2015)	Low	Low	Low	Low	Low	Low	Low
Banerjee et al. (2021)	Low	Low	Low	Low	Low	Low	Low
Barrera-Osorio et al. (2019)	Low	Low	Low	Low	Low	Low	Low
Blattman et al. (2020)	Low	Low	Low	Low	Low	Low	Low
Fafchamps et al. (2014)	Low	Low	Low	Low	Low	Low	Low
de Mel et al. (2012)	Low	Low	Low	Low	Low	Low	Low
Haushofer & Shapiro (2018)	Low	Low	Low	Low	Low	Low	Low
Macours et al. (2012a)	Low	Low	Low	Low	Low	Low	Low
Macours et al. (2012b)	Low	Low	Low	Low	Low	Low	Low
Molina Millán et al. (2020)	Low	Low	Low	Low	Low	Low	Low
Oliveira & Chagas (2020)	Low	Low	Low	Low	Low	Low	Low
Özler et al. (2020)	Low	Low	Low	Low	Low	Low	Low
Price & Song (2016)	Low	Low	Low	Low	Low	Low	Low
Rodriguez-Oreggia & Freije (2012)	Medium	Low	Low	Low	Low	Low	Medium
Roy et al. (2019)	Low	Low	Low	Low	Low	Low	Low

Notes: the final score was assigned through algorithm summarizing responses given to sub-questions.

Table 35. Risk Of Bias In Non-randomized Studies – of Interventions (ROBINS-I) quality assessment grid applied to the studies included by the review

	1. Bias due to confounding	2. Bias in selection of participants to the study	3. Bias in classification of interventions	4. Bias due to deviations from intended interventions	5. Bias due to missing data	6. Bias in measurement of outcomes	7. Bias in selection of the reported result	Overall risk of bias
Alam et al. (2011)	Low	Low	Low	Low	Moderate	Low	Low	Moderate
Altındağ & O'Connell (2021)	Low	Moderate	Low	Low	Low	Moderate	Moderate	Moderate
Araujo et al. (2020)	Low	Low	Low	Low	Moderate	Low	Moderate	Moderate
Attanasio et al. (2021)	Low	Moderate	Low	Low	Low	Moderate	Moderate	Moderate
Baez & Camacho (2011)	Low	Moderate	Low	Low	Moderate	Low	Low	Moderate
Bandiera et al. (2017)	Low	Low	Low	Low	Moderate	Low	Low	Moderate
Borga & D'Ambrosio (2021)	Low	Low	Low	Low	Low	Moderate	Moderate	Moderate
Contreras Suarez & Cameron (2020)	Low	Low	Low	Low	Low	Moderate	Moderate	Moderate
Duque et al. (2018)	Low	Moderate	Low	Low	Low	Moderate	Moderate	Moderate
Filmer & Schady (2014)	Low	Moderate	Low	Moderate	Low	Moderate	Low	Moderate
Hahn et al. (2018)	Low	Moderate	Low	Moderate	Low	Moderate	Low	Moderate
Ham & Michelson (2018)	Low	Moderate	Low	Low	Low	Moderate	Low	Moderate
Kugler & Rojas (2018)	Low	Moderate	Low	Low	Serious	Moderate	Low	Serious
Neidhöfer and Niño-Zarazúa (2019)	Low	Moderate	Low	Low	Low	Moderate	Moderate	Moderate
Parker & Vogl (2018)	Low	Moderate	Low	Low	Low	Moderate	Low	Moderate
Sabates et al. (2019)	Low	Low	Moderate	Low	Low	Moderate	Serious	Serious
Sabates-Wheeler et al. (2018)	Moderate	Low	Moderate	Moderate	Low	Moderate	Serious	Serious
Sedlmayr et al. (2020)	Low	Low	Low	Low	Low	Moderate	Low	Moderate
Stoeffler et al. (2020)	Low	Low	Low	Low	Moderate	Low	Moderate	Serious

Notes: the final score was assigned through algorithm summarizing responses given to sub-questions.

CHAPTER 3

METHODOLOGY

1. INTRODUCTION

This chapter elaborates on the methodology which was adopted within the framework of this doctoral research project. First, we⁴⁸ briefly touch upon on the followed research design. Subsequently, we introduce the organization which implemented the cash transfer programs we analyzed, together with its main aims and standard approaches. We also discuss how the specific study areas were identified and selected. Then, we give an overview of the methodological approaches to data collection and analysis which guided our research. This allows us to clarify how, while inspired by a mixed-methods perspective, the project almost exclusively drew from quantitative and network data. Such detailed discussion on the followed research design and methodology explicates how these are closely linked to the analytical framework and major objectives of the overarching PhD study. Moreover, the chapter devotes substantial space to an explanation of the challenges faced by the research, and their threats to the validity and reliability of the drawn implications. Lastly, we engage in a critical reflection of the candidate's positionality and identity, and how they were taken into account in order to avoid the rise of systematic biases in the research.

⁴⁸ This chapter was single-authored by Filippo Grisolia. Moreover, the paragraphs on the 'researcher's positionality' should be intended as his personal reflections and stances on such matters. However, the PhD candidate would hereby like to thank his supervisors for the precious feedback – especially in terms of tentative content and structure, and in the validation of claims around the project's conceptualization, inception and methodology – which they provided with in the early drafting stages of the other sections of the chapter.

2. RESEARCH DESIGN

The characteristics of the study setting, most noticeably the relatively low number of program participants⁴⁹ and the non-randomized assignment to the treatment (the CT programs of interest are universal) made the implementation of an experimental study not possible (Gertler, Martinez, Premand, Rawlings, & Vermeersch, 2016; Glennerster & Takavarasha, 2013; Rossi, Lipsey, & Henry, 2018), and led us to the adoption of a quasi-experimental design for the research. In such design, the situation of the respondents before and after the intervention is compared to those of a purposefully ‘matched’ control group, or counterfactual (Gertler et al., 2016; OECD, n.d.), as similar as possible to the respective treatment community. Consequently, we collected data from two cash transfer study areas (Busibi and Tweyambe, introduced by the subsequent section) during, respectively, three and two waves of fieldwork (denominated on the basis of their timing with respect to the related CT program trajectory, from ‘baseline’ to ‘follow-up’; see **sub-section 4.1** and **Chapter 4**). **Figure 11** schematically reports the links between the main subjects of interest of this doctoral research, the conducted empirical analyses, and the five rounds of fieldwork which were carried out.

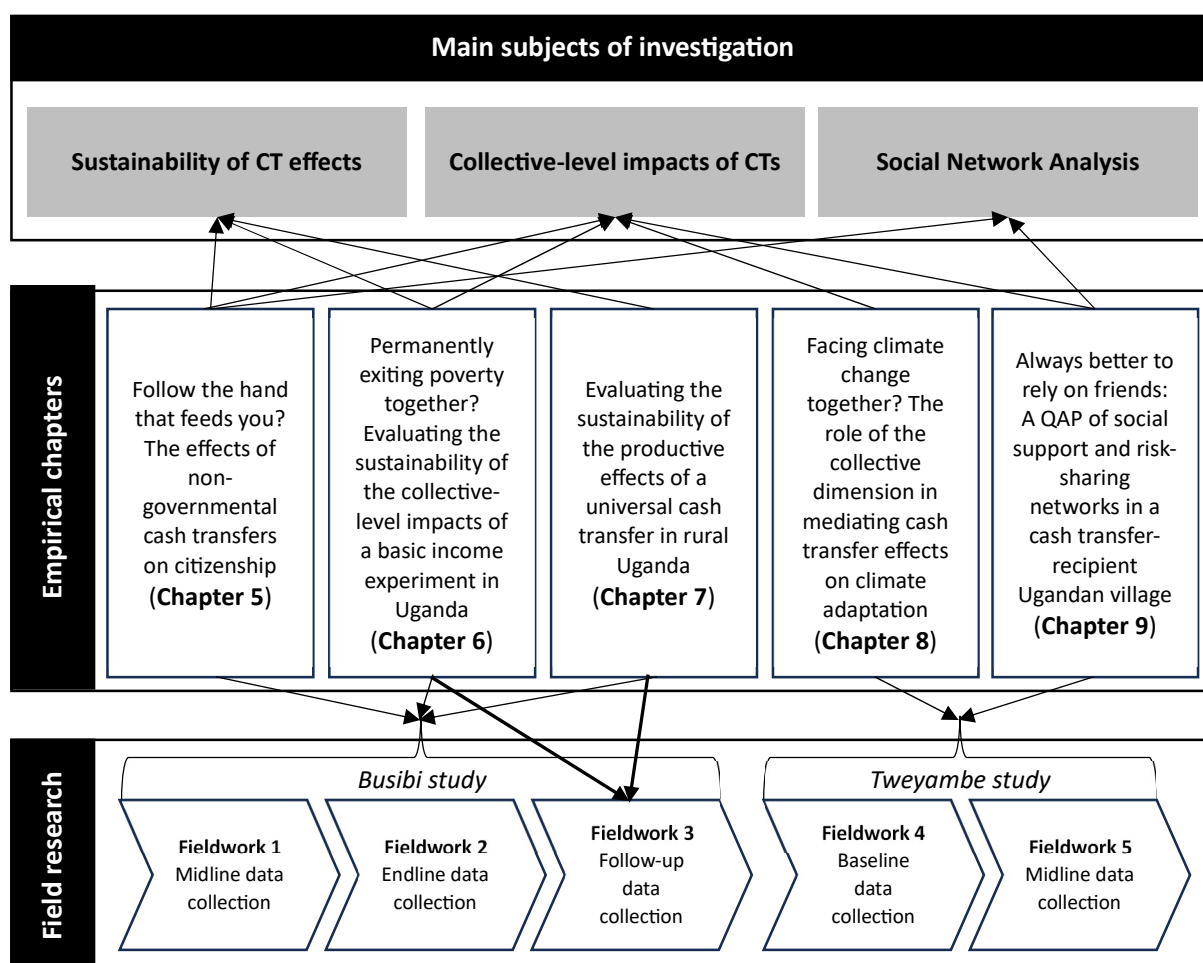


Figure 11. Schematic representation of the links between the main themes of the PhD, the conducted empirical analyses and the field research

⁴⁹ Keeping the number of observations relatively low was fundamental, though, to make full-village SNA analyses feasible, while taking into account time, scope, and resource restraints.

In addition to the thematic *foci* on the collective-level effects and the sustainability of CT impacts as a whole, the figure also incorporates the methodological tool of Social Network Analysis (SNA) as a main subject of investigation, given that – as already clarified by the Introduction chapter – this dissertation innovatively – and extensively – applied SNA to the evaluation of cash transfer effects. Most of the included empirical chapters focused on a combination of these overarching scopes guiding the research. Moreover, the accessibility of data gathered at separate points in time allowed us to study the main themes of interest using several different – and best suited – research strategies. In terms of data analysis, these included statistical techniques like matching and difference-in-differences (Gertler et al., 2016), whose application benefitted from our longitudinal set-up, alongside the already mentioned Social Network Analysis. As the remainder of the chapter will clarify, Fieldwork 3 was particularly important, and specifically designed, to investigate the sustainability of CT effects. We will present the implemented methodological approaches in more detail in **Section 4** of this chapter.

3. THE INTERVENTIONS

3.1 THE CT-IMPLEMENTING ORGANIZATION

This PhD research is part of a larger investigation project which already started – with Fieldworks 1 and 2 (see **sub-section 4.1**) – before the beginning of the doctoral study, and that involved various other scholars and researchers. This PhD study specifically followed the trajectory of two social assistance interventions implemented by Eight vzw^{50,51}. Eight vzw is a Belgian non-profit organization, founded in October 2015 (Eight vzw, 2021), which aims to reduce poverty and empower vulnerable individuals in marginalized areas. In order to do so, and following the agency-based approach which maintains that the poor know best themselves what they need (Sen, 1999), Eight decided to fulfil its poverty reduction goals by means of unconditional cash transfers. Since the inception of its pilot Busibi CT in 2017, the organization has granted monthly monetary transfer to all the adult inhabitants – and children, therefore resembling basic income interventions (Gentilini, Grosh, Rigolini, & Yemtsov, 2020) – of selected villages for fixed periods of two years. The individually transferred amounts are set to 30% of the average income of local lower-income households, making a difference for recipients while not allowing them to completely abandon their livelihoods (Davala, Jhabvala, Standing, & Mehta, 2015). Children are entitled to half of the amount destined to adults, through additional transfers handed over to their mothers or female caretakers⁵², when present.

Eight's innovative approach has drawn international attention and recognition, especially as a result of the documentary 'Crazy Money'⁵³, focusing on the Busibi cash transfer, which was featured in several

⁵⁰ vzw stands for *Vereniging Zonder Winstoogmerk*, the Dutch version of the acronym for non-profit associations in Belgium.

⁵¹ For additional information, visit www.eight.world.

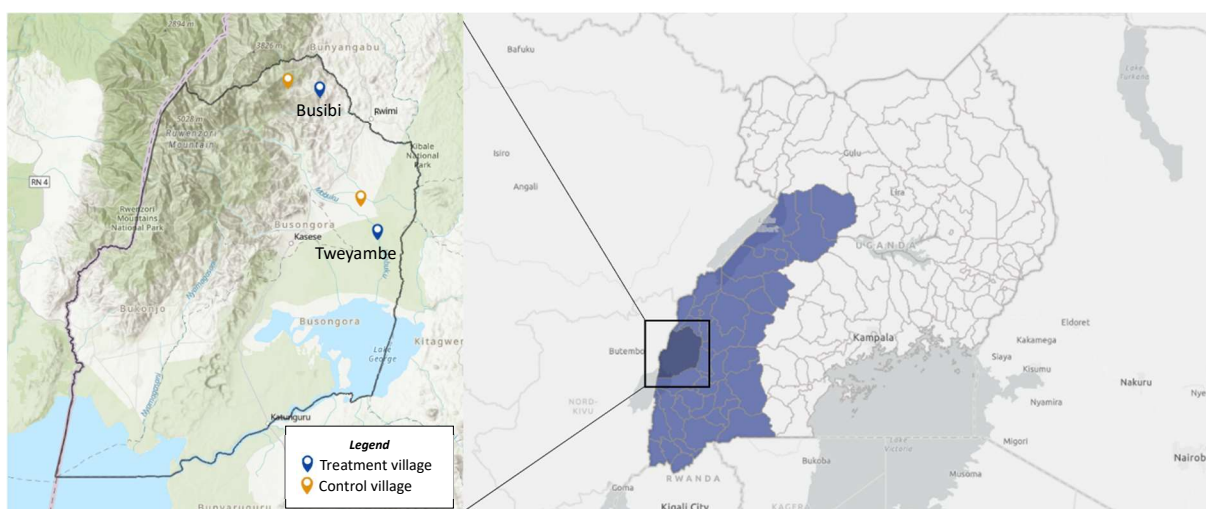
⁵² Such implementation choice was informed by the – generally valid – assumption that mothers/female caretakers would spend the money destined for their children more wisely than their male counterparts (Akresh, de Walque, & Kazianga, 2016).

⁵³ See www.crazymoney.world for details about the documentary.

film festivals worldwide (Polfliet, 2022). Four cash transfer programs have now been successfully completed in Uganda, while as many are still in progress in the country; Eight has recently also started operations in the DRC, with three CTs, of which one already ended. Whereas the projects' main objectives always related to poverty reduction and beneficiary empowerment, the cash transfers were also carried out with multiple secondary goals, among which, the intention to tackle climate change, and/or to spur sustainable and persisting livelihood improvements, in the medium-to-long run. The next few years of Eight's activities are projected to be characterized by a further scale-up in programs (and geographical presence, in terms of countries), and by an exploration of alternative approaches, including a 'Living Income' strategy (Eight vzw, n.d.).

3.2 IDENTIFICATION AND CHARACTERISTICS OF THE STUDY AREAS

As already briefly mentioned, this PhD research evaluates the trajectory of two of the cash transfer programs implemented by Eight vzw, so far: alongside the pilot CT conducted in Busibi, the project carried out in the village of Tweyambe was also followed. Both villages, together with their control counterparts⁵⁴, are located in the Kasese district in Western Uganda, not far from the city of Kasese (see **Figure 12**).



Source: Generated by the author in ArcGIS through UBOS data and primarily collected GPS coordinates

Figure 12. Geographical location of the study areas within the Kasese district in Western Uganda

The selection of Uganda, and in particular the Western region of the country, as study setting was highly influenced by personal and affective bonds between one of Eight's founders and such area. For individuating the recipient community of its pilot project, then, Eight adopted a number of sociodemographic, economic and categorical criteria: the beneficiary village would need to be severely poor, lack access to convenient healthcare and educational services, and be as isolated as possible – in order to avoid a rapid spreading of news about the cash disbursements, and therefore ensure

⁵⁴ The names of the counterfactual villages are hereby not disclosed, for the sake of privacy, following Eight vzw's policy on the issue.

comparability and a reliable estimation of causal program impacts (Gertler et al., 2016). Moreover, the implementing organization could initially only fund universal transfers for relatively little inhabited communities, with up to 150 residents between adults and children. Lastly, the absence of other major NGOs or charitable associations working in the village was also deemed necessary for maintaining an unbiased and uncontaminated experiment conduction.

The small rural village of Busibi, hosting around 60 adults in a semi-mountainous area, completely surrounded by a swamp and only reachable via one single dirt road (Eight vzw, 2021) – therefore highly isolated –, besides lacking electricity, improved water systems and any sort of school or hospital (Equal Right, 2017), was finally chosen as the location of the first CT implemented by Eight, which ran from January 2017 to January 2019. A village located nearby, yet being distant enough to guarantee the absence of jealousy and resentment patterns which could be caused by the rise of awareness of the ongoing CT program (Gertler et al., 2016), was selected as control group for the study. Furthermore, because of its close resemblance to Busibi (with the exception of a slightly larger population), the choice of such village as counterfactual enabled us to control for confounding factors during design, and therefore to increase the (internal) validity of the applied quasi-experimental research design (Shadish, Cook, & Campbell, 2002).

Similar criteria were also followed throughout the selection process for the second cash transfer intervention – the fifth in Uganda and, overall, the sixth managed by Eight (Eight vzw, n.d.) – under study. In this case, nevertheless, further complexity derived from the explicit aim – from both the research and the implementation sides – to investigate (and possibly foster) the climate change adaptation effects of CTs. Once again, the Kasese district proved to be a meaningful choice for individuating a suitable village, given that it is seriously affected by climate change-led disasters (in particular floods, mudslides, dry spell, and drought; (Berman, Quinn, & Paavola, 2015; Helgeson, Dietz, & Hochrainer-Stigler, 2013; Okonya, Syndikus, & Kroschel, 2013), as **Chapter 4** will confirm. The selection process resulted in the designation of the Tweyambe village, situated on elevated land 35km away from Kasese town, as treatment group for a cash transfer program running from September 2022 to September 2024. Notwithstanding its uplifted location, the village is particularly prone to floods, which exacerbate the poverty status of the community, whereby most inhabitants are farmers, 70% of houses are semi-permanent, and no substantial public service is available nearby. A major threat to the livelihoods of Tweyambe's residents is also posed by its proximity with Queen Elizabeth National Park, whose elephants often menace the village's crop yields and even the safety of individuals. A counterfactual for the experiment was ultimately found in a village located only 5km away from Tweyambe and characterized by a remarkably similar economic and demographic situation, even if considerably larger in population and served by a primary school (Eight vzw, 2022).

4. METHODOLOGICAL APPROACHES TO DATA COLLECTION AND ANALYSIS

4.1 DATA COLLECTION

A number of fieldwork rounds were conducted over the trajectory of the research, compatibly with the timeframes of the two cash transfer programs under study (see **Figure 13**).

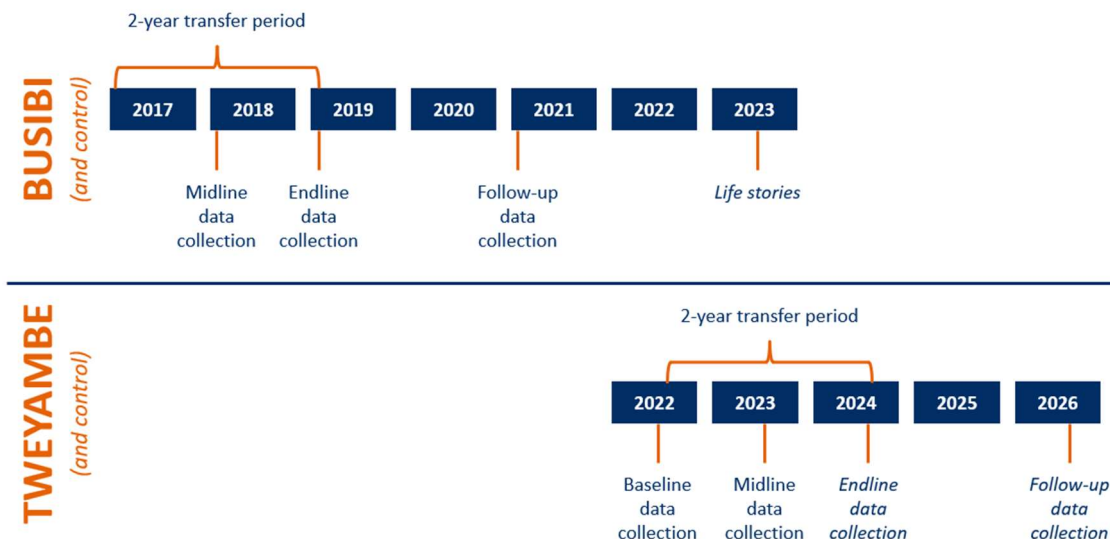


Figure 13. Timelines of selected CT programs' trajectory and data collection rounds

In total, five visits were paid to the field over the course of the research, of which three in the context of Busibi's program, and two for what concerns Tweyambe's (**Table 36**). The PhD researcher actively contributed to the last three rounds of data collection, after joining the project, but was only able to physically travel to Kasese during Fieldwork 4, because of COVID-19. Whereas additional trips to the study context might have been planned, the doctoral candidate's stay was mostly aimed at getting acquainted with the research setting, making one in-person visit to Kasese sufficient for our purposes. Moreover, as the rest of the chapter will also elucidate, a frequent participation of the PhD researcher to the data collection activities – on top of being impossible because of his inability to speak the local language – was also avoided in order to prevent it from significantly influencing interviewee responses (Shadish et al., 2002; Steenkamp, De Jong, & Baumgartner, 2010).

The fieldworks were devoted to gathering both quantitative and qualitative data, following a mixed-methods approach. Nevertheless, as the next paragraphs and section will clarify, the research's analytical focus was mainly quantitative. Still, a few qualitative tools were employed for mapping and context positioning (i.e., focus group discussions) and pattern justification (key informant interviews) purposes. The abovementioned 'Crazy Money' documentary also represented a valuable instrument, which we resorted to throughout the whole duration of the doctoral project, to better understand the study context and the contingent events and mechanisms driving the quantitatively observed findings. Lastly, some aspects of the quantitatively-fed SNA analyses could be considered to return rather

qualitative insights around the impacts of the analyzed programs (Froehlich, Van Waes, & Schäfer, 2020).

Table 36. Overview of primary data collection methods employed during fieldwork visits

	<i>Busibi study</i>			<i>Tweyambe study</i>	
	Fieldwork 1 Midline Jan 2018	Fieldwork 2 Endline Jan 2019	Fieldwork 3 Follow-up Jan 2021	Fieldwork 4 Baseline Jun-Jul 2022	Fieldwork 5 Midline Jun-Jul 2023
Quantitative data collection					
Structured questionnaires					
GPS coordinates					
Qualitative data collection					
Focus group discussions					
Key informant interviews					
Field observation and pictures					
Documentary 'Crazy Money'					

4.1.1 QUANTITATIVE DATA COLLECTION

Most of the performed analyses were therefore based on information collected through *structured questionnaires*, administered at all described fieldwork rounds⁵⁵. In Busibi (and its control village⁵⁶)'s case, the surveys covered a wide variety of topics and outcomes, spanning (among others) labour, investment, health, expenditures, resilience, empowerment, networks⁵⁷ and, most importantly, collective-level outcomes. The extensivity and comprehensiveness of the individually administered questionnaire was tailored to and differentiated by recipient characteristics. More specifically, a 'long' survey, containing all of the drafted inquiries, was typically dispensed to the largest CT recipient in each household⁵⁸ – when present –, together with a 'children' poll, whereby each child's individual profile, in terms of educational attainment, health and nutrition status, labour, and overall life satisfaction, would need to be filled. All the other adults would respond to a 'short' version of the questionnaire, comprising its most important queries only. The surveys also included several 'recall' questions (Nimon, Zigarmi, & Allen, 2011; Pratt, McGuigan, & Katzev, 2000), which asked interviewees to either reconstruct a past situation of theirs, or to self-assess their current circumstances, on a variety of selected outcomes, with respect to before CT inception (in the treatment group) or before the first round of data collection (in the control group). During Fieldwork 3 which, conducted two years after the finalization of Busibi's transfers, was explicitly aimed at evaluating the sustainability (OECD, 2021)

⁵⁵ The complete questionnaires are available upon request.

⁵⁶ Treatment and control surveys were virtually identical, with the exception of a few CT-specific questions.

⁵⁷ Each round's survey featured a network section, aimed at gathering *egonetwork* (Wasserman & Faust, 1994) information – namely asking every respondent to individually name all people, living inside or outside their village, whom they had a certain link to – which could then be used to reconstruct the full network of the village with respect to the inquired connection type. See **Table 39** for additional details on the network data collection procedure.

⁵⁸ In most cases, this would be the female HH head, given that – when present –, she would also be receiving the transfers destined to eventual children living in the household. In the control village, the long survey respondents were generally female HH heads.

of its CT's effects (Grisolia, Dewachter, & Holvoet, 2023b), such retrospective inquiries were also adapted in an attempt to disentangle the influence of the COVID-19 pandemic from the overall observed impacts (and their sustainability).

For Tweyambe (and its control village)'s study, the administered surveys, while heavily inspired by those used in previous fieldwork rounds, were shortened and reworked, after a thorough literature review, in order to include more numerous and appropriate inquiries in investigating collective-level outcomes (Afrobarometer, 2021; Grootaert & Van Bastelar, 2002; Paul, Weinthal, Bellemare, & Jeuland, 2016; Pavanello, Watson, Onyango-Ouma, & Bukuluki, 2016; Valli, Peterman, & Hidrobo, 2019). Moreover, the resilience section of the questionnaire was also complemented with further queries on climate change adaptation, tailored to the specific study setting (Asfaw, Davis, & Dewbre, 2011; Berman et al., 2015; Helgeson et al., 2013; Heltberg, Oviedo, & Talukdar, 2015; Hisali, Birungi, & Buyinza, 2011; Okonya et al., 2013; Yaméogo, Fonta, & Wünscher, 2018). In this case, only one version of the poll was prepared, and no children survey was dispensed to respondents. Alongside the already completed baseline and midline fieldwork visits, further (quantitative) data collection rounds are forecasted to integrate and validate the trends observed so far in Tweyambe's study.

Table 37. Number of observations and attrition rates by study area and data collection round

		Population size (adults)	No. interviews	Non-response	Response rate	Attrition rate (with respect to previous round)
Busibi	Midline	63	55	8	87.30%	
	Endline	64	57	7	89.06%	9.09%
	Follow-up	70	64	6	91.43%	4.69%
	<i>Total</i>	<i>197</i>	<i>176</i>	<i>21</i>	<i>89.34%</i>	
Control village (Busibi)	Midline	103	71	32	68.93%	
	Endline	96	83	13	86.46%	14.08%
	Follow-up	92	88	4	95.65%	4.82%
	<i>Total</i>	<i>291</i>	<i>242</i>	<i>49</i>	<i>83.16%</i>	
Tweyambe	Baseline	138	101	37	73.19%	
	Midline	145	139	6	95.86%	5.94%
	<i>Total</i>	<i>283</i>	<i>240</i>	<i>43</i>	<i>84.81%</i>	
Control village (Tweyambe)	Baseline	181	172	9	95.03%	
	Midline	179	160	19	89.39%	5.81%
	<i>Total</i>	<i>360</i>	<i>332</i>	<i>28</i>	<i>92.22%</i>	

The targeted respondents for the individual structured surveys were all residents of the treatment and control villages aged 18 and above. As outlined by **Table 37**, satisfactory response rates – almost always above 80% of the adult population size – were obtained in virtually all settings and fieldwork rounds. Non-responses were typically due to sickness status, unreachability, death or, more rarely, refusal to be interviewed. The latter case applied, in a number of occasions, because some husbands would not let their wives be surveyed alone. Tenacious attempts were given at re-interviewing all the individuals surveyed at the respective first round, even tracking those who had left their communities via

telephone (Thomas, Frankenberg, & Smith, 2001), when necessary and feasible – at least in the treatment villages. Such efforts allowed to limit attrition rates, with respect to the precedent round, as much as possible, reaching a standard comparable to those of other investigations with young adults in rural Africa (Baird, Hicks, Kremer, & Miguel, 2016; Blattman, Fiala, & Martinez, 2020). The (targeted) population size of each village varies with time as individuals turn 18, pass away, permanently leave the village, or are discontinued from CT programs.

Regarding the survey data collection procedure, we first approached the Local Government (LG) officials at different levels to gain permission to proceed with the planned research activities, alongside presenting relevant documents (Memoranda of Understanding between Eight and the Kasese district, ethical approval statements from both Uganda and Belgium⁵⁹). We could then reach out to the village chairpersons, who would introduce the research team to the village inhabitants and allow us to verify and update the household mapping lists. The data collection phase would then commence with the face-to-face structured interviews conducted at respondents' homestead, or anywhere else more convenient to the interviewee. The surveys, conducted by teams of experienced and trained⁶⁰ local research assistants (from Mbarara University of Science and Technology, and Uganda Christian University), were initially administered in paper form and, since Fieldwork 3, digitally and in a tablet-assisted manner through Qualtrics. The surveys from Busibi's study were instantly translated from English to a common local language (Rutooro) by the research assistants when administering them. The questionnaires of Fieldworks 4 and 5 were directly delivered in Rutooro, which might increase unbiasedness and reliability in the gathered answers (Behr & Shishido, 2016). Upon survey completion, the responses were also immediately consultable in English, given that versions of the questionnaire in both languages were uploaded to Qualtrics. Before the start of each interview, we required informed oral consent, in compliance with the ethics approval documents. In line with the principles of the signed research ethics files, we also had research assistants, and every other researcher involved in the project, sign a confidentiality agreement. Lastly, in order to compensate for their time, survey respondents received 5,000 UGX⁶¹. After each fieldwork, the collected data were stored on password-protected repositories of the University of Antwerp, before being anonymized, cleaned, merged, and converted into databases suitable for analysis in Stata, R and UCINET.

⁵⁹ Ethical approval was granted for the whole study by the Ethics Committee for the Social Sciences and Humanities at the University of Antwerp, file SHW_20_71. Clearance was also given by Ugandan authorities through the local double-stage procedure, with a first ethical approval at the regional level (file UCUREC-2022-324) and a second one valid at the national level (file SS1467ES).

⁶⁰ Before the start of each data collection round, a few days of 'training' were organized, so that the PhD candidate could properly instruct the research assistants on how to administer the questionnaires, how to tackle potentially arising issues, but also with the aim of double checking the appropriateness, coherence and functioning of the survey tools.

⁶¹ The interview fee of 5,000 UGX, roughly equivalent to 1.2€, was established after consultation with local research assistants.

4.1.2 QUALITATIVE DATA COLLECTION

A similar procedure was followed in the gathering of qualitative information which nevertheless, as already mentioned, mostly served to contextualize the study setting and some of the trends and patterns observed in the treatment villages after the inception of CT programs.

For instance, in the context of Tweyambe's study, one *focus group discussion (FGD)* was conducted at baseline in both the treatment and control villages. Such semi-structured investigation tool was employed with the aim of investigating the pre-intervention situation with regards to collective-level outcomes, with a focus on collective action – especially in relation to climate disasters. Moreover, a Word Association Test (WAT) was also proposed, asking people to associate other concepts to the idea of 'money' (Ross et al., 2007). Particular attention was devoted to the key elements affecting the success of a FGD, such as the clear definition of research questions, a careful scrutiny of non-verbal cues, and avoidance of 'leading' interventions (Ansay, Perkins, & Nelson, 2004; Morgan, 2001; Rennenkamp & Nall, 2000). The participating group size for each discussion was of eight people with heterogeneous profiles, ensuring the representation of different genders, age groups, and leadership statuses. The FGDs, conducted in Rutooro, were moderated by the leader of the research assistance team, with the other team members taking notes and the PhD researcher observing the non-verbal communication of villagers. Given the lengthy duration, over one hour, of the activities, each participant received 10,000 UGX. The focus groups – and interviewees' related informal oral consent – were audio recorded, to be later transcribed and translated in English by the local research team.

A few informal *key-informant interviews (KIIs)* with research assistants, village leaders, and Eight vzw's staff were also conducted at different points in the trajectory of the project, especially in order to gain additional insights into the pathways and contingent events driving some of the observed CT effects in Busibi (in particular, see **Chapter 5**) and Tweyambe (**Chapter 8**). In addition, *field observation* was done at each fieldwork round (and directly by the PhD candidate during Fieldwork 3) in order to enhance the researchers' understanding of the study environment (Baker, 2006). *Pictures of the field* were also primarily collected during the intervention activities (see **Figures 14-18** in the **Appendix**). Moreover, as already hinted at, the Busibi-centered '*Crazy Money*' documentary film, released in the Spring of 2020 (Eight vzw, 2021), provided us with further context- and program-specific details which informed the drafting process of every empirical chapter focusing on the Busibi CT. Finally, for the sake of transparency, it should be added that a collaborator of the larger abovementioned research project also collected life *history interviews* (Camfield & Roelen, 2012; Vancluysen, 2022) in Busibi in 2023, over

four years after the cessation of its cash transfer, with the objective of further assessing the sustainability of the previously detected impacts, especially on empowerment and resilience proxies⁶².

4.2 DATA ANALYSIS

As outlined by **Table 38**, multiple approaches were used to analyze the data gathered throughout the fieldwork visits. Alongside descriptive and inferential statistics, we conducted a number of impact evaluation analyses.

The choice of the exact impact evaluation tool to be applied was relatively complicated in the context of Busibi's study (see **Table 40** in the **Appendix**), given the absence of a baseline measurement – imputable to the late involvement of the researchers into the project. Such lack of pre-program data caused, for instance, the immediate exclusion of the possibility to resort to difference-in-differences (Gertler et al., 2016; Rossi et al., 2018). Baseline information would have also been necessary to develop the eligibility index that is a requisite to perform regression discontinuity design techniques (Imbens & Lemieux, 2008), which were therefore also discarded. The only available option proved to be represented by matching impact evaluation (Gertler et al., 2016; Handa & Maluccio, 2010; Michalopoulos, Bloom, & Hill, 2004), but the widely used Propensity Score Matching (PSM) technique, inappropriate in the case of universal CTs (Gertler et al., 2016; Heinrich, Maffioli, & Vázquez, 2010; Pirracchio, Resche-Rigon, & Chevret, 2012), could not be implemented. We instead relied, for robustness-checking purposes, to two alternative *matching methods* (Iacus, King, & Porro, 2012; King & Nielsen, 2019; Ripollone, Huybrechts, Rothman, Ferguson, & Franklin, 2020): Coarsened Exact Matching (CEM) and Mahalanobis Distance Matching (MDM), which were applied by **Chapters 5, 6** and **7**. On the contrary, given the availability of baseline data from Tweyambe, a *difference-in-differences* impact estimation technique – relying on the validity of the equal trends assumption (Gertler et al., 2016; Rossi et al., 2018; Stock & Watson, 2020) – was utilized by **Chapter 8**, whereby we also conducted a *Causal Mediation Analysis* (Baron & Kenny, 1986; Imai, Keele, & Tingley, 2010) to investigate the mediation of indirect collective-level impacts on CT climate adaptation effects. In this regards, it should be noted that the equal/common/parallel trends assumption – namely, the hypothesis that no time-varying differences exist between the treatment and comparison groups (Gertler et al., 2016) is a particularly strong supposition. However, the lack of pre-baseline data from Tweyambe, and the impossibility to conduct 'placebo' tests (i.e., difference-in-differences estimations on outcomes not affected by the intervention, such as natural events, access to services, or the presence of INGOs; Gertler et al., 2016; Pace, Sebastian, Daidone, Prifti, & Davis, 2022) given the absence of suitable variables in the dataset, did not enable us to verify the validity of the assumption, which is therefore

⁶² The project collaborator summarized some of the findings of the life history data collection in her master thesis, titled 'Examining the sustainable effects of cash transfers on gender dynamics, empowerment, and resilience: evidence from rural Uganda' (Mutua, 2023).

simply presumed to hold. At the same time, it could be pointed out that it is never possible to prove the equal trends assumption, but just to assess its validity (Gertler et al., 2016; Stock & Watson, 2020). In this sense, we nevertheless claim to be fairly confident of its plausibility in Tweyambe's study, given the high comparability of the two groups, and their similarities due to a relatively close geographical location and contextual situation.

As we examine treatment impacts on a large set of outcomes – from 8 in **Chapter 5** to 36 (at follow-up) in **Chapter 6**, and 35 in **Chapter 8** – we should acknowledge that the probability of committing at least one Type I error (i.e., mistakenly rejecting the null hypothesis) is high, given that it increases with the number of tested hypotheses (List, Shaikh, & Xu, 2019). Issues of multiple hypothesis testing could therefore arise. In order to account for such potential problems, we implemented several multiple-test procedures, allowing to correct the significance of individual coefficients (adjusted p-values, or q-values) in each of the (non-network) empirical **Chapters 5-8**. Traditionally, researchers have been controlling for either the family-wise error rate (FWER) or false discovery rate (FDR), which represent different conceptualizations of Type I error (List et al., 2019). In this study, we first apply the Bonferroni-Holm algorithm⁶³ (Holm, 1979) to check for FWER, and then the Benjamini-Hochberg step-up method⁶⁴ (Benjamini & Hochberg, 1995; Simes, 1986) to investigate the likelihood of FDR. The Benjamini-Hochberg procedure is, in this sense, to be preferred, because it bears more power to detect real differences, besides being less conservative than FWER methods, by allowing correlations across test statistics (Daidone, Davis, Handa, & Winters, 2019). Bonferroni's assumption of independence is in fact unlikely to hold in our case, where many variables are reasonably highly correlated, especially within the same outcome group. For robustness-checking, nevertheless, the Benjamini-Hochberg rule was applied both individually, and by outcome family. Furthermore, because of their cross-sectional nature, multiple hypothesis testing was necessarily conducted, in the 'matching' chapters, by survey round, alongside by evaluation tool (MDM and CEM). In addition, we adopted a network approach, drawing upon several *Social Network Analysis (SNA)* tools, to analyze the survey data about respondents' social relations. Within this investigation, we have widely explored the rich analytical framework of SNA, through the resort to network visualization, descriptive network- and actor-level metrics (e.g., centralization, reciprocity, average distance, among others), hypothesis testing, and inferential network analysis (Wasserman & Faust, 1994). Employed inferential SNA tools included Exponential Random Graph Models (ERGMs) and RSiena in **Chapter 5**, and Quadratic Assignment Procedures (QAP) in **Chapter 9**. **Table 39** elicits the types of network connections operationalized in our research: social support, financial support, and 'call to action' in Busibi's surveys; social support and material

⁶³ The Bonferroni method multiplies the individual p-value by the number of tested hypotheses (with an upward limit set to 1). The Holm correction to the algorithm is considered more powerful by adapting itself to the number of assumptions which sequentially remain to check (Holm, 1979).

⁶⁴ The Benjamini-Hochberg rule proceeds, after having sorted the considered p-values, to comparing the individual score with a sequentially adjusted significance level (Benjamini & Hochberg, 1995; Simes, 1986).

support/risk-sharing ties in Tweyambe's questionnaires. As previously mentioned, a few chapters also relied on information acquired through informal key-informant interviews and/or the Crazy Money documentary to contextualize and clarify some of the observed impacts. More details on the exact procedures which were followed are presented in the respective empirical chapters.

Table 38. Overview of research questions and adopted data analysis methods for each of the empirical chapters

Chapter	Main research questions	Data sources	Data analysis
Chapter 5: Follow the hand that feeds you? The effects of non-governmental cash transfers on citizenship	<ul style="list-style-type: none"> • Did the Busibi CT yield any (sustained) effects on citizenship? • Did the cash transfer impact state-citizen relations inside and beyond the village? 	<ul style="list-style-type: none"> • Quantitative: 3 rounds of survey data from Busibi and its control village • Network: 3 rounds of data from Busibi • Qualitative: key-informant interviews, 'Crazy Money' documentary 	<ul style="list-style-type: none"> • Matching: CEM and MDM • SNA: visual and descriptive network analysis, ERGM, Rsiena
Chapter 6: Permanently exiting poverty together? Evaluating the sustainability of the collective-level impacts of a basic income experiment in Uganda	<ul style="list-style-type: none"> • Did the Busibi CT yield any collective-level effects? • If so, did these impacts persist after the end of the program? 	<ul style="list-style-type: none"> • Quantitative: 3 rounds of survey data from Busibi and its control village • Qualitative: 'Crazy Money' documentary 	<ul style="list-style-type: none"> • Matching: CEM and MDM
Chapter 7: 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?	<ul style="list-style-type: none"> • Did the Busibi CT yield any productive-level effects? • If so, did these impacts persist after the end of the program? 	<ul style="list-style-type: none"> • Quantitative: 3 rounds of survey data from Busibi and its control village • Qualitative: 'Crazy Money' documentary 	<ul style="list-style-type: none"> • Matching: CEM and MDM
Chapter 8: Facing climate change together? The role of the collective dimension in mediating cash transfer effects on climate adaptation	<ul style="list-style-type: none"> • Did the Tweyambe CT yield any (midline) effects on (perceived) climate resilience and adaptation? • To what extent were eventual impacts mediated by the effects measured on collective-level outcomes? 	<ul style="list-style-type: none"> • Quantitative: 2 rounds of survey data from Tweyambe and its control village • Qualitative: key-informant interviews 	<ul style="list-style-type: none"> • DiD • Causal Mediation Analysis
Chapter 9: Always better to rely on friends: A QAP of social support and risk-sharing networks in a cash transfer-recipient Ugandan village	<ul style="list-style-type: none"> • Did the Tweyambe CT yield any (midline) effects on social support and material support/risk-sharing networks? • Could network structure patterns be detected in recipients' networks? • Could a risk-sharing edge be predicted on the basis of an existing social support tie, and viceversa? 	Network: 2 rounds of data from Tweyambe	<ul style="list-style-type: none"> • SNA: visual and descriptive network analysis, QAP

Table 39. Operationalization of network ties

Edge type	Operationalization	Edge attribute
Social support	<p>From time to time, people discuss important matters with other people. Looking back over the last year, I'd like to know the people you talked to about matters that are important to you. Can you think of anyone?</p> <ul style="list-style-type: none"> ➤ During the last year, how often did you talk to this person about matters that are important to you? 	<p>1: never 2: just once 3: every once in a while 4: every month 5: every week 6: every day 7: I prefer not to answer</p>
Financial support	<p>From time to time, we need help from other people for instance someone who can give or lend you money to pay school fees. In the last year, who did you get such financial support from?</p> <ul style="list-style-type: none"> ➤ How much financial support did you receive from this person during the last year? 	<p>1: less than 25.000 UGX 2: 25.000 < x < 50.000 UGX 3: 50.001 < x < 250.000 UGX 4: 250.001 < x < 500.000 UGX 5: 500.001 < x < 750.000 UGX 6: 750.001 < x < 1.000.000 UGX 7: 1.000.001 < x < 2.000.000 UGX 8: more than 2.000.000 UGX 9: only in-kind support</p>
Call to action/action to change	<p>From time to time you may experience problems in your village that you want to see resolved. During the last year, who did you approach to try to 'change things for the better' in your community (e.g., improve service delivery of health facilities, school quality, etc.)? Can you think of anyone you approached to have an issue resolved? You can name family, friends, civil servants, politicians, persons from CBOs/NGOs, among others.</p> <ul style="list-style-type: none"> ➤ During the last year, how often did you approach to this person to change things for the better? 	<p>1: never 2: just once 3: every once in a while 4: every month 5: every week 6: every day 7: I prefer not to answer</p>
Material support/risk sharing	<p>Please give a list of people from inside or outside your village, who you can personally rely on for help in cash, in-kind or labour. In the last year, who did you receive such support from? (Henderson & Alam, 2022)</p> <ul style="list-style-type: none"> ➤ Which kind of material support did you receive from this person during the last year? 	<p>1: time/labour 2: money 3: in-kind (<i>multiple choice</i>)</p>

4.3 CHALLENGES AND LIMITATIONS

We encountered a series of challenges throughout the research stages of data collection and analysis, which have inevitably affected the design and findings of our study.

The first obstacle was represented by the *lack of baseline data from the Busibi study*, which we nevertheless suitably tackled both when collecting – through recall questions (Nimon et al., 2011; Pratt et al., 2000) – and analyzing – by appropriately resorting to quasi-experimental matching evaluation – data. As a result, we could estimate reliable treatment coefficients of program impact, given that Busibi had also been matched with a proper control village, before the inception of the first fieldwork.

Another main complication related to the *emergence of the COVID-19 pandemic*. Uganda was not an exception in terms of negative repercussions of COVID, and the government implemented very strict lockdown measures resulting in a severe economic and social crisis even in its rural areas (Kansiime et al., 2021). Such exceptional circumstances might have hampered the reliability of the conducted sustainability analyses in Busibi, given that the pandemic's hardest waves hit in between the endline and follow-up fieldworks. As already briefly mentioned, the inclusion of retrospective inquiries (Nimon et al., 2011; Pratt et al., 2000) in the follow-up surveys may have enabled us to (at least partially) disentangle the influence of COVID-19 from the computed treatment coefficients. Notwithstanding the pandemic, the comparability of the CT and control villages is claimed to have held regardless, given that COVID-19 did similarly affect the two communities, which are located relatively close to each other. As a result, it should be pointed out that, despite its negative consequences, the pandemic also allowed us to observe how the transfers helped (former) recipients to – successfully, in most cases – cope with such an unexpected shock (Grisolia et al., 2023b). At the same time, it should be reminded that COVID-19 did also yield repercussions on the data collection processes, on the one hand by preventing the PhD researcher to participate in-person to more fieldworks, and on the other hand by postponing the inception of Tweyambe's CT, making the gathering of endline data from such project impossible in the context of this doctoral research.

The third challenge arose from the *dependency on research assistants for data collection, translation, and interpretation*. As a matter of fact, insuperable language barriers derived from the PhD researcher's lack of knowledge of the local language (Rutooro) – or of any other Ugandan languages – and from the limited command of the English language which characterized the wide majority of the interviewees. As a consequence, we were bound to rely upon local research assistants, instead of conducting the fieldworks firsthand. However, as also discussed by the following paragraphs, the involvement of experienced 'insider' research assistants, who had already collaborated with the PhD supervisors, and were directly trained by the doctoral candidate before each fieldwork's inception, returned a few advantages. For instance, it allowed us to decrease bias while still having some control over the data

gathering procedures. Moreover, the research assistants ensured the collection of reliable and actionable data, resulting from appropriate and culturally-sensitive processes of interpretation and translation of the employed survey and FGD tools (Middleton & Cons, 2014; Turner, 2010). The bilingual programming of the Tweyambe questionnaire also contributed to address this issue in the case of our quantitative data collection.

The last major hurdle derived from the *previously limited fieldwork experience of the PhD candidate*. This challenge was addressed through substantial in-advance preparation, by means of supervisor counseling and the attendance of a course about safety and security on the field. Nevertheless, the doctoral researcher would need to learn to tackle firsthand the overlapping and complex logistical, ethical, emotional, and financial issues stemming from the direct supervision and management of data collection, while doing it. In light of this, he would state that conducting fieldwork in rural Uganda was a challenging, but very enriching and humbling experience.

4.4 REFLECTIONS ON VALIDITY AND BIAS

Regardless of the specific methodological strategy or approach, a researcher should always strive to produce scientifically rigorous and reliable evidence. In other words, a major concern in high-quality research is represented by the concept of validity, referring to the correctness and credibility of a study's conclusions and interpretations (Winter, 2000). In this section, we incorporate a discussion of the most commonly debated types of validity, and of how we have handled eventual threats to the credibility of our research findings, in the context of this PhD research.

First, we need to reflect on our study's *internal validity*, measuring the extent to which observed differences in the dependent variable are directly related to the independent variable – simply put, how 'true' are the observed program results in the population of interest (Baldwin, 2018; Patino & Ferreira, 2018; Shadish et al., 2002). The applied quasi-experimental research design does not guarantee, in fact, the credibility of any claims about causal relationships (Shadish et al., 2002; White, 2009). Nevertheless, we argue that the universality of the followed CT programs – leading to a virtual equivalence between the surveyed sample and the population under study, with, as discussed, small attrition rates (Baird et al., 2016; Blattman et al., 2020) – maximizes the internal validity of the research, circumventing typical internal validity issues, such as selection and location bias (Baldwin, 2018; Shadish et al., 2002). Furthermore, potentially arising issues of socially desirable answering (Shadish et al., 2002; Steenkamp et al., 2010) were tackled by guaranteeing anonymity and confidentiality, besides through an appropriate formulation – aided by the local research teams – of explicit and context-specific questions (Steenkamp et al., 2010). Lastly, it should be disclosed that it is likely that the Crazy Money documentary gave rise to a slight Hawthorne effect, which occurs when people modify their behaviour as a consequence of knowing that they are being watched or studied (Oswald, Sherratt, &

Smith, 2014). We are confident, though, that the effect's emergence – and consequent influence on the research – was mitigated by the high levels of Busibi villagers' trust gained by the co-founder of Eight vzw, who acted as the director of the film.

Given that the areas under study were selected rather than randomly chosen, we do not claim that our study's findings could also entail *external validity*, defined as the generalizability of such conclusions beyond the sample of interest (Baldwin, 2018; Patino & Ferreira, 2018). Nevertheless, we still put forward that this research has produced a number of propositions (Grisolia, Dewachter, & Holvoet, 2023a; Grisolia et al., 2023b) bearing theoretical importance, which could inform the drafting of constructs with a wider application scope. Moreover, the (partial) alignment of this PhD's insights with the extensive empirical literature available on the impacts of CTs, on a wide variety of outcomes and with global coverage (Bastagli et al., 2019) confirms the highly beneficial potential of social transfers and UBI. Regardless of the applicability of our findings to other settings, then, this dissertation will hopefully contribute to better and more evidence-based social protection policymaking.

Another matter of research credibility is *construct validity*, namely the adequate operationalization of abstract ideas (Shadish et al., 2002). This investigation touches upon various concepts – most notably social capital – which are time- and context-dependent, without a universally agreed definition (Narayan & Cassidy, 2001; Woolcock & Narayan, 2000). The main strategy we adopted to deal with threats to construct validity was to discuss and improve the survey questions together with the local research teams, which checked their understandability and cultural sensitivity. In addition, the extensive previous research done by the PhD supervisors in similar settings also majorly contributed to ensuring the credibility of our specific formulation of concepts in data collection tools.

Finally, it is paramount for quantitative researchers to ensure the *reliability and replicability* of their studies (Patino & Ferreira, 2018; Tobin & Begley, 2004). In our case, reliability was enhanced through the resort to digital surveys – from Fieldwork 3 onwards – rather than paper-based questionnaires. The paper surveys which were administered during the first two data collection visits were digitalized by using a special scanning software, allowing to minimize the likelihood of data entry mistakes, albeit their hardcopy format. The programming of Tweyambe's questionnaires in both English and Rutooro allowed the research assistance team to switch between languages depending on respondents' proficiency and their own familiarity with the survey – fostering once more the correctness and trustworthiness of the collected information. The replicability of the performed impact evaluations was also guaranteed by drafting and saving do-files in Stata and R (the same is not feasible, by the software's design, in UCINET) for each process of data cleaning, merging, and analysis which we underwent.

5. RESEARCHER'S POSITIONALITY

In this section, we first present the main philosophical assumptions which have informed our research, before proceeding with a reflection upon the identity and positionality of the PhD candidate.

5.1 REFLEXIVITY AND BASIC PHILOSOPHICAL ASSUMPTIONS

Given its clear implications for the way social research is conducted, it is absolutely imperative for a social science researcher to be aware of their worldview, including one's assumptions, beliefs, and judgement systems (Jamieson, Govaart, & Pownall, 2023; Mertens, 2007). The act of examining such preconceptions is typically referred to as 'reflexivity' (Jamieson et al., 2023). In turn, a (self-)reflexive approach is a fundamental prerequisite to be able to identify, articulate, and critique a researcher's positionality (Holmes, 2020; Jamieson et al., 2023; Wilson, Janes, & Williams, 2022), described as the adopted stance in relation to a research assignment, and its social and political context (Holmes, 2020). Whereas the formulation of both reflexivity and positionality statements is encouraged in qualitative investigations, quantitative research has seemingly remained detached from appreciable levels of reflective practice (Jafar, 2018; Jamieson et al., 2023). The absence of related considerations may, nevertheless, undermine the quantitative idea of validity, as discussed by the previous section, by causing the rise of bias (Jafar, 2018).

In this study's case, notwithstanding the wide resort to quantitative data collection and analysis instruments, we reject the positivist paradigm, and we question the existence – but even the desirability – of objective truth in social research (Jafar, 2018; Jamieson et al., 2023; Landiyanto, 2018). On the contrary, we primarily endorse a critical realist approach (Bhaskar, 1975), as leading ontological and epistemological assumption of our research tasks. We therefore claim the existence of an objective reality, our understanding of which is, nevertheless, inevitably mediated by social, cultural and historical contexts. A necessary distinction should then be made between empirically observed phenomena, and the real – and not wholly attainable – underlying structures and mechanisms which generate them (Bhaskar, 1975; Sayer, 2000). Thus, we refuse to fully engage with (the supposed validity of) metaphysical concepts such as truth and reality (Kaushik & Walsh, 2019). In this regard, we emphasize the importance of research bearing practical consequences and real-world applications – which we consider particularly paramount when dealing with issues of poverty, inequality and vulnerability –, ultimately also adopting a pragmatic research paradigm (Rorty, 1982). Despite building on different traditions, critical realism and pragmatism may in fact be considered complementary (Elder-Vass, 2022), given that their simultaneous endorsement allows to maintain methodological flexibility and potential action for positive change, while retaining a constant and iterative commitment to reflexivity, and an imperative – especially in development studies (Bhaskar, 2016; Danermark, Ekström, & Karlsson, 2019) – high consideration for context- and time-sensitive issues (Sayer, 2000). Hence, the outlined configuration of philosophical assumptions enables us to pursue actionale insights

for beneficial policy implications and real-world impact, but at the same time to question their validity beyond the study context and timing (Hesse-Biber & Johnson, 2015). In light of this, we acknowledge our support of (certain aspects of) the transformative research paradigm (Mertens, 2009) as well, arguing that research in social and development studies holds the potential to enhance social justice (Mertens, 2007). Coherently, as hinted at by the previous sections, the recipient communities were – to the maximal possible and appropriate extent; see ‘Crazy Money’ documentary – involved in the research process, ensuring that their own voices and needs would be heard and prioritized (Mertens, 2009). Nevertheless, we conclude that our understanding of the underlying mechanisms leading to the observed findings is inescapably limited, and only partially enhanced (and nuanced) by the adopted mixed-methods approach and by the relatively scarce qualitative data collected throughout the research project (Creswell & Plano Clark, 2017).

Finally, on the basis of these philosophical, ontological and epistemological considerations, we still advocate for the validity and usefulness of this research, since a critical (realist) reflection has consistently been applied to the whole process⁶⁵, including – but not limited to – the phases of research design, data collection and analysis, interpretation, conclusions and framing (Jamieson et al., 2023). By means of the applied reflexivity stances and of the related and previously mentioned precautions in conducting (development) research, it was in fact, attempted to reasonably reduce the amount of bias attributable to our investigation within the bounds of possibility, while contending that its existence and rise is ultimately unavoidable (Safar, 2018).

5.2 IDENTITY AND POSITIONALITY

A researcher’s identity is determined both by culturally ascribed or fixed (such as gender, ethnicity, and nationality), and subjective or fluid (including political views and personal life history) elements (Holmes, 2020). Given my personal background, I maintain that my personal features and origins did only enable me to adopt an outsider (etic) perspective (Holmes, 2020; Wilson et al., 2022) – as opposed to an insider (emic) one – in the execution of this PhD research, even though it could be pointed out that such dichotomy might become rather blurred in reality (Hayfield & Huxley, 2015). As a matter of fact, having grown as a privileged individual in a high-income country, it is impossible for me to fully understand the context under study – rural Western Uganda – and the way its residents experience, perceive, and interpret reality. In particular, my identity as white, European, and male researcher has surely affected the study process, notwithstanding all the counteracting strategies cited by this chapter (in particular, the involvement of local research teams) and which we put in place in order to avoid the rise of bias.

⁶⁵ Most noticeably, we recognized the cruciality of drawing primarily on primary data, in order to uncover and prioritize localized views (Sumner & Tribe, 2004) on the outcomes of interest.

My mere presence there, for instance, definitely raised the expectations of the communities living in Tweyambe and its control village, which I visited at baseline, as they tended to perceive me as a knowledgeable and credible researcher just out of my personal characteristics. Many interviewees and local residents in general would even be led to expect financial support, if not through eventual community development projects, at least through the direct provision of small monetary amounts by me. In this context, I tried to emphasize my (pretended) passive role in the project and the academic nature of the visits, while limiting my trips to the field as much as possible, in order to also avoid socially desirable answering, and overall bias in recorded responses. Moreover, together with the research assistance teams, we attempted to ensure that no Western views and standpoints would be imposed or conveyed in the process of collecting both qualitative and quantitative data. Albeit the fact that these precautions certainly helped us to reduce bias, one should also recognize that field research is a question of trade-offs and balances, and that a more constant and involved presence on the study context could have actually enabled me to further increase the accuracy of the obtained research insights (Deaton, 2010). Even in subjects like development economics, and in contexts of (mostly) quantitative investigation, in fact, firsthand fieldwork can yield several benefits, as pointed out by Drèze. More specifically, active participation in data collection processes can lead to a better grounded understanding of the local context, allow a verification of the reliability of collected data, improve the quality and appropriateness of the formulated research questions, enhance trust and engagement from local communities and stakeholders⁶⁶ and – last but not least – foster empathy and more ethical research practices (Drèze, 2019; Drèze & Sen, 2013). In this sense, the availability of ‘Crazy Money’ can hardly substitute for real-life presence. Consequently, despite ultimately backing the adopted fieldwork strategy up, I realize that the chosen approach does also entail a number of missed opportunities.

In conclusion, the impossibility to fit in the analyzed environment brought me closer to the idea of gradually shifting away from development studies, or, at the minimum, to recognize the need to ‘globalize’ development studies beyond the North-South binary, as Europe and the Western World are most certainly not free from the problems typically ascribed to the Global South (Horner, 2020). While firmly believing that the decision to take on this PhD assignment, and my previous background in development and social protection policy, were genuinely motivated by an innate wish to ‘give back’, fuelled in turn by having been born on the ‘lucky’ (read ‘rich’) side of the world, I in fact cannot help but also acknowledge the potentially negative implications of this work, mainly consisting in the perpetuation of unjust North-South power imbalances, and of detrimental practices and stereotypes.

⁶⁶ Whereas these reflections surely apply to the PhD candidate, it should still be reiterated, as already pointed out by the previous sections, that the supervisors possess a solid in-depth knowledge of the study context, built over the years by means of extensive investigation on the field, and of long-standing collaborations with local research institutions, stakeholders and non-academic actors. Once again, then, this expertise – together with the close cooperation maintained, and substantial support received from local research assistants – enabled us to conduct highly context-specific and respectful research, over-compensating for the doctoral student’s relative lack of experience in Ugandan settings.

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APPENDIX



Figure 14. A few moments from program inception in Busibi, as shown in the 'Crazy Money' documentary. © Village One Film



Figure 15. Other shots from 'Crazy Money'. © Village One Film



Figure 16. Aerial shot of the Busibi village and the swamp surrounding it. © Village One Film



Figure 17. Tweyambe: households and crops



Figure 18. Tweyambe study's control village: shots of the village's well and main road

Table 40. Assessment of implementable impact evaluation tools in Busibi's study

Main source: Gertler et al. (2016)	Matching methods	Randomized controlled trial (RCT)	Difference-in-differences (DiD)	Regression discontinuity design (RDD)
Nature	Quantitative	Quantitative	Quantitative	Quantitative
Design type	Quasi-experimental	Experimental	Quasi-experimental	Quasi-experimental
Description	<p>Matching methods use statistical techniques to construct an artificial comparison group. In a context where the program to be evaluated does not have any clear assignment rules, explaining why some individuals enrolled in the program and others didn't, matching will enable to identify the set of non-enrolled individuals that look most similar to the treated individuals, turning them into the comparison group that will be used to estimate the counterfactual.</p> <p><i>Main types of matching:</i></p> <ul style="list-style-type: none"> * Propensity score matching (PSM) employs a predicted probability of group membership (propensity score) based on observed predictors, and then pairs/matches the treatment and control observations that are most similar on the propensity score, to evaluate the impact * Mahalanobis Distance Matching (MDM) and Coarsened Exact Matching (CEM) are similar, but work in the original covariate space, rather than with a score <p><i>Assumption:</i> enrolled and non-enrolled people are similar in terms of any unobserved variables that could affect both the probability of participating in the program and the outcome.</p>	<p>It does not only provide program administrators with a fair and transparent rule for allocating scarce resources among equally deserving populations, but also represents the strongest method for evaluating the impact of a program: when an evaluation uses randomized assignment to treatment and comparison groups, in theory the process should produce two groups that are equivalent, provided it relies on a large enough number of units. To estimate the impact of a program under randomized assignment, we simply take the difference between the outcome under treatment and our estimate of the counterfactual (namely, the difference between their means).</p>	<p>The DiD method compares the changes in outcomes over time between a population that is enrolled in a program (the treatment group) and a population that is not (the comparison group). It combines the two counterfeit estimates of the counterfactual (before-and-after comparisons, and comparisons between those who choose to enroll and those who choose not to enroll) to produce a better estimate of the counterfactual. Instead of comparing outcomes, the difference-in-differences method compares trends between the treatment and comparison groups. By subtracting the before outcome situation from the after situation, we cancel out the effect of all the characteristics that are unique to that individual and that do not change over time. Interestingly, we are canceling out (or controlling for) not only the effect of observed time-invariant characteristics, but also the effect of unobserved time-invariant characteristics. Thus, when we use the difference-in-differences method, we must assume that, in the absence of the program, the outcome in the treatment group would have moved in tandem with the outcome in the comparison group (equal trends assumption).</p>	<p>Antipoverty programs typically determine a threshold or cutoff score, below which households are deemed poor and, therefore, eligible for the program. Since the comparison group is made up of people just above the eligibility threshold, the impact given by a RDD is valid only locally—that is, in the neighborhood around the eligibility cutoff score. Thus, we obtain an estimate of a local average treatment effect (LATE). Once we have verified that there is no evidence of manipulation in the eligibility index, we may still face a challenge if units do not respect their assignment to the treatment or comparison groups. When all units comply with the corresponding assignment, we say that the RDD is "sharp", otherwise it is "fuzzy". If the RDD is fuzzy, we can use the instrumental variable approach to correct for the noncompliance.</p>
When to use?	<ul style="list-style-type: none"> * Randomization is not possible * The program was already implemented 	<ul style="list-style-type: none"> * Whenever possible * When an intervention will not be universally implemented 	<ul style="list-style-type: none"> * If two groups are growing at similar rates 	<ul style="list-style-type: none"> * If an intervention is assigned based on an eligibility index * Rules for eligibility are known
Advantages	<ul style="list-style-type: none"> * Matching can be applied in the context of almost any program assignment rules, as long as a group exists that has not participated in the program * Matching overcomes observed differences between treatment and comparison * It can be combined with DiD (but only when baseline data on outcomes are available) 	<ul style="list-style-type: none"> * Gold standard * Most powerful: potentially yields high internal and external validity * It can be combined with DiD, when the number of units is not sufficiently large 	<ul style="list-style-type: none"> * DiD eliminates fixed differences not related to treatment 	<ul style="list-style-type: none"> * RDD may present a good approximation of an experiment -> "local randomization" * RDD requires fewer assumptions than other quasi-experimental methods

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Disadvantages	<ul style="list-style-type: none"> * It doesn't require extensive data sets (Pirracchio et al., 2012) * Strong assumption on unobserved differences (matching can only be performed based on observed characteristics) --> less robust than other evaluation techniques 	<ul style="list-style-type: none"> * Not always feasible * Not always ethical 	<ul style="list-style-type: none"> * DiD can be biased if trends change (the parallel trend assumption is quite strong) 	<ul style="list-style-type: none"> * The external validity of RDD is limited, since the estimated treatment effect is local to the discontinuity. In addition, the bandwidth around the cutoff score should include a sufficient number of observations, to ensure the statistical power of RDD * It needs a continuous index to order people: discrete or categorical variables are not viable * The eligibility index must not be manipulated around the cutoff (so that an individual could change treatment or control status), otherwise it is not valid
Does it need baseline?	NO	NO	YES	NO (but baseline data is needed for developing the eligibility index)
Applicable to our case?	YES	NO	NO (actually YES, but only to the few outcomes that got a reconstructed baseline value)	NO
If not, why?		There was no randomized assignment to the treatment or control groups	We lack a baseline value on most outcomes	The program was not assigned based on an eligibility index
Sources	Handa & Maluccio (2010), Heinrich et al. (2010), Iacus et al. (2012), King & Nielsen (2019), Michalopoulos et al. (2004), Pirracchio et al. (2012), Ripollone et al. (2020)	Glennerster & Takavarasha (2013)	Gertler et al. (2016), Rossi et al. (2018)	Imbens & Lemieux (2008)

CHAPTER 4

CONTEXTUALIZING UGANDA IN TERMS OF SOCIAL PROTECTION, COLLECTIVE- LEVEL OUTCOMES AND CLIMATE CHANGE

1. INTRODUCTION

In this chapter, we⁶⁷ contextualize the setting of Uganda in relation to the main social, economic, and political domains of interest to the study. First, we present a brief analysis of the state of social protection in the country, drawing on governmental information and nationally representative data, and complemented by a non-exhaustive overview of the historical contingencies which shaped the current environment. This exercise also allows to shed a light on the complex policymaking processes which drive and influence the adoption and expansion of national social protection programs. Second, Uganda is assessed against its levels of collective-level outcomes, operationalized as social capital, agency, and collective action. While providing the most recent and available figures on such variables at the national level, the country's performance is also juxtaposed to the ones of neighbouring countries. Intertwined with the discussion on collective-level outcomes, a concise reflection on the meaning and relevance of citizenship topics is also conducted, given that citizenship represents the focus of one of the empirical chapters included in this dissertation. Lastly, we discuss the extent to which Uganda is – and will, in the future, be – affected by the existential threat of climate change, alongside introducing the principal mitigation and adaptation strategies adopted by the country. In conclusion, this chapter allows us to position Uganda – and the specific study sites, situated in the Western area of the country – with respect to fundamental topics that will recurrently be analyzed throughout the PhD study.

⁶⁷ This chapter was single-authored by Filippo Grisolia. However, the PhD candidate would hereby like to thank his supervisors for the precious feedback – especially in terms of tentative content and structure – which they provided with in the early drafting stages of the chapter.

2. SOCIAL PROTECTION

2.1 HISTORICAL BACKGROUND

Before the colonization of the country which began in the late 19th century, Ugandans typically lived as ethnic nationalities in specific geographies, on the basis of kin and kith (Ouma, 1995). In this context, the exercise of traditional authority generally occurred through a system of household heads and clan elders. The development and raising of living standards were highly dependent and reinforced by instances of collective responsibility, which were fundamental in ensuring good performances in farming, housing, road creation and maintenance, food harvesting and storage, and care for the elderly and the sick (Lwanga-Ntale, Namuddu, & Onapa, 2008; Ouma, 1995). In that regard, a few acts of mutual aid-assistance, allowed by patterns of reciprocity, social cohesion and altruism, were sufficient in order to guarantee satisfying levels of social protection, in addition to ensuring the preservation of social justice (Bukuluki & Mubiru, 2014; Ouma, 1995). Summarizing, social security was embedded within the cultural norms of the Ugandan societies, and attained through reciprocal support networks at the community, extended family, and clan group levels (Bukuluki & Mubiru, 2014), while no formal social security systems were in place (Barya, 2011). After colonization, these systems of mutual support and assistance were overruled and transformed as a consequence of the dispossession of political power from local populations, the introduction of money as the sole medium of exchange for goods and services, and the promotion of the distinction between home and the place of work (Bukuluki & Mubiru, 2014; Ouma, 1995). Moreover, the erosion of traditional social protection was favoured and accelerated by the rapid transition from rural to new urban areas (Ouma, 1995).

Following its seizure of power in 1986, the National Resistance Movement (NRM) led by Yoweri Museveni – who has ruled the country ever since – demonstrated, at least in the initial stages, a clear and explicit commitment to pro-social development (Bukenya & Hickey, 2019). The governing coalition which resulted from the preceding guerrilla struggle was inclusive and militarily powerful, and could impose a regime of political stability (Lindemann, 2011) which enabled the introduction of a number of reforms inspired by progressive ideals. For instance, pro-poor policies such as universal primary education and the abolishment of health user fees were introduced, even though their launch was strongly determined – in a politically populist sense – by the incumbency of the presidential elections of 1996 and 2001, respectively (Yates, Cooper, & Holland, 2006). International financial institutions such as the World Bank and the International Monetary Fund (IMF), alongside a few European development cooperation agencies, were also highly influential during this period (Fisher, 2013), even though the average citizen's perception was that the main impetus in the implementation of the policies was domestic, rather than international (Bukenya & Hickey, 2019; Hickey, 2005).

Concerning social protection, international development organizations – with early movers including the UK’s Department for International Development (DFID) and various UN agencies – also heavily pushed for the advancement of their (social assistance-focused) agendas (besides influencing the democratic process of Uganda as a whole; Fisher, 2013), relying, at least on paper, on a favourable policy and legislative context (Bukenya & Hickey, 2019). After some promising initial steps – such as the piloting of cash transfer schemes in 2006 and the establishment of the Expanding Social Protection (ESP) program in 2010 (Bukenya & Hickey, 2019) –, nevertheless, the progress on implementing formal social protection in Uganda was halted and slowed down by a series of major changes in the country’s political and economic landscape. In fact, the discovery of commercial quantities of oil, together with Uganda’s graduation from the Highly Indebted Poor Countries Initiative, and the subsequent stipulation of the Sino-African Agreement, encouraged a shift in spending from social security towards the development of infrastructural projects, especially in the energy sector (Hickey, 2005, 2013). At the same time, the re-instatement of multi-party politics which occurred in 2006 contributed to deepening a growingly personalized and populist approach to development and social policy, exemplified by President Museveni’s ‘poverty tours’ in marginalized areas (Bukenya & Golooba-Mutebi, 2019; Golooba-Mutebi & Hickey, 2018), including rural Western Uganda, the region of interest to this PhD study.

A remarkable achievement in the field was later reached in 2015, when the government finally approved a new National Social Protection Policy (NSPP) for the country. The plan identified six key policy priorities to be addressed during the following years: (1) extending social security coverage to the informal sector; (2) expanding access to direct income support for vulnerable groups in need; (3) strengthening family and community capacity to provide and care for vulnerable groups and individuals; (4) reforming the Public Service Pension scheme; (5) expanding coverage of formal social security including affordable health insurance; and (6) enhancing the institutional capacity for provision of comprehensive social protection services (Government of Uganda, 2015). Major challenges still lie ahead, as a lot of progress is still to be done with regards to these declared objectives in Uganda’s social protection strategy (Bukuluki & Mubiru, 2014). Nevertheless, Uganda is committed to substantially increasing its social programs’ expenditures and coverage rates in the future: alongside the NSPP, the right to social protection has been recognized in the constitution and in national planning documents such as Vision 2040 (Government of Uganda, 2013) and the current National Development Plan (NDP3), currently in its third phase (Government of Uganda, 2020). Lastly, Uganda has also ratified a number of international and regional agreements in terms of social protection and the achievement of related SDGs (Barya, 2011; Bukuluki & Mubiru, 2014; Government of Uganda, 2020), in particular 1.3, 3.8 and 8.d (Barya, 2011; Bukuluki & Mubiru, 2014; Government of Uganda, 2020; ILO, n.d.).

2.2 SOCIAL PROTECTION IN TODAY'S UGANDA

The importance of social protection in present day Uganda is indirectly confirmed by its own citizens: according to 2019 data, only 9.9% of respondents had never gone without a cash income, over the previous year (Afrobarometer, 2021). Such awareness is shared by the Ministry of Gender, Labour and Social Development (MGLSD), which holds the mandate, through the directorate of Social Protection, for the coordination and delivery of all social protection in the country. According to the MGLSD, in particular, a large proportion of the population is vulnerable and in extreme need for social protection interventions (Government of Uganda, 2020). Households' vulnerability level is especially high in the Northern (20.4%) and Eastern (25.3%) regions of Uganda because of their disproportionate exposure to environmental shocks. The high levels of informality, employment in agriculture (exposed to covariate risks) and the limited coverage of social protection measures, however, create a vicious circle of insecurity which affects the East African country as a whole (Bukuluki & Mubiru, 2014; Government of Uganda, 2020). Moreover, the situation is even exacerbated, for the 1.4 million refugees hosted by Uganda, by their difficulties in entering the job market (Government of Uganda, 2020).

As per the latest available data, provided by the national Social Protection Review 2019, Uganda's social security spending has risen to 0.9% of GDP, roughly equally divided between social assistance and social insurance interventions (Government of Uganda, 2020). While comparable to neighbouring countries – such as Kenya, Tanzania, and Rwanda – the country's social protection expenditures remain considerably low (World Bank, n.d.). The efforts devoted at increasing the available resources for social spending have been recently set back by a period of lagging growth, which has also caused an increase in poverty and inequality rates, after a long period of decline which had started at the beginning of the 21st century (Bukenya & Hickey, 2019; Government of Uganda, 2020). The MGLSD further attributes the poor performance in social protection implementation to inhibitions caused by institutional constraints, coordination issues, lack of regular monitoring, and unclarity and overlap in the roles of key actors and stakeholders (Government of Uganda, 2020).

Nevertheless, some progress was made, even though it mostly concerned certain categories of social protection. A great deal of variation in the adoption and implementation of different measures has in fact characterised the last decade (Andrews & Bategeka, 2013; Bukenya & Muhumuza, 2017) and confirmed the existence of a 'political economy' of social protection (Bukenya & Hickey, 2019; Hickey & Bukenya, 2021). Cash transfers (CTs), for instance, have witnessed a much more rapid progress than social health insurance (Bukenya & Hickey, 2019). Following Bukenya and Hickey (2019), such result derived from the ability of INGOs and external actors to form coherent policy coalitions around cash transfers, exploiting the fit of a "just giving money to the poor" (Ferguson, 2015) with Uganda's increasingly populist and personalized political setting – in opposition to the (currently lacking) high level of commitment required in order to build the social contract necessary to instate a credible

healthcare system. At the same time, other sources argue that the growing uptake of social CTs in Uganda is traceable to the adoption of a clientelist “thinking and working politically” approach, and not linked to any real intention of politics to reduce poverty or improve the social contract (Hickey & Bukenya, 2021).

Consequently, as **Table 41** clarifies, social security programs’ coverage remains low in all four elements/categories of social protection listed by the NSPP: direct income support, contributory schemes, social care and support, and health insurance. Whereas the first two pillars specifically aim at minimizing income shocks, the social care and support category broadly refers to the protection of Orphans and Vulnerable Children (OVC), care for the elderly and the chronically ill, and mitigation of gender-based violence (Government of Uganda, 2015).

Table 41. Coverage levels of main social protection categories in Uganda

Element of social protection	Programs	Number of recipients (2018/2019)	Coverage
Direct income support	SCG, NUSAF3	329,000	1% (direct recipients)
Contributory schemes	NSSF, PSPS	2.4 million	Around 12% of working population
Social care and support		Not known due to lack of data	
Health insurance		138,000 members of community-based health insurance schemes 700,000 people have private health insurance	1.5%

Source: adapted from Government of Uganda (2020)

As a matter of fact, direct income support – generally operationalized in the form of cash transfers – despite the aforementioned recent acceleration (Bukenya & Hickey, 2019), still only benefits around 1% of the population, even though such figure rises to 4% when considering recipient households. The most important contributory schemes, namely the Public Service Pensions Scheme (PSPS) and the NSSF (National Social Security Fund) only cover circa 12% of the 19 million inhabitants which compose the working age population. In this case, the low rates could be explained by specifying that only 5% of the working age group contributes to mandatory or licensed schemes: together with negligible membership percentages, the benefit levels keep being modest. Health insurance ownership is also rare, standing at 1.5% overall and 5% for citizens above 15 years of age – and mostly driven by community-based or private schemes. Lastly, no data on social care and support levels was available as of 2019 (Government of Uganda, 2020).

In this context, the main social assistance tool in Uganda’s current social protection landscape – and the only one available in the Western region (Government of Uganda, 2020) – is the Senior Citizens’ Grant (SCG), belonging to the national flagship SAGE (Social Assistance Grants for Empowerment) project, which in turn represents a key element of the ESP program (Government of Uganda, 2015). SAGE’s aim is to generate evidence-informed policymaking through testing a range of implementation modalities for efficient, cost-effective and scalable social transfers (Merttens et al., 2016). As such, while other initial SAGE pilot components, like the Vulnerable Family Support Grant (VFSG), were later dismissed, the SCG is regarded as a story of success (Kidd, 2016), given that it has been yielding remarkable improvements in the poverty and food security levels of recipient individuals and their households, among other positively affected outcomes (Merttens et al., 2016). Another major social assistance scheme was the Northern Uganda Social Action Fund, whose third and last stage (NUSAF3) ended in 2021. Majorly funded through a World Bank loan, the program focused on the productive growth of beneficiary households by means of income generating activities (Government of Uganda, 2020). NUSAF components included labour-intensive public works and lump-sum productive grants for selected market-driven enterprises led by young entrepreneurs (Blattman, Fiala, & Martinez, 2020). **Table 42** reports the main features of the mentioned assistance interventions.

Table 42. Main program characteristics of selected social assistance schemes

Name	Amount (local currency)	Frequency	Purpose	Years of program operation	Targeting	Number of recipients
NUSAF - YOP	UGX 12.9 million in 2006 (per group)	Lump sum	Improving business outcomes for poor young adults	2006-2008 (YOP) 2006-2021 (NUSAF)	Mixed: Means-based and categorical (age)	265 businesses in 2006 (NUSAF3 had 1.8 million direct and indirect beneficiaries)
SCG (SAGE)	UGX 25,000 per month (2016)	Bimonthly	Reducing poverty and vulnerability of elderly	2010-	Categorical (age)	In June 2018, 153,000 beneficiaries

Sources: Blattman et al. (2020), Kidd (2016), Merttens et al. (2016)

In conclusion, many challenges await the advancement of social protection in Uganda: contributory social security systems remain underdeveloped, and no public contributory social insurance scheme currently exists in the country (Bukuluki & Mubiru, 2014; Government of Uganda, 2020). In addition, the Senior Citizens’ Grant remains the sole core direct income support program in Uganda (Government of Uganda, 2020), alongside a small number of temporary programs, either governmental or directly implemented by (international) donors (Bukuluki & Mubiru, 2014) and (in)formal

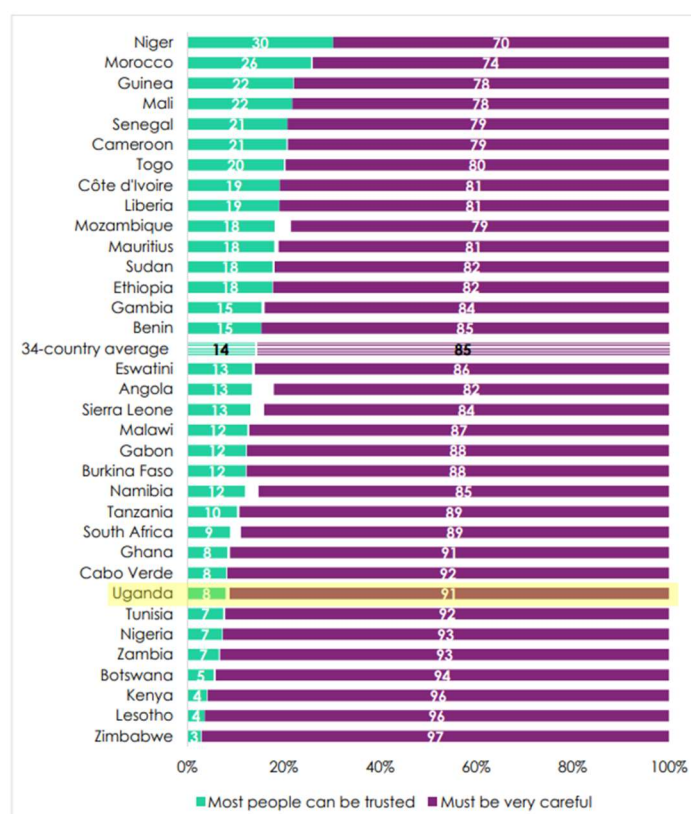
community-level security schemes (Bukuluki & Mubiru, 2014; Mpiira et al., 2013). The resurgence of traditional authorities, a common trend to Sub-Saharan Africa (Goodfellow & Lindemann, 2013; Hagmann & Péclard, 2010) could also heavily affect the policymaking process.

3. COLLECTIVE-LEVEL OUTCOMES IN UGANDA

Likewise other contexts, studying collective-level variables (defined as social capital, agency and collective action, as described by the **introductory chapter**) in Uganda is fundamental because of the benefits to society which derive from high levels of the aforementioned outcomes (Putnam, 2000).

In Uganda, for instance, access to social capital – operationalized as membership of social organizations – has been shown to reduce poverty by positively affecting household income, especially for more highly educated individuals, which are more prone to joining social networks (Hassan & Birungi, 2011). A positive association between social capital (at the individual level) and financial inclusion has also been found, in the rural areas of the country (Heikkilä, Kalmi, & Ruuskanen, 2016). In Uganda, more in general, social capital has been identified as a key mediator of financial literacy and inclusion (Okello Candiya Bongomin, Ntayi, Munene, & Nkote Nabeta, 2016), psychological capital and employability (Ngoma & Dithan Ntale, 2016), food security (Sseguya, Mazur, & Flora, 2018), and information exchange (Katungi, Edmeades, & Smale, 2008), among others. Nevertheless, a full picture on the effects of social capital can only be returned by analyzing the different dimensions of the domain altogether: for example, a study on community organizations in North-Western Uganda has demonstrated that linking social capital does only produce positive results on democratic practices when firmly embedded in bonding and bridging capital (Titeca & Vervisch, 2008). Agency has also been widely investigated in the context of Uganda, with many sources focusing on the issue of child marriage, and how it prevents girls from attaining higher educational outcomes (Bell, 2012; Wodon, Nguyen, & Tsimpo, 2016). In this sense, several sources agree that improvements in schooling are crucial in order to spur (political) agency, through empowering the youth to participate in society as critical, responsible, informed, and active citizens (Datzberger & Le Mat, 2019). Lastly, collective action has been recently fostered (and made necessary) in rural Uganda by the increasing threats to food security created by soil degradation, low land availability, poor market integration, disease burdens, and climate change impacts (Andersson & Gabrielsson, 2012). Coordinated efforts in groups are seen as a potential pathway to attain livelihood and sustainability improvements, together with enhancing adaptation to climate variability (Andersson & Gabrielsson, 2012; Ombogoh, Tanui, McMullin, Muriuki, & Mowo, 2018). When reflecting on collective-level outcomes in Uganda, however, it should be pointed out that the relationships between them are complex: while strong community bonds are associated with higher odds of successful collective action (Call & Jagger, 2017), the latter – especially in the form of risk-sharing and labour-pooling – can also build trust and spur agency (by increasing time availability) in return (Andersson & Gabrielsson, 2012).

In order to position Uganda in terms of collective-level outcomes, we mainly rely on the latest available nationally-representative data, gathered through the Afrobarometer Uganda Round 8 survey (Afrobarometer, 2021). Initial insights into the levels of *social capital* in the country derive from a standardized inquiry on interpersonal trust, whereby as many as 92.1% of respondents claimed that one must be very careful when dealing with others – as opposed to as little as 7.2% of individuals believing that most people can be trusted –, casting a long shadow on mean rates of confidence between fellow citizens. These numbers also prove to be worse than the average of 34 selected African countries, as depicted in **Figure 19**, retrieved from a recent Afrobarometer cross-nation inquiry into unity and division (Logan & Torsu, 2022). For what concerns institutional trust, 39.7% of inquired citizens claimed to be trusting the president a lot, while the same figure lowered to 18.3% when relating to the parliament – with just a slight variation for government councils (18.2%). However, the most trusted political chiefs were, by far, traditional and religious leaders.



Respondents were asked: Generally speaking, would you say that most people can be trusted or that you must be very careful in dealing with people?

Source: Logan and Torsu (2022)

Figure 19. Levels of interpersonal trust across African countries

At the same time, 26% of respondents felt that their ethnic group had sometimes been treated unfairly by the government. Similar conclusions could be reached in the realm of social inclusion, given the high percentages of interviewees who declared to have been treated unfairly by others, over the past year, especially because of their economic status, ethnicity, and religion. Rather worrisome findings were also extracted from investigations on bonding social capital, as, over the precedent twelve months,

61.1% of people stated to have felt unsafe in their neighbourhoods, 53.9% to have feared crime in their own homes, and 44.3% to have been afraid of, or directly exposed to, physical violence. At the same time, shares of population lower than 10% revealed that they would dislike having as neighbours the members of a different religion or ethnic group, political party, or immigrants/foreign workers. Nevertheless, an overall gloomy picture on bridging social capital could be retained, given that, when it comes to homosexuals, their disapproval rate as neighbours was as high as 86%. The levels of tolerance for others appeared to be in line with the regional averages, though (Logan & Torsu, 2022). Finally, quite considerable instances of linking social capital could be found, given that 15% of interviewees had often contacted a traditional leader to talk about important issues, in the last year; 8% of the sample had also done so with government councillors, even though, on the other hand, as much as 61.9% had never reached out to the latter political figure (Afrobarometer, 2021).

Agency seemed to be relatively low in Uganda, as only 48.8% of individuals stated to feel completely free to say what they think, in public spaces, albeit freedom levels rose when inquiring the liberty of joining any political organization (65.3%) and attending community meetings, whereby 77.4% of respondents had done so at least once or twice, in the space of the previous twelve months (Afrobarometer, 2021). Overall, these numbers were still slightly higher than continental means (Logan & Torsu, 2022).

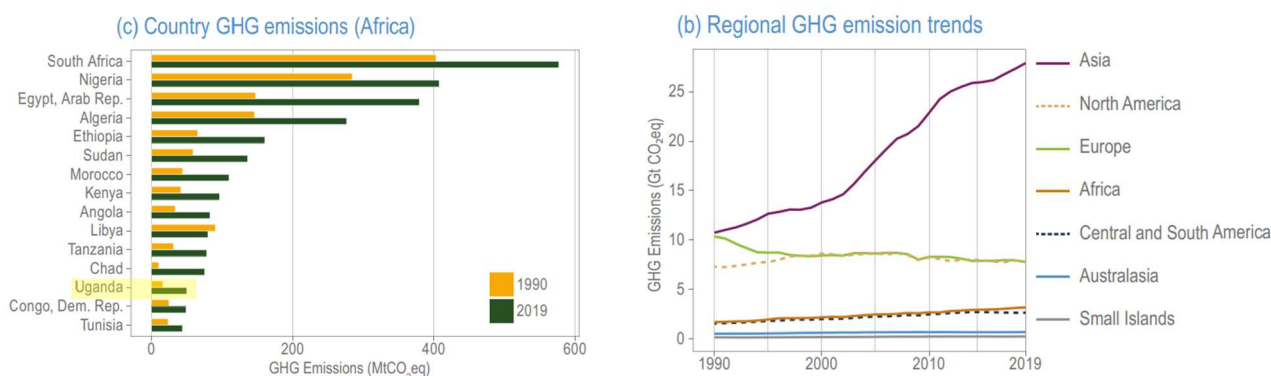
Lastly, *collective action* intensity was also higher than in neighbouring countries (Logan & Torsu, 2022), with 41.5% of people having got together several times, or often, to raise an issue of common interest; and 10.7% having participated in a demonstration or protest march, in the foregoing year (Afrobarometer, 2021). Substantial collective action also takes place in Uganda through membership in market cooperatives and associations – such as the Savings and Credit Cooperative (SACCO) programs –, informal social security systems, and self-help schemes (Bukuluki & Mubiru, 2014; Meier zu Selhausen, 2016; Mpiira et al., 2013; Ouma, 1995).

In conclusion, it should be taken into account that reflections on the status of collective-level outcomes in Uganda cannot prescind from a careful analysis of the country context, which is also closely connected with conceptualizations and experiences of Ugandan citizenship (Plageron, Patel, Hochfeld, & Ulriksen, 2019). In particular, a definition of the latter is especially complex in a country with diverse ethnic groups and more than 50 spoken languages (Clarke, Coll, Dagnino, & Neveu, 2014). Similarly, instances of social capital, agency and collective action could be expected to be highly dependent on the specific community of interest, to emerge from particular historical and spatial contingencies (Thompson & Tapscott, 2011), and to be molded by factors such as ethnicity, gender, religion, refugee status, and patronage, amongst others (Alava, Bananuka, Ahimbisibwe, & Kontinen, 2019; Tamale, 2009). As a consequence, collective action patterns, for instance, mostly take place at the local level and highly depend on the local political context (Holma & Kontinen, 2020), also because of the highly

decentralized democratic landscape of Uganda (Dewachter, Bamanyaki, & Holvoet, 2020; Okidi & Guloba, 2006), and its Local Councils (Okidi & Guloba, 2006). Western Uganda, this study's location, records levels of institutional trust, individual agency, and Ugandan nationalism above national averages, potentially because of being the birthplace of president Museveni⁶⁸ (Ricart-Huguet & Green, 2018). Nevertheless, these factors may also explain why collective action instances are less frequent in Western Uganda than in the rest of the country (Afrobarometer, 2021). To conclude, likewise other Sub-Saharan settings, the recent expansion in social protection and NGO presence (Bukonya, 2016) is increasingly shaping (and being shaped by) Uganda's social contract (Cloutier, Harborne, Isser, Santos, & Watts, 2021), with inevitable repercussions on phenomena of social capital, agency and collective action, as well.

4. CLIMATE CHANGE IN UGANDA

Generally speaking, Africa is one of the lowest contributors to greenhouse gas (GHG) emissions causing climate change (Figure 20); yet, the continent is disproportionately affected by the impacts of human-induced climate change. In particular, key African development sectors have already suffered widespread climate change-related damages from water shortages, biodiversity loss, reduced food production, loss of lives, and hampered economic growth. Furthermore, the negative consequences of climate change in Africa are also multidimensional and amplified by the intersection of socioeconomic, political, and environmental factors (IPCC, 2022a, 2022b).



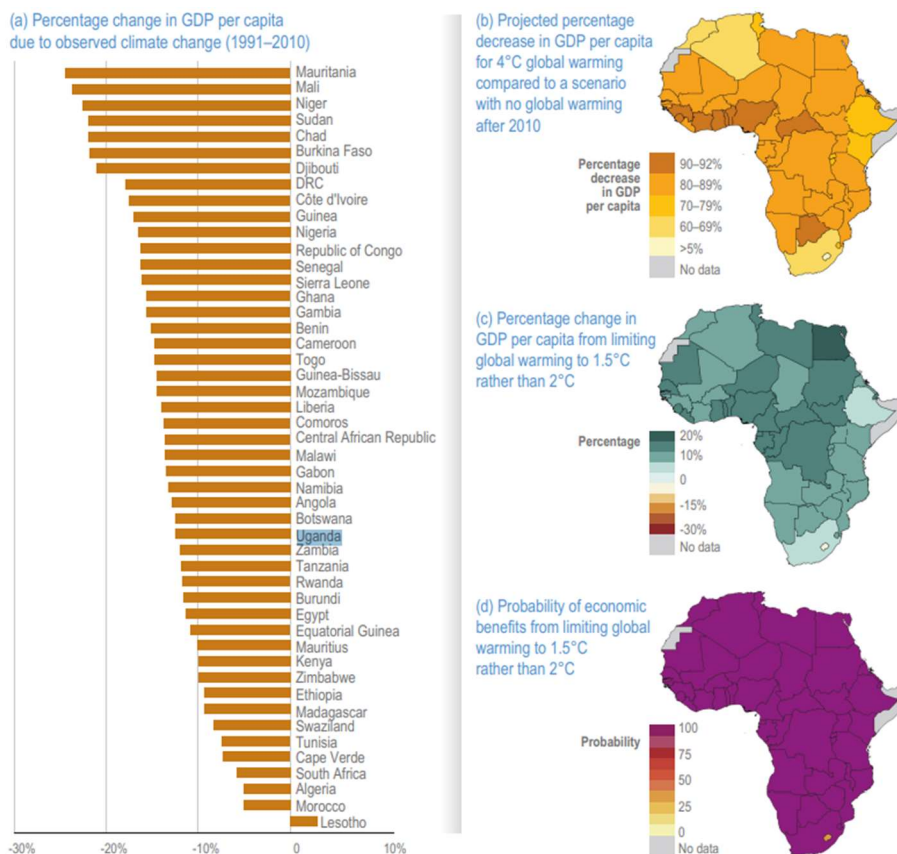
Source: IPCC (2022a)

Figure 20. Country GHG emissions (Africa) and regional trends

In this context, while not being among the most negatively affected countries (see Figure 21) – with, for instance, overall drought frequency, intensity, and duration not projected to increase, during the next decades – Uganda is already experiencing catastrophic damages due to climate change (IPCC, 2022a). In fact, Uganda's climate is mostly tropical, with regular rainfalls and sunshine patterns (Government of Uganda, 2013). Nonetheless, for instance, higher temperature patterns and shifting

⁶⁸ For the sake of precision, it should be specify that President Museveni was born in Ntungamo, in the Ankole sub-region which, while indeed geographically belonging to Western Uganda, is not even bordering the Rwenzururu sub-region, whereby the Kasese district (this project's study context) is located.

trends in rainfall (UNFCCC, 2022) have already influenced the incidence and distribution of malaria in Uganda, likewise other Sub-Saharan African countries (Agusto, Gumel, & Parham, 2015; Beck-Johnson et al., 2017) – and Uganda is predicted to be among the worst impacted regions, in this sense, by 2030 (Ryan, Lippi, & Zermoglio, 2020).



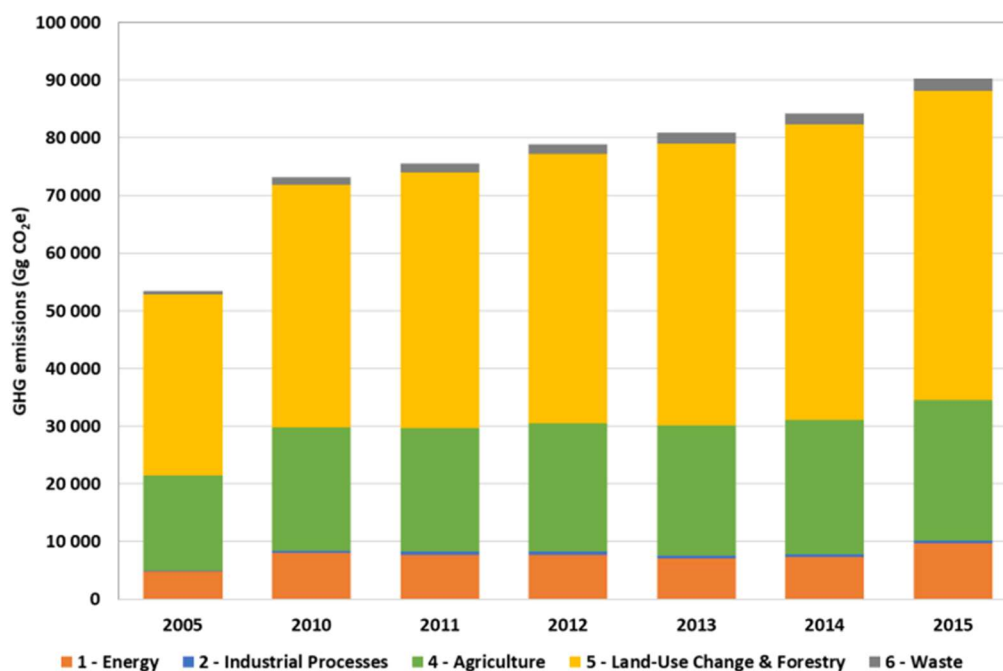
Source: IPCC (2022a)

Figure 21. Observed aggregate economic impacts and projected risks from climate change in Africa

Moreover, the increasing temperatures and heat stresses are already reflecting in a persisting growth in permanent migration, through an agricultural livelihoods pathway connected to land degradation (Call & Jagger, 2017). Other already visible and non-negligible consequences of climate change in Uganda include significant reductions in the suitable production areas for key resources, such as tea (IPCC, 2022a), a worsening of gender inequalities through, for example, a substantial decrease in girls' primary school enrolment (Björkman-Nyqvist, 2013), and conflict-inducing impacts of sustained droughts (Fjelde & von Uexkull, 2012; Hendrix & Salehyan, 2012). While the PhD investigation's setting, Western Uganda, is not disproportionately affected by climate change, in comparison to other regions of the country (Hisali, Birungi, & Buyinza, 2011), it still proves to be highly vulnerable to present and future environmental stresses, especially floods and drought (Berman, Quinn, & Paavola, 2015; Okonya, Syndikus, & Kroschel, 2013).

The gravity of the emergency in the country is confirmed by recent Afrobarometer data, with 41.6% of inquired citizens agreeing that climate change is making life in Uganda somewhat worse, or much worse. On the other hand, the same survey highlighted rather low awareness levels, as only 0.4% of respondents indicated climate change as one of the most important problems faced by the country (Afrobarometer, 2021). Still, according to another Afrobarometer poll from 2022, as many as 28% and 57% of Ugandans declared that floods and droughts, respectively, had been more severe, over the past decade (Afrobarometer, 2022).

Uganda's strategy to cope with climate change is synthesized by its latest Nationally Determined Contribution (NDC), released in 2022, in fulfilment of the Article 4 of the Paris Agreement (UNFCCC, 2022). The NDC sets an ambitious economy-wide mitigation target for 2030 of a 24.7% reduction in emissions below the business as usual (BAU), revising the 22% objective previously communicated by the first Nationally Determined Contribution in 2016. The number one priority outlined by the plan is building adaptive capacity at all levels and increasing the resilience of communities, infrastructures, and ecosystems. The individuated matters of greatest concern, with regards to *adaptation*, are the sectors of water, ecosystems, agriculture, forestry, and mining (Connolly-Boutin & Smit, 2016). In this sense, Uganda forecasts to improve adaptation by promoting climate-resilient and low-carbon agricultural development, better urban planning and land management practices, and by developing a resource-efficient circular economy. A number of major *mitigation* efforts are also anticipated, concentrated in climate-smart agriculture, sustainable land use, the restoration of natural forests, and improved wetlands and peatlands management. The total cost of the plan – considering activities of adaptation, mitigation, coordination, monitoring, and reporting – is estimated at USD 28.1 billion, of which 15% to be covered by mobilizing domestic resources, while the rest is deemed conditional on international support (UNFCCC, 2022). The success of the implemented measures will also depend on demographic issues: Uganda's population, currently standing at 46 million inhabitants, is projected to reach 57 million in 2030, and 72 million units in 2040. Coherently, while potentially below the BAU, the total emissions of the country will continue to increase: from 2005 to 2015, for example, they have grown from 53.4 to 90.1 MtCO₂e (see **Figure 22**), mostly driven by land use and land use change, forestry, agriculture and energy (UNFCCC, 2022). Finally, the NDC is regularly updated and simultaneously conducted with the formulation of Uganda's Long-Term Low Emissions Development Strategy, alongside Vision 2040, the country's committed development blueprint (Government of Uganda, 2013).



Source: UNFCCC (2022)

Figure 22. Sectoral trends in GHG emissions for Uganda

Before concluding, it is necessary to point out how social protection can also yield ‘transformative’ changes in resilience to climate change, especially for what concerns adaptation (Agrawal, Kaur, Shakya, & Norton, 2020; Costella et al., 2023; Devereux & Sabates-Wheeler, 2004). Unconditional cash transfers, in fact, bear the potential to assist vulnerable groups in absorbing the negative effects of environmental stresses, and in better preparing for them (Ulrichs, Slater, & Costella, 2019). More in general, the Ugandan national social protection programs, among others, have demonstrated effectiveness in improving individual and household climate resilience, regardless of whether they explicitly aim to address such outcomes, or not (Davies & Leavy, 2007; Ulrichs et al., 2019).

In Uganda’s case, the most typically employed climate resilience and adaptation mechanisms (Berman et al., 2015; Helgeson, Dietz, & Hochrainer-Stigler, 2013; Hisali et al., 2011; Okonya et al., 2013) include saving, working more, relying on (in)formal assistance and/or credit, but also adverse or ‘mal-adaptation’ strategies (Schipper, 2020). Mal-adaptation techniques – most noticeably, selling productive assets and/or livestock, and withdrawing children from school to send them to work –, while providing immediate relief from shocks, may trap households into poverty in the long term, because they reduce their (human) capital investment (Barrett, Carter, & Little, 2006; Helgeson et al., 2013; Lawlor, Handa, & Seidenfeld, 2015). Summarizing, whereas it should only be seen as a complementary and accompanying tool to more structural mitigation interventions (Tenzing, 2020), social protection can play an important role in tackling climate change, by fostering individual- and household-level adaptation (Bagolle, Costella, & Goyeneche, 2023; ILO, 2023; UNRISD, 2006) – through, for instance, reducing the need to resort to adverse strategies.

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CHAPTER 5

**FOLLOW THE HAND THAT FEEDS YOU? THE EFFECTS OF NON-GOVERNMENTAL
CASH TRANSFERS ON CITIZENSHIP**

FOLLOW THE HAND THAT FEEDS YOU? THE EFFECTS OF NON-GOVERNMENTAL CASH TRANSFERS ON CITIZENSHIP^{69,70,71}

ABSTRACT

Cash transfers (CTs) are increasingly used as fundamental components of countries' poverty reduction and social protection strategies. Yet not much is known about how these interventions shape beneficiaries' relations with the state and citizenship in general, and even less evidence is available on how CTs distributed by *non-state actors* affect the aforementioned variables.

This paper analyzes how a non-governmental universal unconditional mobile cash transfer (a small-scale universal basic income experiment), handed out by a foreign NGO in a rural Ugandan village, influenced citizenship. The article zooms in on effects on recipients' perceptions of the state, interactions with government representatives, and understanding of their rights and responsibilities, all of which could potentially yield repercussions on the broader social contract. The study implements matching techniques and Social Network Analysis (SNA) to explore how the transfer influenced citizenship over time. Results suggest that the CT generated a positive effect on the non-state actor's legitimacy, without necessarily causing a lasting impact on the legitimacy of the government. Major impacts were recorded in the treatment village's 'call to action' network, highlighting patterns of change in beneficiaries' relations with local duty bearers, such as the crowding out of (multiple) local leaders by an external actor linked to the CT project. These findings confirm the possibility of inducing unintended effects in local communities through cash transfer initiatives implemented by non-state actors.

Keywords: non-governmental cash transfers, social contract, citizenship, social networks, Uganda

⁶⁹ A slightly revised version of this chapter has been published as an academic journal article, full reference: Grisolia, F., Dewachter, S., & Holvoet, N. (2023a). Follow the hand that feeds you? The effects of non-governmental cash transfers on citizenship. *Social Policy & Administration*, 57(6), 976–992. doi: 10.1111/spol.12914

⁷⁰ The chapter also draws, especially for what concerns beneficiaries' understanding of their rights and responsibilities, from an empirical policy and research brief we jointly published, full reference: Grisolia, F., Dewachter, S., & Holvoet, N. (2023b). *Can universal cash transfers spur citizenship? An evaluation of Busibi CT's impacts on (perceived) political efficacy*. Analysis and Policy Brief n°52. University of Antwerp: Institute of Development Policy. Retrieved from <https://repository.uantwerpen.be/docstore/d:irua:19337>

⁷¹ The individual contributions of each author are reported as follows. *Filippo Grisolia*: conceptualization, investigation, software, formal analysis, visualization, validation, writing – original draft, writing – review and editing, data curation; *Nathalie Holvoet*: conceptualization, funding acquisition, resources, investigation, formal analysis, validation, supervision, writing – review and editing; *Sara Dewachter*: conceptualization, funding acquisition, resources, investigation, formal analysis, validation, supervision, writing – review and editing. All authors read and approved the final manuscript.

1. INTRODUCTION

Cash transfers (CTs) have been increasingly used as central elements of countries' social protection policies, with the main declared objective to reduce and alleviate poverty (CALP Network, 2020). In recent times, the COVID-19 pandemic gave an even higher impulse to the increasing trend in utilization: in response to the crisis, 1.39 billion people benefitted from social assistance in various forms (Gentilini, Almenfi, Orton, & Dale, 2022).

As social protection's, and especially cash transfers', role is, in fact, normally narrowed down to monetary poverty reduction only, few studies have focused on its potential to enhance the rights, social status, and 'citizenship' of marginalized groups (Plagerson, Harpham, & Kielmann, 2012). However, if the connections created by social policy instruments' handout and management represent some of the most important links between a state and its citizens (Kabeer, Mumtaz, & Sayeed, 2010; Roberts, 2012), it is undeniable that social protection might affect beneficiaries' perceptions of the quality and nature of their citizenship (Oduro, 2015). Considering this, cash transfers have recently been more frequently intended, and sometimes also designed, as tools to foster state legitimacy and the perception of citizenship among disadvantaged communities (Oduro, 2015). In many low-income countries, for instance, social assistance has in recent years been the mechanism through which states have attempted to improve their relations with their poorest citizens, and therefore to enable more credible understanding and recognition of citizenship and its rights (Corbridge, Williams, Srivastava, & Véron, 2005; Leisering & Barrientos, 2013). Among other factors, such changes were fostered by evidence around beneficiaries' complaints of the lack of demand-side and community-driven social accountability mechanisms in the context of social protection (Jones, Abu-Hamad, Perezniето, & Sylvester, 2016; Molyneux, Jones, & Samuels, 2016). The latter evolutions in social assistance partly reflect, then, increasingly supported definitions of social protection, that do extend its objectives to transformative improvements in equity, empowerment, social rights, and relations (Devereux & Sabates-Wheeler, 2004; Molyneux et al., 2016), through rights-based and citizen-centred approaches (Ulriksen & Plagerson, 2014). Nevertheless, in practice, these visions have still not been fully developed, hence the evidence around cash transfer programs' effects on citizenship remains scarce, and the assumption that social protection policy can promote citizenship, just a hypothesis (Farrington, Sharp, & Sjoblom, 2007).

In addition, while the existing empirical proofs around governmental CTs' impacts on citizenship are only a few, even less is known about CT provided by non-state actors, such as NGOs (Brass, 2016). Producing further knowledge on the issue is particularly relevant, given the widespread idea that non-state provision of social services – prominent in many low-income countries with 'weak states' and social protection schemes funded by foreign aid (Alik-Lagrange, Dreier, Lake, & Porisky, 2021) – could undermine government legitimacy (Brass, 2010; Fowler, 1991; White, 1999) and erode the social

contract (Schuller, 2009). This could cause a vicious circle of lower government revenues, a worsening of the quality of public services, and, ultimately, continuously deteriorating experiences of citizenship (Cammatt, 2014; Cammatt & MacLean, 2011). A stronger understanding of how, when, and why non-state provision affects citizenship can therefore also contribute to expanding our comprehension of citizen-state relations and dynamics (Cammatt & MacLean, 2014).

This paper aims at complementing the existing evidence around the effects of non-governmental cash transfers on citizenship, by providing empirical proofs derived from a universal unconditional mobile cash transfer (UCT) experiment carried out in a rural Ugandan village. Following Plagerson et al. (2012)'s analytical framework, the impacts on citizenship will be studied by zooming in on three dimensions, namely recipients' perceptions of the state, state-citizen interactions, and beneficiaries' understanding of their rights and responsibilities. To do so, a quasi-experimental matching of survey data will be combined with Social Network Analysis (SNA; Wasserman & Faust, 1994), a method that, to the best of our knowledge, has never been applied to the assessment of CT effects (see **introductory chapter**). More specifically, SNA will be implemented by plotting the networks at the three data collection rounds, computing their network-level metrics, checking for relevant actors' centrality patterns, and finally by running two tools for inferential network analysis (Cranmer, Leifeld, McClurg, & Rolfe, 2017) at all stages: an Exponential Random Graph Model (ERGM; Wasserman & Pattison, 1996) and RSiena (Ripley, Snijders, Boda, Vörös, & Preciado, 2023). In addition, the networks-derived findings will be complemented by some qualitative insights, shedding additional light on the pathways and contingent events which drove the evolutions in villagers' self-perception of their citizenship and interactions with the local political and technical/administrative duty bearers. The study could then also contribute to the increasingly relevant debate on cash transfers and, by the analyzed program's universality, on Universal Basic Income (UBI; Gentilini, Grosh, Rigolini, & Yemtsov, 2020), and their repercussions on citizenship (Pateman, 2004; Van Parijs, 2004).

The rest of the document is structured as follows: **Section 2** theoretically introduces the relationship between cash transfers, citizenship, and the social contract, before presenting some of the related empirical literature. **Section 3** outlines the study context and the methodology. **Section 4** discusses the results of the analysis. Finally, **Section 5** concludes and suggests some of the potential implications on future research.

2. THEORETICAL BACKGROUND

2.1 SOCIAL CONTRACT, CITIZENSHIP AND CASH TRANSFERS

Throughout history, widely supported social contract theories argue that the citizens of a state recognize the latter as legitimate only as long as it provides them with satisfying levels of protection, provision of economic and social services, and participation in political decision-making processes. Only under these circumstances, in fact, a fruitful and long-lasting stipulation of the social contract, with shared and mutual responsibilities among the state and its citizens, could take place (Loewe & Zintl, 2021). In the 'classic' social contract equilibrium, in return for the provision of services, citizens bestow a certain degree of legitimacy upon the government, adhere to the rule of law, and contribute to financing the state through taxes (see **Figure 23**), even though the individual level of acquiescence to the national authority clearly depends on a range of factors, including prior expectations and ease in attributing performance to the government (McCloughlin, 2018). As social protection represents a key element of the social contract (Kabeer et al., 2010; Roberts, 2012), and cash transfers themselves are perceived as a state-citizen contract (Plagerson et al., 2012), these programs could – if implemented correctly and transparently – strengthen citizens/recipients' commitment to the social contract and potentially lead to improvements in the perceived legitimacy of the state. Nevertheless, negative influences of cash handouts on citizenship-related indicators are also possible (Hevia, 2016; Roberts, 2012), often because of flaws in programs' design (Alik-Lagrange et al., 2021; Cloutier, Harborne, Isser, Santos, & Watts, 2021). In other words, social protection maintains a privileged role in shaping beneficiaries' citizenship (Plagerson et al., 2012; Sabates-Wheeler, Wilmink, Abdulai, de Groot, & Spadafora, 2020).

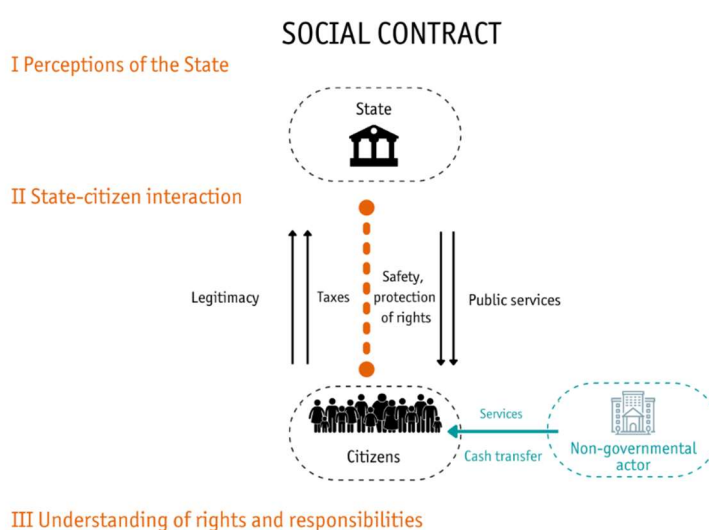


Figure 23. Schematical illustration of the social contract, and of the potential consequences of the substitution of a non-governmental actor to the state itself

However, as suggested by the available literature (Brass, 2016), if CTs were dispensed by a non-state agent (e.g., an NGO), and the provision of public services therefore partially externalized, state-citizen relations could be distorted (Cammett & MacLean, 2014; Sabates-Wheeler et al., 2020). In fact, through a ‘substitution’ effect (Cammett & MacLean, 2014), the non-state actor’s legitimacy could possibly, but not necessarily, be enhanced at the expense of the government’s one (Banks, Hulme, & Edwards, 2015; Brass, 2010; Fowler, 1991; White, 1999), ultimately weakening the social contract equilibrium (Alik-Lagrange et al., 2021; Hickey & King, 2016; Schuller, 2009). According to Cammett and MacLean (2014), the extent to which non-state provision of services yields political consequences, spanning state capacity, access to welfare and accountability, is mediated by the type of non-state provider and by its relationship to the state. As a matter of fact, characteristics of the non-state actor such as the level of formalization, the locus of operation, the extent of profit orientation, and the nature of the eligibility criteria, play a major role in shaping state-citizen linkages (Ayliffe, Aslam, & Schjødt, 2017; Cammett & MacLean, 2014), together with the context and the program design. In particular, Cammett and MacLean (2014) argue that more formalized and locally rooted non-state actors, which do not pursue profit and maintain broad and inclusive eligibility rules for their programs, tend to improve non-state welfare recipients’ access to social services. Lastly, provided that the outcomes of non-state provision are never neither wholly negative or uniformly positive, cooperative NGO-state relationships can actually expand state capacity, and citizenship patterns in return. Some of the supporting evidence is derived, for instance, from studies on NGOs in Kenya (Brass, 2012) and Tanzania (Jennings, 2008).

Concerning citizenship, since Marshall’s seminal work (Marshall, 1950), many different meanings, in accordance with its broad and multidimensional nature, were associated to it, spanning across national identity, understanding of rights and duties, and sentiments of belonging (Eyben & Ladbury, 2006). Nonetheless, common conceptualizations of citizenship still reduce it to formal membership of a nation state (Plageron et al., 2012). In the context of exploring the effects of CT programs on citizenship, we will build on the analytical framework developed by Plageron et al. (2012)⁷², which encompasses three dimensions of citizenship typically affected by cash transfers: recipients’ perceptions of the state, state-citizen interactions, and beneficiaries’ understanding of their rights and responsibilities. These variables also partially reflect and overlap with Alik-Lagrange et al. (2021)’s description of the three channels through which social protection programs can reshape the state, societies, and the interactions between them: the redistributive, contractual, and reconstitutive ones.

I. recipients’ perceptions of the state

⁷² The exact operationalization of each element relates to Wichowsky & Moynihan (2008)’s ‘end outcomes’ of public services on citizenship.

Social assistance generates multiple ways in which beneficiaries see and relate to the state, an essential component of a citizen-centred approach, which attempts to produce a practical understanding of citizenship, beyond theoretical constructions (Gaventa, 2010). In parallel to Plagerson et al. (2012)'s conceptualizations of state visibility and characterization, we will mainly operationalize this dimension as trust in the government and state legitimacy (i.e., satisfaction with democracy; Berggren, Bjørnskov, & Lipka, 2015; Levi, Sacks, & Tyler, 2009).

II. state-citizen interactions

As cash transfers often represent a rare opportunity of interaction between individuals and the state (Kabber et al., 2010), especially in the case of marginalized groups (Cookson, 2018), such experiences of engagement can contribute to forge citizenship identities, and lead to a sense of being 'seen' by the government (Corbridge et al., 2005). In this case, the dimension will be investigated through indicators of the frequency of contacting public officials (to demand for public services such as water, infrastructure, education, etc.), and 'linking' social capital (namely, individuals' 'vertical' connections to political structures and institutions; Warren, Thompson, & Saegert, 2001).

III. beneficiaries' understanding of rights and responsibilities

Citizenship paradigms are based on the notion of a co-dependence between rights and obligations (Hassim, 2006), whereby the relative 'weight' of each is dependent on political orientation (Ulriksen & Plagerson, 2014). In addition, the specific framing of a social benefit may "*influence the ways individuals understand their rights and responsibilities of a political community*" (Mettler & Soss, 2004, p. 61). In our operationalization, we will look at the changes in recipients' perceived political efficacy (Wichowsky & Moynihan, 2008), relating to the "*feeling that [individual] political action does have, or can have, an impact upon the political process*" (Campbell, Gurin, & Miller, 1954, p. 187). The variable was further distinguished between the extent to which participants believe they possess the skills and capabilities to be politically active (capability to influence politics; 'internal' political efficacy) and whether they believe the government cares about and is responsive to their concerns, or not (regime responsiveness; 'external' political efficacy; Dewachter & Holvoet, 2017). Both types of political efficacy will also be further divided into 'individual' and 'collective' variables, in order to distinguish between the perceived efficacies of individuals and of groups (Dewachter & Holvoet, 2017). This led to the definition of four separate indicators, as graphically shown and elucidated by **Figure 24**. In summary, *external individual efficacy* was operationalized as the extent to which respondents believe public officials care about them, whereas *internal individual efficacy* reflected the villagers' opinion on their ability to understand politics. Lastly, *external collective efficacy* and *internal collective efficacy* related to perceptions of how much would respondents, as a group, be respectively influential, and competent.

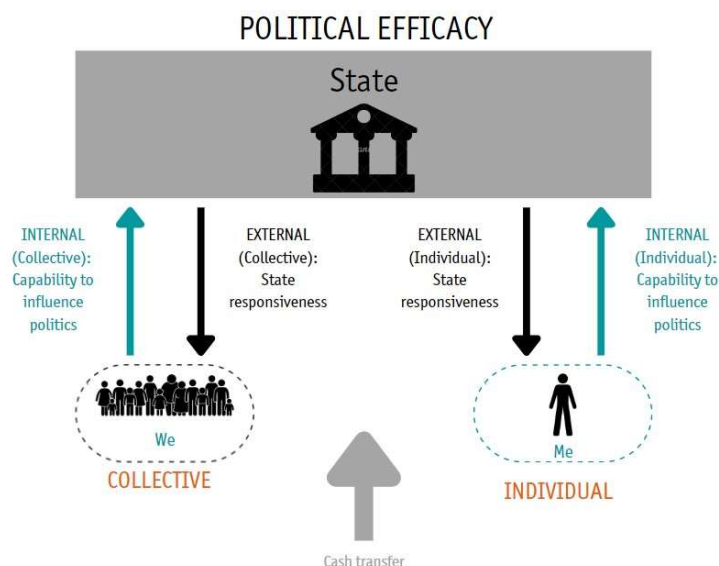


Figure 24. The dimensions of political efficacy

The remainder of the section first scrutinizes some of the existing empirical proofs on non-governmental social assistance related to the three dimensions mentioned above, before formulating hypotheses around its impacts on citizenship. As relatively little empirical evidence exists on the subject, we will need to borrow from adjacent research topics and literature. In fact, most articles evaluating social assistance (and, in particular, cash transfer) impacts on citizenship analyze governmental programs, finding generally positive effects on institutional trust (Camacho, 2014; Evans, Holtemeyer, & Kosec, 2019; W. Hunter & Sugiyama, 2014; Plageron et al., 2012) and understanding of rights and responsibilities (Dunn, 2017; Hirvonen, Schafer, & Tukiainen, 2022; Schober, 2019), but mixed consequences on state-citizen relations (Pavanello, Watson, Onyango-Ouma, & Bukuluki, 2016; Pouw et al., 2020).

2.2 NON-GOVERNMENTAL SOCIAL ASSISTANCE'S EFFECTS ON CITIZENSHIP

Concerning the *first dimension*, a case study of government-nonprofit relations in 2008's Kenya, for example, found that contacts with NGOs did not affect state legitimacy or, if they did, confidence in the government was actually higher than in the absence of those organizations. Likewise, the author concluded that positive views of non-governmental organizations did not correlate with negative perceptions of the state (Brass, 2016). Another source obtained similar insights from India, where learning that a HIV/AIDS program was foreign-funded yielded no impact on the fiscal contract between the state and its citizens (Dietrich & Winters, 2015). Negative impacts were, on the contrary, measured in Uganda, where an informational experiment found that bypass aid (i.e., donor aid to NGOs) worsened citizens' assessment of government performance. Nevertheless, government legitimacy was very low to begin with, and not affected by information on the received aid (Baldwin & Winters, 2020). Interestingly, lastly, the 2011 WFP transfer in Ecuador yielded positive effects on institutional trust, and negative impacts on interpersonal trust, at the same time (Valli, Peterman, & Hidrobo, 2019).

With regards to the *second dimension*, a multi-level analysis of the Afrobarometer survey data, across a wide range of African countries, provided strongly positive evidence for the finding that service delivery by donors and non-state actors strengthens, rather than undermines, state-citizen relations (Sacks, 2012). In addition, noticeably, one source found no impacts of Sierra Leone's governmental Social Safety Net (SSN) program on state-citizen relations (mainly because of targeting-derived transparency issues), while also registering positive consequences of the NGO-delivered 'Social Protection Rights' component of the Hunger Safety Net Programme (HNSP) in Northern Kenya (Osofian, 2011).

Finally, no solid evidence was produced around non-governmental social protection programs' effects on the posited *third dimension* of citizenship, or on political efficacy more specifically.

2.3 HYPOTHESIZED EFFECTS

In summary, even though the available evidence is limited and not always consistent, it is argued that *non-governmental social assistance* programs like CTs could yield several effects⁷³ on citizenship (**Table 43**):

- As the implementing NGO partially 'substitutes' itself to the government in social service provision, the perception of *NGOs' legitimacy* could increase (Banks et al., 2015; Fowler, 1991);
- At the same time, whereas *governmental legitimacy* could potentially deteriorate (Schuller, 2009; White, 1999), the direction of the latter effect is less clearly individuated by the related literature;
- The *interactions with non-governmental agents* are likely to intensify due to the cash transfer (in varying magnitudes, depending on program design characteristics; Cloutier et al., 2021);
- An improvement in NGO-citizen relations could potentially come at the expense of *state-citizen interactions*. Nevertheless, as the experience of state-citizen interactions is closely linked to individuals' perceptions of the state (Plagerson et al., 2012), and given the scarce and mixed (positive and null) empirical evidence on the dimension, we hypothesize, similarly to state perceptions, an unclear effect;
- Finally, in a coherent manner, we also theorize the consequences on *beneficiaries' political efficacy* to be dependent on the effects seen on the first two dimensions. Namely, theoretically speaking, we would expect a positive CT effect on internal individual political efficacy, spurred by the CT's ability to amplify recipients' skills, agency, and perceived opportunities, ultimately needed to pursue active political participation (Oduro, 2015). On the contrary, the direction of

⁷³ In line with Alik-Lagrange et al. (2021), impacts of social protection on citizenship are not envisaged to be necessarily linear effects.

the impacts on external individual efficacy is hypothesized to be less clear, given its higher level of dependence on the involvement in the community of local politicians (Dunn, 2017). In the case of collective efficacy, the starting assumption was that the transfer, especially because of its characteristics – most noticeably unconditionality and universality –, might foster positive repercussions on the variable through an augmented sense of trust in others' actions and competences (Hirvonen et al., 2022). Nevertheless, CT-led deteriorations in collective efficacy could also occur because of the decreased need for collaboration and political action that could be spurred by such a potentially beneficial social program – especially given its non-governmental nature (Brass, 2010).

Table 43. Analytical framework: hypothesized effects of non-governmental CTs on citizenship

<i>Citizenship dimensions</i>		Non-governmental CTs	
		@NGO	@STATE
I.	Perceptions of the State	+ NGO legitimacy	+/0/- gov. legitimacy
II.	State–citizen interactions	+ NGO-citizen interactions	+/0/- citizen-state interactions
III.	Understanding of rights and responsibilities	+ political efficacy	+/- political efficacy

Source: developed by the PhD candidate and supervisors grounding on Fowler, 1991; Sacks, 2012; Schuller, 2009

3. STUDY CONTEXT AND METHODOLOGY

3.1 CITIZENSHIP IN UGANDA

In today's Uganda, patterns of citizenship are manifested in phenomena of upfront contestation and mobilization of popular opposition figures, but also in mundane day-to-day life where issues of common concern are addressed together, at the micro, meso, and macro levels (Holma & Kontinen, 2020). Likewise other low-income country contexts (Plagerson et al., 2012), definitions and experiences of citizenship are embedded in multifaceted boundaries between individual and collective identities (Thompson & Tapscott, 2011), emerging from particular historical contingencies and spatialities, and molded by factors such as ethnicity and gender, amongst others (e.g., violence, patronage, belonging, and religion; Alava, Bananuka, Ahimbisibwe, & Kontinen, 2019). Comparably to the rest of Sub-Saharan Africa, furthermore, the recent expansions in social protection are increasingly shaping (and being shaped by) the social contract of the country (Cloutier et al., 2021). At the same time, the rise in NGO presence, attributed to their comparative advantages in a variety of spheres (including service delivery, advocacy, and community-based development; Lister, 2003) tends to build parallel social contracts at the local level (Bukenya, 2016).

First, to understand *how Ugandans perceive their state*, it is necessary to take into account that, in comparison to neighboring countries, the national attachment is low, with recent Afrobarometer data demonstrating how as little as 25% of individuals self-recognize themselves only or more as Ugandan, than as members of their ethnic group (Albaugh, 2016). This could help understanding why government legitimacy in Uganda is low, and not influenced by information on aid (Baldwin & Winters, 2020). Some sources even argue that NGOs have actually supported Uganda's government to increase its legitimacy, not only at the local level, but also among the international community (Parkhurst, 2005). In addition, factors such as violence, playing a key role in ensuring political support and electoral success to Museveni's regime (D. M. Anderson & Fisher, 2016), and religion, maintaining the capacity to mobilize people and influence public debates (Alava & Ssentongo, 2016; Bompani & Valois, 2017) also cause inevitable repercussions on the country's social contract and government legitimacy. *State-citizen relations*, moreover, are heavily affected by patterns of patronage, frequent under the colonial rule, and still widely used as a 'neopatrimonial' political bargaining tool (Médard & Golaz, 2013; Rubongoya, 2018; Titeca, 2018) not only during elections, but also in day-to-day interactions. This heavily politicized environment can be further explained, for example, by the existence and importance of Local Councils (LC⁷⁴) – the decisional bodies of Local Governments (LGs) – introduced in 1993 and granted with political, administrative, and fiscal powers. Their creation was central in the context of a decentralization strategy not only aimed at restoring state credibility and deepening democracy (Okidi & Guloba, 2006) – by promoting citizens' participation in the democratic process – but also at improving the quality of service delivery, which represents a direct responsibility of LGs (Muriisa, 2008). As such, a political and a more 'technocratic' state coexist in the landscape of Uganda's highly decentralized politics (Dewachter, Bamanyaki, & Holvoet, 2020).

In Uganda, moreover, according to Lubinga (2014) most citizens are *aware that they have rights and responsibilities*, although many are not sure about which specific guarantees and duties. The majority of the Ugandans also declared to be satisfied with the extent to which they are involved in the political process, and with the quality of the resulting public service delivery (Lubinga, 2014).

To conclude, in a country with diverse ethnic groups and more than fifty spoken languages, universal notions of 'Ugandan citizenship' are difficult to define: citizenship mainly takes place at the local ethnic community level (Clarke, Coll, Dagnino, & Neveu, 2014), and citizenship experiences are differentiated on the basis of the applied study lens (e.g., gender and refugee status; Tamale, 2009). In this context, Western Uganda, the specific setting of our study, is characterized by relatively high levels of Ugandan nationalism (Ricart-Huguet & Green, 2018), potentially deriving from being the (regional) birthplace of President Museveni and, most importantly, from decades of forced colonial and postcolonial

⁷⁴ The councils operate at the village (LC1), parish (multiple villages; LC2), sub-county (LC3), county (LC4), and district (LC5) levels (Golooba-Mutebi, 2008).

assimilation in the name of ‘nation-building’ (Rubongoya, 1995). In addition, recent data show comparatively low perceptions of corruption and bribery in the Western region, even though this could be explained by the local long-standing cultural logics surrounding patronage and gift-giving, which remain widespread (Vokes, 2016). Overall, then, impressions about governmental performance are negative (Afrobarometer, 2021).

3.2 SETTING AND DATA COLLECTION

This research stems from an experiment of universal unconditional mobile⁷⁵ cash transfer (UCT) in which, over a period of 2 years (January 2017 to January 2019), all adults living in a rural Western Ugandan village received a monthly payment of around €16 by a foreign NGO. Assistance was also given to each child (in a halved amount) through additional transfers to their mothers. These monetary values were purposefully determined with the aim of not drastically improving living standards, while still making a difference for beneficiaries (Davala, Jhabvala, Standing, & Mehta, 2015). All of the mentioned features explain why the implementing non-profit organization devised the project as a (small-scale) UBI experiment (Gentilini et al., 2020).

Consistently with the program features, the CT implementation was designed to limit the appearances of the foreign founders of the organization, restrained to introductory and final meetings. During the first program presentation, the project’s mission, mainly related to poverty alleviation (no formal citizenship-related objective was formally declared), was clearly pointed out, together with the not-for-profit character of the organization, while the connection with the local and national governments was not explicitly elucidated. After the start of the cash transfers, the NGO’s presence was minimal – also because of the purposefully chosen ‘mobile money’ design – and confined to monthly visits by a locally appointed manager, with the main aim, in principle, of fulfilling the organization’s communication purposes. A few periodical visits to gather interview material for the ‘Crazy Money’ documentary movie (see **Chapter 3**) based on the transfer also took place. Following Cammett & MacLean (2014)’s framework, then, it could be stated that the NGO is quite unique and that it was possibly perceived by program grantees as being rather informal and local, besides just in its aims (non-profit) and eligibility criteria (universality and unconditionality, in particular).

The dataset used for the analysis derives from an extensive survey filled in by all adults living in the cash transfer village and in a control one⁷⁶. The data was collected at three different points in time: one

⁷⁵ Mobile phone-based money transfer systems (alternatively, m-transfers, or ‘mobile money’) are electronic wallet services, allowing users to store, send, and receive money through a mobile phone (Aker, Boumniel, McClelland, & Tierney, 2016). In the case of the CT under analysis, transfers were automatically wired on beneficiaries’ mobile money account each month, without the need for any additional activity. Recipients could then collect physical cash through a mobile money agent appointed by the NGO.

⁷⁶ The treatment village was selected on the basis of a number of sociodemographic, economic, and geographical indicators. The control group was chosen to resemble it, while being distant enough, so that its inhabitants would not be aware of the ongoing CT program (guaranteeing, then, the absence of patterns of resentment and jealousy in the comparison group).

year into the implementation of the program (midline⁷⁷; January 2018), just after the end of the cash transfer (endline; January 2019) and two years after its finalization (follow-up; January 2021). The latter round was conducted accordingly with another focus of the research, namely the investigation of long-term CT effects after the end of the program (i.e., sustainability of impacts; OECD, 2021).

The survey included several questions related to citizenship as well as a network protocol, aimed at collecting individual information (ego networks⁷⁸) on different types of connections (i.e., social support, financial support, and ‘call to action’) of adult beneficiaries.

3.3 DATA MANAGEMENT AND ANALYSIS

First, to be able to ascertain whether the cash transfer had any impact on citizenship, a quasi-experimental technique was used. Given the characteristics of the available data (most notably, the reconstructed baseline values), a matching (Gertler, Martinez, Premand, Rawlings, & Vermeersch, 2016) procedure was followed, whereby citizens from the cash transfer village were ‘coupled’ with inhabitants of the control one, on the basis of a number of objective covariates⁷⁹ (i.e., age, gender, educational level, and size of the social support network at baseline) in order to determine the magnitude of cash transfer impacts. Robustness-checking of results was conducted by applying two different methods, namely Coarsened Exact Matching (CEM) and Mahalanobis Distance Matching (MDM)⁸⁰.

In order to further investigate the changes in state-citizen relations, we complemented the survey data with the mapping of the treatment village’s ‘call to action’ network over time. The latter was built by asking each beneficiary adult “*Who do you approach to try to change things for the better, in your community?*”. This network typology allowed us to identify informal and formal (duty bearers, namely

⁷⁷ The first data collection round was conducted halfway through the program implementation, in January 2018, and it is referred to as ‘midline’. Nevertheless, it also incorporated ‘recall’ questions (Nimon, Zigarmi, & Allen, 2011; Pratt, McGuigan, & Katzev, 2000) for some outcomes of interest (including network data), allowing to gather ‘reconstructed’ baseline values.

⁷⁸ Ego-centric or personal networks are defined from the perspective of a focal actor only (Hawe, Webster, & Shiell, 2004).

⁷⁹ It is often recommended to resort to dimensionality-reducing machine learning techniques (like adaptive LASSO; Least Absolute Shrinkage and Selection Operator) or model averaging (such as Bayesian) methods to adequately justify variable (more importantly, covariate) selection in quasi-experimental matching (Brookhart et al., 2006; Moral-Benito, 2013; Zhu, Schonbach, Coffman, & Williams, 2015). In fact, the parameter space could be very large, and improperly selected covariates could result in biased estimators of treatment effects (Shortreed & Ertefaie, 2017). In this case, however, because of time constraints, we rely on the theoretical assumption that the chosen (demographic and socioeconomic) covariates represent some of the most relevant drivers of citizenship, in the study context (Tamale, 2009). Furthermore, we argue that the employed variables, while associated with the outcomes of interest, are unrelated to program exposure (because the CT program was universal – the same applies to the size of recipients’ social support networks, given that only its baseline values were used for matching), ultimately improving (rather than reducing) the precision of our estimations (Shortreed & Ertefaie, 2017; Zhu et al., 2015). In this sense, while we acknowledge that other ‘true’ confounders, whose exclusion could reduce precision (Shortreed & Ertefaie, 2017), may have been left out, it should be noted that it is fundamental to conduct a balance assessment between predictive power and bias (Zhu et al., 2015), especially when low number of observations and the characteristics of the employed matching methods (CEM and MDM work in the original covariate space) do not allow matching on the basis of an exhaustive list of covariates (Iacus, King, & Porro, 2012).

⁸⁰ These were preferred to Propensity Score Matching (PSM) because, on the contrary of the latter, which matches individuals according to the predicted probability ‘to be treated’, the chosen techniques work in the original covariate space. As such, PSM would not be meaningful in the context of a universal program. Furthermore, it has also shown to increase imbalance, inefficiency, and bias, with respect to other matching methods (King & Nielsen, 2019).

active members of LCs) leaders in the community who were often consulted to tackle common problems. The resulting network ties are directed⁸¹ and binary (unweighted). Network data was codified⁸² and anonymized to respect respondents' privacy, in compliance with the commands of the obtained ethical clearance, and as clarified by the surveys' consent form signed by the interviewees. Social Network Analysis, namely the investigation of social structures through the use of networks and graph theory (Wasserman & Faust, 1994), could then be applied: in particular, some descriptive metrics at the network- and actor-levels (**Table 44**) were computed, allowing to analyze and interpret the changes in state-citizen interactions. A couple of tools for inferential network analysis, ERGM and RSiena (for robustness checking) were also implemented, in order to assess the statistical relevance of the visually obtained findings. The Exponential Random Graph Model (ERGM) approach, first developed by Wasserman and Pattison (1996), is a powerful model that has been increasingly used in recent years (Cranmer et al., 2017). ERGMs treat the existing ties in a network as a random variable, to be explained by a statistical model (Heaney, 2014). The tool can help unpacking the complex dependence and attachment structures that may have driven the network formation, and could therefore be present in the collected data. Connections may be dependent on one another because of structural network properties, such as density, reciprocity, transitivity, or edgewise shared partners (Heaney, 2014; Robins, Pattison, Kalish, & Lusher, 2007), or because of salient node attributes. The main advantage of ERGMs, with respect to other statistical tools for network analysis, is precisely their ability to specify complex dependencies by using both endogenous and exogenous parameters (Heaney, 2014). While ERGM's basic form is tailored to binary cross-sectional networks (Cranmer et al., 2017), it can also be extended to longitudinal graphs through techniques such as the Temporal ERGM (TERGM; Hanneke, Fu, & Xing, 2010), or Stochastic Actor Oriented Model (SAOM; Snijders, van de Bunt, & Steglich, 2010), often known by the name of its software implementation RSiena (Simulation Investigation for Empirical Network Analysis; Leifeld & Cranmer, 2019; Ripley et al., 2023). In this case, RSiena was preferred to TERGM because, on the contrary of the latter, it models changes taking place between time points, rather than the outcomes of such processes. This model builds, therefore, on the widely shared notion that network dynamics are influenced by the structure of the network itself, and by the characteristics and behavior of the focal actors ('ego') and of others ('alters'; Ripley et al., 2023). As such, RSiena is a theoretically more appealing choice for the analysis of network dynamics (Leifeld & Cranmer, 2019). To the best of our knowledge, no paper has yet analyzed social cash transfers' effects through the application of SNA, losing substantial explanatory potential. In general, despite all the related potential advantages, just a few direct attempts at measuring the impacts of CTs on social network-related variables have so far been produced (Attah et al., 2016; Daidone, Pellerano, Handa, &

⁸¹ A relation between two actors is directed when not inherently symmetric (Wasserman & Faust, 1994), as it naturally is the case for our 'call to action' networks.

⁸² As citizens living in the treatment village (codes starting by 'C') and external people (therefore, not receiving the cash), the latter being either 'duty bearers' (codes beginning by 'S codes'), or not ('K' codes).

Davis, 2015; Merttens et al., 2016; Ressler, 2008). Finally, qualitative insights based on key-informant interviews were also used to contextualize and provide more in-depth information about the observed patterns.

Table 44. Computed network measures

<i>Measure</i>	<i>Definition</i>
Network-level metrics	
Node count	Number of distinct network members
Tie count	Number of relational ties linking nodes
Average (in-)degree	Average number of (incoming) ties per node
Density	Ratio of actual ties to all possible ties
(In-)degree centralization	Score of inequality and variance, based on the difference between the number of ties of the most central node and those of all others
Actor-level metrics	
Degree	Tie count of a single node
(In-)degree centrality	Centrality index measuring how many other nodes a specific actor receives a connection from

Source: Hawe, Webster, & Shiell (2004)

4. RESULTS

4.1 MATCHING

4.1.1 PERCEPTIONS OF THE STATE

The effects on the *first dimension* of citizenship were investigated by analyzing the changes in the extent to which citizens felt certain actors to be (co-)responsible for their personal wellbeing. As expected, ‘me’ and ‘my household members’ received the highest scores in both villages at every measurement moment (**Figure 25**).

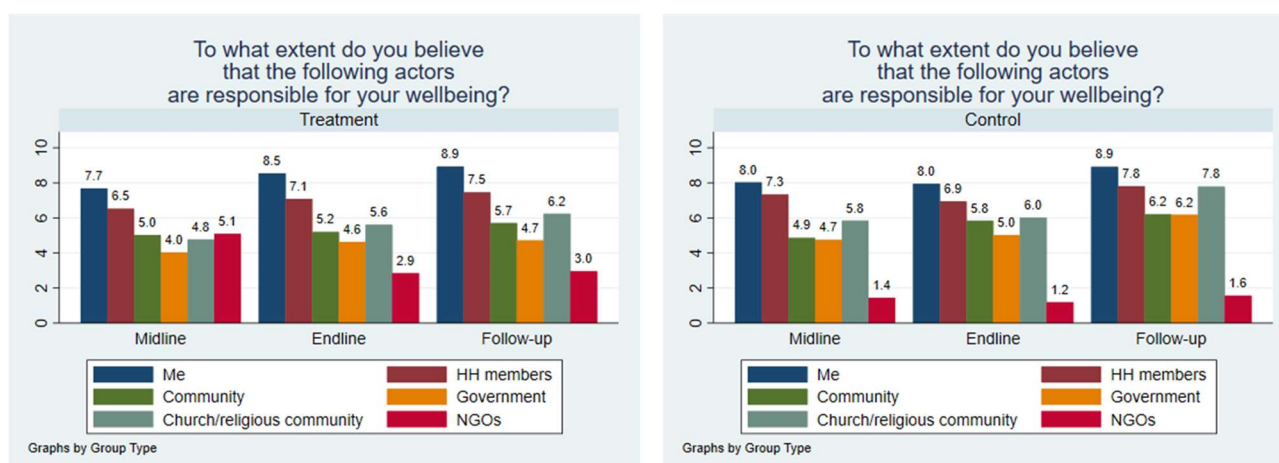


Figure 25. Perceived responsibility of various actors for respondents' wellbeing

However, noticeably, NGOs’ score was always much higher in the CT village than in the control group at any point of the CT trajectory. Additionally, even though the responsibility attributed to NGOs by beneficiaries declined over time, the difference with the control village was always substantial. These results seem to suggest a positive effect of the cash transfer on NGO legitimacy. On the contrary, the impacts on governmental legitimacy are less consistent, with slightly upward trends in both villages, but systematically higher values in the control village.

Both findings are coherent with the hypothesized outcomes and with the matching results (Table 45), which show strongly statistically significant (and positive) treatment effects on NGO legitimacy (even if declining, over time) and inconsistent impacts on state legitimacy, with negative treatment coefficients, but only significant at the follow-up stage.

4.1.2 STATE-CITIZEN INTERACTIONS (STATE/NGO LEGITIMACY)

In order to conduct a first study of CT effects on state-citizen interactions, we analyzed the frequency of contacts between citizens and technical/administrative service delivery staff, who are directly appointed by LGs and in charge of services such as infrastructure maintenance and water provision (Muriisa, 2008). As such, despite not being political representatives, service delivery staff are still considered public officials and duty bearers (Government of Uganda, 1997), constituting crucial interfaces for civilians to interact with the state (Dewachter et al., 2020). Furthermore, while other agents (e.g., church, private companies, NGOs) can also be entrusted to conduct service delivery, a more ‘traditional’ approach (Government of Uganda, 2013) is followed in the villages under study, whereby public service provision is directly managed and provided by Local Governments.

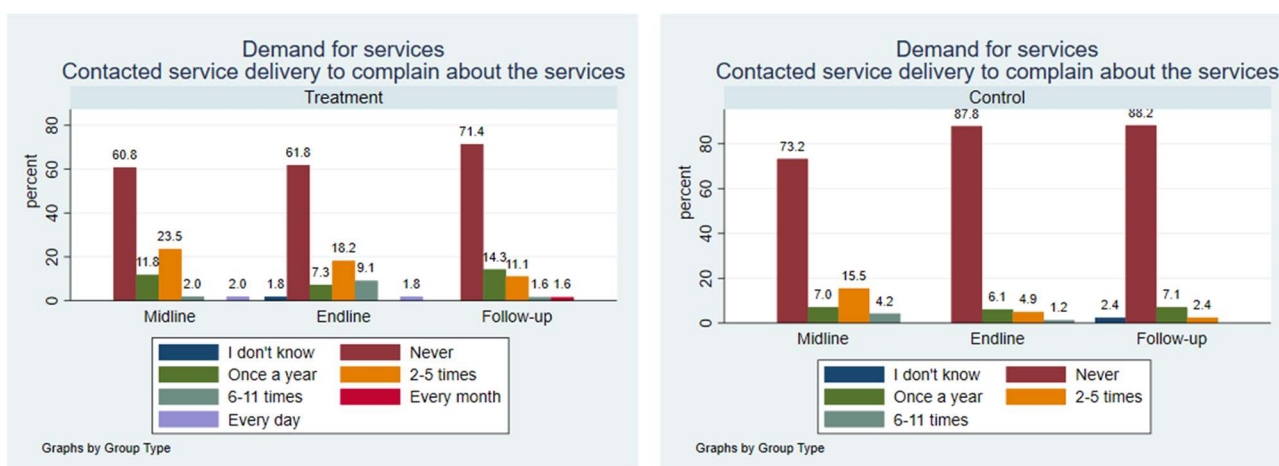


Figure 26. State-citizen interactions: frequency of contacting service delivery staff

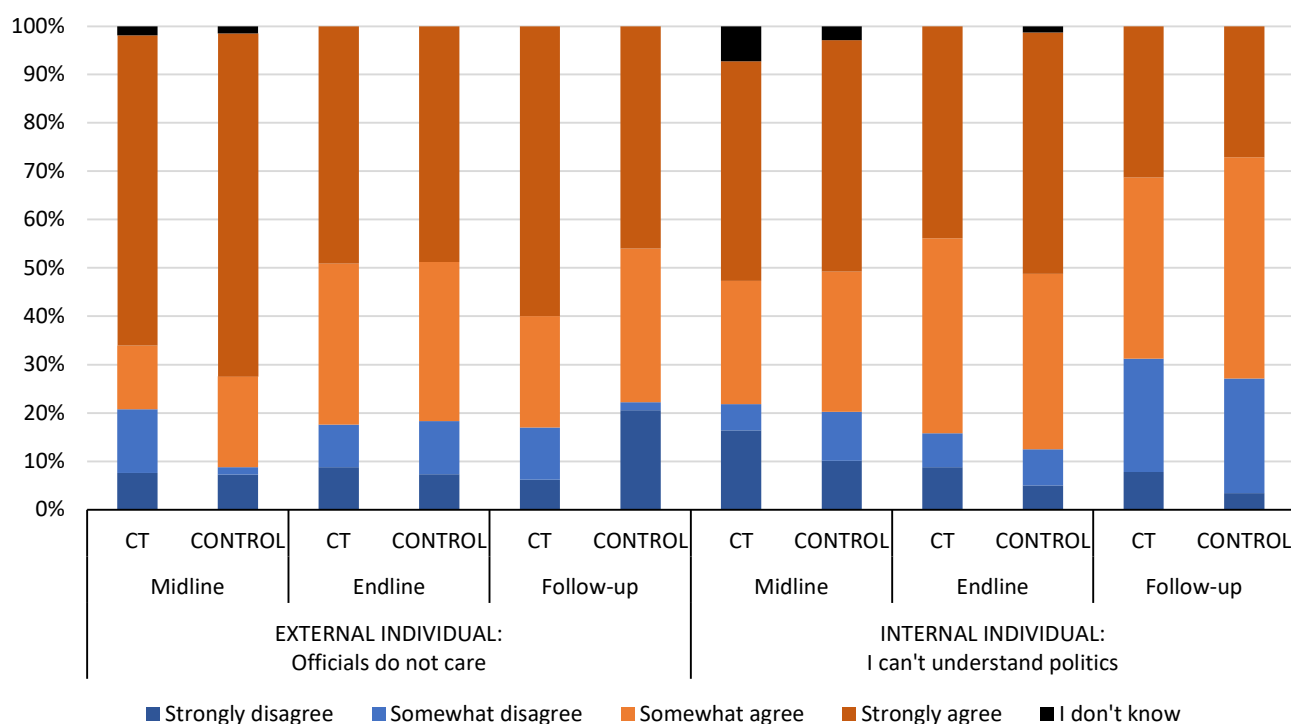
The related survey data from both villages shows that, even though a large proportion of citizens did not approach service delivery staff at all, overall, the frequency of interactions was higher in the CT village than in the control one (Figure 26) at all times, even once the CT had ended.

The matching results (**Table 45**) also confirmed these trends by highlighting positive significant effects on contacting service delivery staff at endline, which were even maintained at follow-up (with a lower magnitude, though). These insights will be further complemented with findings on interactions with duty bearers (linking social capital) by the SNA analysis of the next section.

4.1.3 BENEFICIARIES' UNDERSTANDING OF THEIR RIGHTS, RESPONSIBILITIES AND CAPABILITIES (POLITICAL EFFICACY)

4.1.3.1 Individual political efficacy

Results first of all clearly show that individual political efficacy, both internal and external, was very low from the beginning, for the control and cash transfer villages alike (**Figure 27**).



Agree	77,4%	89,8%	82,4%	81,7%	83,1%	77,8%	71,0%	76,8%	84,3%	86,3%	68,8%	72,9%
Disagree	20,8%	8,8%	17,6%	18,3%	16,9%	22,2%	21,9%	20,2%	15,7%	12,5%	31,2%	27,1%
I don't know	1,8%	1,4%	0,0%	0,0%	0,0%	0,0%	7,1%	3,0%	0,0%	1,2%	0,0%	0,0%

Figure 27. Individual political efficacy, distinguishing between internal and external

As a matter of fact, at least 75 percent of respondents – of both villages – partially or totally agreed with the statement that “Public officials do not care much about what people like me think” (external individual efficacy). At the same time, at least 65 percent of them also always supported the idea that “Politics is too complicated for persons like me to understand” (internal individual efficacy). The former acknowledgment is likely to be linked to the characteristics of the decentralized Ugandan political system (Alava et al., 2019; Albaugh, 2016; Okidi & Guloba, 2006), in which the political regime’s

responsiveness to individual political action is perceived as low (Afrobarometer, 2021). So, in sum, the citizens of both villages did not have much faith, overall, neither in their own political capabilities as an individual, nor in the regime responsiveness to their individual concerns.

The graphical analysis of results contributed, then, to partially confirming the study hypotheses. The midline data indeed showed higher levels on both indicators – and especially on external individual efficacy – in the treatment group than in the control one. Almost 21 percent of program participants disagreed, at midline, with the statement that public officials did not care about them, against just 9 percent of their control counterparts. Nevertheless, while CT recipients scored higher than the control on internal individual efficacy at all rounds, the same could not be stated concerning external individual efficacy. In fact, after displaying comparable response structures at the endline stage, external individual efficacy increased at follow-up among control villagers. This finding could be related to the visits that government representatives paid to the control village in-between the endline and follow-up stages, providing recommendations related to COVID-19 and handing out protective masks. The latter could potentially explain the observed increase in perceived government responsiveness, unseen in the treatment village, given that such visits did not take place there. Summarizing, an initial positive impact on – especially external – individual political efficacy was observed, but this did not last beyond the midline stage.

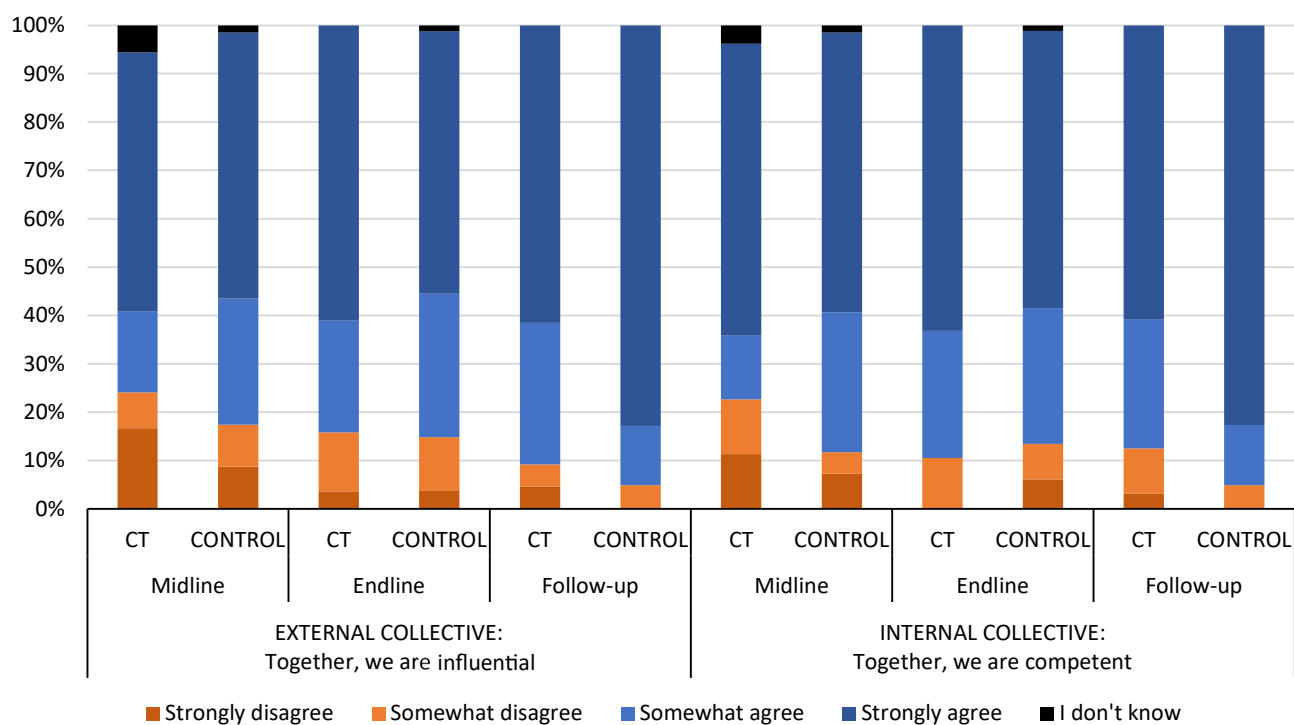
4.1.3.2 *Collective political efficacy*

A descriptive analysis (**Figure 28**) confirmed the existence of high (perceived) collective efficacy, with not less than 70 percent of citizens feeling that *“if all community members worked together, we would be able to influence policy decisions”* (external collective efficacy) and that *“Together, the community is a competent group of people, able to accomplish positive change”* (internal collective efficacy).

As a middle-aged man from the treatment village stated at endline, in fact: *“We as fellow villagers believe in each other and in our skills, and we are always trying hard to make sure that everyone is uplifted and not left behind”*.

The plotted data showed that, despite being very high in both villages at all times, both internal and external collective efficacy were almost always higher in the control group, than in the CT community. More specifically, during the project (midline), scores for internal (70% vs 81%) and external (73% vs 87%) collective efficacy were lower in the cash transfer village than the control one. This acknowledgement seems to validate the hypothesis that the CT could yield a negative impact on these variables. However, it is less intelligible whether such effects were sustained, or not. As a matter of fact, while very similar upward evolutions over time were observed for both indicators, the control group was always – with the exception of internal collective efficacy at endline – outperforming the CT

recipients. If anything, then, eventual CT impacts on the variable would be slightly negative, even though it is not clear whether they did persist over time, or not.



■ Agree	70,4%	81,2%	84,2%	83,9%	90,7%	95,1%	73,6%	87,0%	89,5%	85,4%	87,5%	95,1%
■ Disagree	24,1%	17,4%	15,8%	14,8%	9,3%	4,9%	22,6%	11,7%	10,5%	13,4%	12,5%	4,9%
■ I don't know	5,5%	1,4%	0,0%	1,3%	0,0%	0,0%	3,8%	1,3%	0,0%	1,2%	0,0%	0,0%

Figure 28. Collective political efficacy, distinguishing between internal and external

Put together, the observed patterns highlight how individual political efficacy was quite low (at most 31%), in both of the analyzed villages, whereas an analysis of the collective dimension of efficacy returned positive insights (at least 70%). While further research should be devoted at understanding these findings, the results of the analysis stress the idea that all four dimensions (collective and individual| internal and external) are fundamental variables to be considered when studying political efficacy as a crucial element for understanding citizenship in Uganda.

The descriptive insights were in part validated by an analysis of the matching coefficients (**Table 45**) computed on the variables of interest. The initially positive⁸³ and statistically significant effects measured at midline on individual (both internal and external⁸⁴) political efficacy did not last past this stage. As a consequence, it was confirmed that some starting beneficial impacts on recipients'

⁸³ Negative treatment coefficients on the indicators of individual political efficacy should be interpreted as positive impacts, given that the related statements were phrased 'negatively'.

⁸⁴ Robust effects, in the case of external individual efficacy.

individual agency and capabilities (individual internal), and on the responsiveness of the government (individual external), were actually yielded by the cash transfer, but also that these were not sustained over time.

With regards to the collective efficacy variables, inconsistent patterns and unusual trends could be drawn, with significant negative impacts measured at every but the intermediate stage. Most noticeably, CEM detected a statistically significant worsening on both variables at the follow-up round. Nevertheless, such findings, as already demonstrated by the descriptive statistics, could be attributed to the steep increase in efficacy experienced by the control village, rather than to the influence of the CT program.

Table 45. Matching-derived treatment coefficients on selected citizenship indicators

	Midline		Endline		Follow-up	
	CEM	MDM	CEM	MDM	CEM	MDM
I. Perceptions of the state						
(state/NGO legitimacy)						
Responsibility for one's wellbeing: me	-0.349 (82)	-0.926 (124)	0.814 (62)	0.420 (106)	-0.137 (87)	-0.231 (107)
Responsibility for one's wellbeing: government	-0.323 (80)	-1.000 (122)	-0.594 (61)	-0.700 (104)	-1.463*** (85)	-1.365** (105)
Responsibility for one's wellbeing: NGOs	3.977*** (82)	3.160*** (119)	2.064*** (62)	2.106*** (103)	1.827*** (76)	1.104* (99)
II. State-citizen interactions						
Frequency of contacting technical/administrative duty bearers	-0.005 (82)	0.176 (122)	0.304 (60)	0.521* (105)	0.207* (87)	0.480*** (102)
III. Beneficiaries' understanding of their rights and responsibilities						
Internal individual	-0.272 (82)	-0.473* (124)	-0.211 (62)	-0.060 (105)	-0.170 (64)	-0.196 (86)
External individual	-0.425** (82)	-0.585*** (122)	-0.006 (62)	-0.180 (106)	0.171 (68)	0.211 (91)
Internal collective	-0.195 (81)	-0.396* (122)	0.481 (62)	-0.200 (106)	-0.420** (83)	-0.294 (101)
External collective	-0.517* (81)	-0.444* (123)	0.543* (61)	-0.120 (105)	-0.363* (83)	-0.211 (102)

Legend: *, ** and *** respectively indicate statistical significance at the 10%, 5% and 1% levels. Direction, magnitude, and significance level of average treatment on the treated (ATT) coefficients are provided. CEM = Coarsened Exact Matching; MDM = Mahalanobis Distance Matching. Number of observations in brackets.

4.1.4 MULTIPLE HYPOTHESIS TESTING

In order to check for the validity of the obtained coefficients against the risk of multiple hypothesis testing-related issues, we applied the procedures outlined in the **methodology chapter**. In this case, because of the cross-sectional nature of the implemented matching techniques, p-values were grouped by survey round and by tool (given that we employed two methods, CEM and MDM). **Table 46** reports

a summary of the findings, indicating that a relatively high percentage – considering how restrictive the considered multiple-test rules are (List, Shaikh, & Xu, 2019) – of treatment coefficients remained statistically significant even after conducting the tests, virtually regardless of the specific algorithm employed. However, it should be noted that the coefficients in the ‘perceptions of the state’ outcome family appeared to be more solid than the other categories. **Tables 50-52** in the **Appendix** present the full lists of (adjusted) p-values by survey round.

Table 46. Number of p-values and adjusted p-values<0.1, by survey round, matching method and outcome group

Variable	no. outcomes	CEM				MDM			
		p-value	holm	simes	simes_FW	p-value	holm	simes	simes_FW
Midline									
Perceptions of the state	3	1	1	1	1	1	1	1	1
State-citizen relations	1	0	0	0	0	0	0	0	0
Understanding of rights and responsibilities	4	2	0	0	0	4	1	1	1
<i>Total</i>	8	3	1	1	1	5	2	2	2
Endline									
Perceptions of the state	3	1	1	1	1	1	1	1	1
State-citizen relations	1	0	0	0	0	1	0	0	1
Understanding of rights and responsibilities	4	1	0	0	0	0	0	0	0
<i>Total</i>	8	2	1	1	1	2	1	1	2
Follow-up									
Perceptions of the state	3	2	2	2	2	2	0	0	1
State-citizen relations	1	1	0	0	1	1	1	1	1
Understanding of rights and responsibilities	4	2	0	1	1	0	0	0	0
<i>Total</i>	8	5	2	3	4	3	1	1	2
Grand total	24	10	4	5	6	10	4	4	6

Legend: holm = Bonferroni-Holm method; simes = Benjamini-Hochberg method; simes_FW = Benjamini-Hochberg method, by outcome group (FW = family-wise).

4.2 STATE-CITIZEN INTERACTIONS: SOCIAL NETWORK ANALYSIS

4.2.1 NETWORK- AND ACTOR-LEVEL METRICS

To get more in-depth insights into changes in state-citizen interactions at the local level, we then proceeded to conduct a basic Social Network Analysis of the network data collected at the three considered points in time, by focusing on the treatment village’s ‘call to action’ ties.

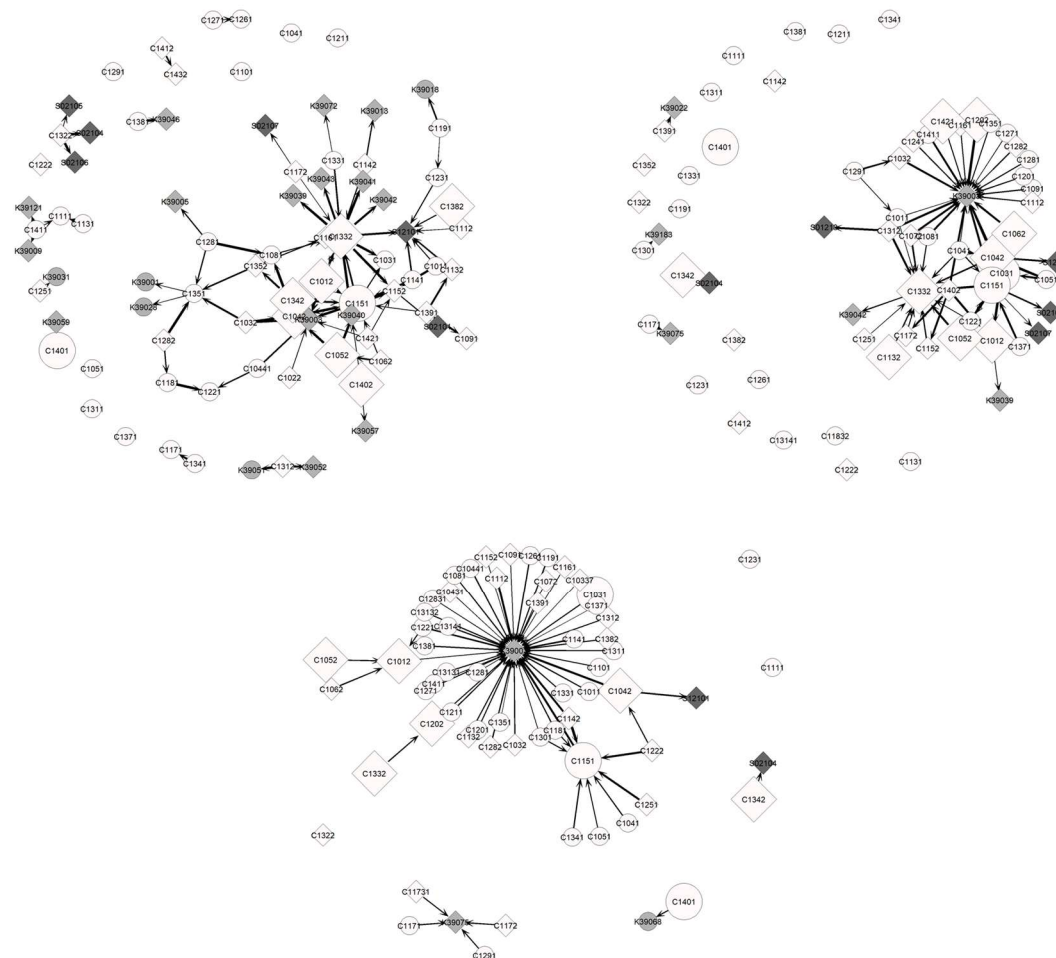
A first analysis of interactions is based on the visual presentation of the networks (**Figure 29**) and on some main descriptive metrics at the network- and actor-levels (**Table 47**), allowing us to interpret network evolutions over time.

Table 47. Network-level and actor-level (of selected actors) metrics of the 'call to action' network

	Baseline	Endline	Follow-up
Network-level metrics			
Node count	82 (56 C, 20 K, 6 S)	68 (57 C, 6 K, 5 S)	65 (60 C, 3 K, 2 S)
Tie count	83	64	63
Average in-degree	1.012	0.941	0.969
Density	0.012	0.014	0.015
In-degree centralization	0.087	0.334	0.667
Actor-level metrics: in-degree centrality			
K39003 (external CT manager)	7	23	43
S12101 (LC2 chairperson)	8	1	1
C1151 (LC1 vice-chairperson for women)	7	5	8
C1332 (LC3 chairperson)	6	13	1

Before the cash transfers, the village network consisted of 83 ties ('calls' to action) among 82 nodes (actors), namely 56 villagers and 26 external individuals, of which 6 duty bearers. On average, each person was approached by 1.012 people to change things for the better in the community (= average in-degree). The latter acknowledgment reflected itself into the network density, which was quite low, with only 1.2 percent of all theoretically possible connections being actual network ties. The overall in-degree centralization index⁸⁵ ranging from zero (not centralized at all) to one, was also relatively low at 0.087.

⁸⁵ In-degree centralization was preferred over other types of centralization indicators, which were deemed less suitable and fitting to the characteristics of the type of network under study. In fact, out-degree (based on the average number of outgoing ties) centralization was not very relevant, for the analysis of the most central actors of the network. Betweenness (number of times a node acts as a bridge along the shortest path between two nodes) centralization was not meaningful, as the 'call to action' ties are not meant to be working as bridges, but rather as bilateral direct requests. Closeness (literally, how 'close' an actor is, to the rest of the network) centralization is not computable for disconnected graphs, while, finally, the eigenvector (how well well-connected nodes are linked to other well-connected nodes) centralization could not be obtained after the baseline stage, as nodes with higher average degrees progressively monopolized all the existing ties (Wasserman & Faust, 1994).



LEGEND

- Male citizen
- Female citizen
- Male village duty bearer
- Female village duty bearer
- white*: transfer recipient, in the village ('C' code)
- gray*: individual living outside village ('K' code)
- dark gray*: duty bearer living outside village ('S' code)

Figure 29. Clockwise: 'call to action' network at the baseline, endline and follow-up stages⁸⁶

The visualizations of the network clearly show some patterns of change which occurred over time. At baseline, one major network cluster was present, together with some smaller disconnected communities. Looking at the key actors within the network and their centrality (reflected by their number of connections), there were several, relatively prominent actors dispersed over the graph. The most central positions were typically occupied by government duty bearers (such as C1151 and C1332) living inside the village (depicted as large white squares/circles). The baseline 'call to action' network could then be characterized as a *multipolar*, relatively *decentralized* one, in which *local formal leaders* took up key roles.

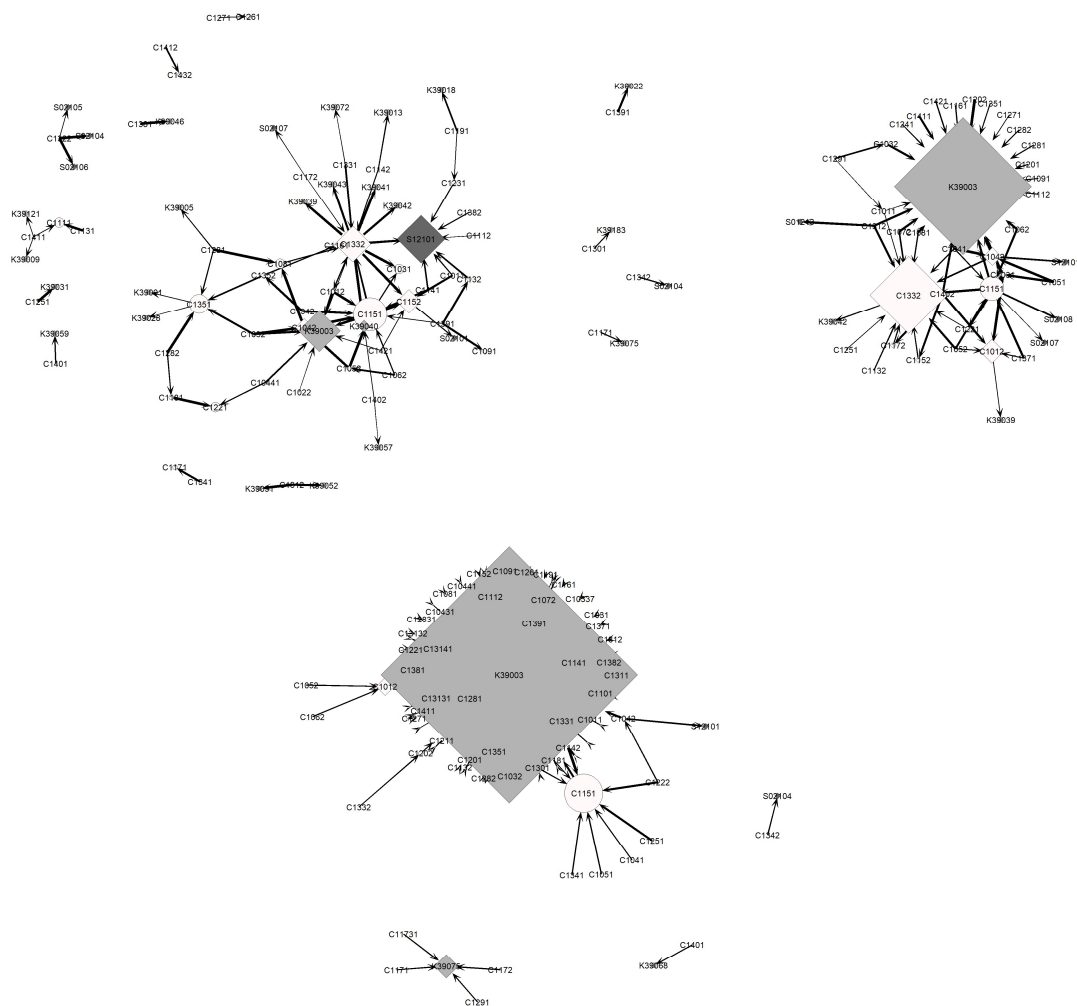
⁸⁶ For the sake of accurate graphical representation, the frequency of 'call to action', namely the 'weight' of ties, that was discarded from metric calculation, was still plotted as thickness of connection arrows.

Gradually, nevertheless, an apparent substantial evolution in state-citizen relations drove a visible metamorphosis in the ‘call to action’ network’s structure and patterns of connection. More specifically, at endline, the actor K39003 (light grey), namely the already mentioned external actor/manager linked to the CT project, seemed to have established several connections and received numerous calls to action, which ultimately located him in a central position, inside the network. At the same time, coherently, the number of external duty bearers, and their relative importance inside the graph (reflected by their number of connections), progressively decreased.

At the follow-up stage, noticeably, notwithstanding the fact that the transfer had already ended a couple of years earlier, the detected changes had not only simply remained, but the same individual had now even factually monopolized the village’s calls (receiving as many as 43 demands), and clearly become the person of reference for signaling matters of public concern. Only a few other central actors maintained their prominence, even if mainly at endline only, and with a reduced actor-level metric of in-degree centrality. At the same time, even though the overall network density of the network remained stable, its in-degree centralization score continued to dramatically increase over time, reaching its maximum value of 0.667 at follow-up, indicating how the calls to action relations were progressively more and more being directed to just a few central actors, rather than dispersed among many of them. The network evolved then into an (almost) *monopolar*, highly *centralized* graph, with an *external actor linked to the CT as the key node*.

To check the robustness of the previous statements about network evolutions over time, and especially about changes in local duty bearers’ and K39003’s importance in the network, we also resorted to plotting the graphs basing node size on node-level centrality metrics⁸⁷ (**Figure 30**). While centralization scores are single ratings reflecting the overall cohesion or integration of an entire graph, centrality measures, computed for each individual actor in the network, describe that node’s relative prominence inside the graph (Hawe et al., 2004).

⁸⁷ Isolates were not graphed, given their scarce importance in the visual representations of centrality. Only in-degree centrality-scaled graphs were plotted, as the same networks for other centrality measures would be less meaningful in this context, as already mentioned for centralization.



LEGEND

- Male citizen
- Female citizen
- Male village duty bearer
- Female village duty bearer
- white*: transfer recipient, in the village ('C' code)
- gray*: individual living outside village ('K' code)
- dark gray*: duty bearer living outside village ('S' code)

Figure 30. Clockwise: 'call to action' network at the baseline, endline and follow-up stages, with in-degree centrality measures as parameters for node size

In order to understand the changes occurred at the network level, it is necessary to clarify that, notwithstanding the program design, aimed at limiting external interference, K39003 was involved in multiple tasks related to the CT, including registration and data collection (besides the movie project that documented the entire transfer trajectory). Therefore, he frequently visited the village, interacted with the beneficiaries, and most likely many citizens implicitly started to believe him to bear the potential to facilitate action. The visibility, popularity, and respect that were granted to K39003 as a consequence, would later even benefit him with political success and the election, in 2018, as LC1 chairperson for the treatment village.

The non-governmental CT thus proved to have substantially changed the network structure, and beneficiaries' citizenship in its dimension of state-citizen relations. By making recipients feel more visible and giving them a voice, then, the cash handout created parallel structures of legitimacy, with a gradual shift of demands for action from local duty bearers to the cash transfer representative.

4.2.2 INFERENCE NETWORK ANALYSIS

4.2.2.1 An Exponential Random Graph Model (ERGM)

The network visualization and metrics in the previous paragraphs clearly showed a shift over time in the network's structure and composition, from a less centralized, multipolar graph, involving several internal and external duty bearers, towards a highly centralized, monopolar 'call to action' network, heavily relying on an external actor linked to the CT intervention.

In order to fulfil the additional purpose of checking the statistical significance of the observed changes, we could not resort to running a conventional statistical model. In fact, a typical requirement of statistical models, namely the observational independence of the data to be analyzed (it is to say, the assumption that observations do not influence each other's outcomes), does not hold valid for network data, as interactions between actors are a fundamental and integral part of the process of interest (Cranmer et al., 2017). To perform statistical investigations on networks, then, different tools, able to model network-based interdependence, are needed (Cranmer et al., 2017). In this case, we first proceeded to develop and test an ERGM model for our 'call to action' networks.

For this purpose, several endogenous⁸⁸ and exogenous parameters were chosen to model network dependencies, with the objective to match the ERGM's functional form and the underlying structure of the network data. First, a parameter for edges was included to ensure that the estimated model would produce networks with the same density as the observed dependent network. The edges (i.e., ties) parameter works then in an analog way to a regression constant term. Second, an additional endogenous parameter was included to account for connections to one's edgewise shared partners⁸⁹.

In addition to the specified endogenous terms, various exogenous ones were also taken into consideration. These could highlight patterns of dependency or popularity, such as those indicating whether individuals with certain features are more likely than others to form connections, or whether

⁸⁸ In developing the reported models, we experimented with a variety of endogenous parameters, including reciprocity, transitivity, geometrically weighted edgewise shared partners, and number nodes with a certain degree. However, the cited terms did not allow to obtain converging models or results with a satisfactory goodness of fit.

⁸⁹ Two nodes have an edgewise shared partner (ESP) if they are connected to each other, and each of them is also connected to a third actor. In other words, two nodes share an ESP if a tie between them closes a triangle. Including the ESP term, which reflects the network transitivity, is preferred to using a direct transitivity parameter, given that the number (and pattern) of triads in a network is highly constrained by the network density (Faust, 2010), which is very low for our observed graphs. The aforementioned decision to account for ESP was therefore taken in order to avoid model degeneracy (D. R. Hunter, Handcock, Butts, Goodreau, & Morris, 2008).

actors sharing a common characteristic link to each other with higher probability than to others. The former phenomenon was investigated including a couple node covariance terms reflecting being a local duty bearer and holding a leadership position in the CT village. The latter, investigating eventual patterns of homophily⁹⁰, was also analyzed through a couple parameters, respectively indicating residence in the treatment village, and gender.

An ERGM with only endogenous terms, and a complete one – as described above – were then run for the ‘call to action’ network at each data collection round, for a total of six ERGM models. **Table 48** reports the results of each approximation. The regression coefficients, when statistically significant, are to be interpreted as sizeable differences between the observed network and randomly graphed networks with the same structural characteristics (in this case, density, and number of nodes with one edgewise shared partner). In light of this, the baseline Model (2), endline Model (4), and follow-up Model (6) returned several interesting findings. For instance, being an external duty bearer ('S' code) yielded lower (negative) and decreasing log-odds of forming connections with respect to other nodes, confirming the visual insight that local politicians became less and less central in the ‘call to action’ networks of the CT village, over time. Moreover, being a duty bearer in the village was statistically associated with higher probabilities to create links up until the follow-up stage, statistically validating another insight derived from the descriptive network metrics. A further program effect could be individuated in the absence of homophily at endline, between residents of the village, even though this is potentially attributable to the rapid increase in popularity of the (external) actor K39003. Finally, the CT seems to have failed in spurring connections between genders (even though male-to-male ties were statistically more probable than female-to-female ones, at follow-up, possibly because of the absolute centrality of the male K39003 at that stage). The latter acknowledgment, nevertheless, does not imply that the intervention did not incentivize women to be more politically active and to address more calls to action, when it is recognized, for instance, that all external local duty bearers (and K39003) were male.

⁹⁰ Homophily occurs when similar – on the basis of node attributes – actors are more likely to form a connection between each other, than with dissimilar nodes (Leifeld & Schneider, 2012; McPherson, Smith-Lovin, & Cook, 2001).

Table 48. Exponential Random Graph Models for the ‘call to action’ networks

	Baseline		Endline		Follow-up	
	(1)	(2)	(3)	(4)	(5)	(6)
Exogenous parameters	Coefficient/(standard error)/[MCMC standard error]					
Node covariance: local duty bearer charge (external)		0.149 (0.248) [0.000]		-1.594** (0.495) [0.000]		-3.065*** (0.746) [0.000]
Node covariance: local duty bearer charge (CT village)		0.998*** (0.172) [0.000]		1.448*** (0.228) [0.000]		0.875** (0.284) [0.000]
Homophily: both living in CT village		-0.363 (0.211) [0.000]		-1.993*** (0.312) [0.000]		-3.900*** (0.348) [0.000]
Homophily: gender (male)		0.009 (0.138) [0.000]		-0.014 (0.211) [0.000]		0.477* (0.204) [0.000]
Endogenous parameters						
Edges	-4.601*** (0.109) [0.000]	-4.726*** (0.233) [0.000]	-4.675*** (0.136) [0.000]	-3.652*** (0.368) [0.000]	-4.349*** (0.132) [0.000]	-2.642*** (0.305) [0.000]
One edgewise shared partner	1.944*** (0.155) [0.000]	1.388*** (0.209) [0.000]	2.317*** (0.144) [0.000]	0.256 (0.398) [0.000]	1.692*** (0.215) [0.000]	0.210 (0.463) [0.000]
N (dyads)	83	83	64	64	63	63
Markov Chain Monte Carlo (MCMC) Samples	4,096	4,096	4,096	4,096	4,096	4,096
Akaike Information Criterion (AIC)	878.4	855.4	684.7	607.9	651.9	471
Bayesian Information Criterion (BIC)	892	896.2	697.6	646.5	664.6	509

Notes: Estimation was conducted using the **ergm** package in R (D. R. Hunter, Handcock, Butts, Goodreau, & Morris, 2008). *, ** and *** respectively indicate statistical significance at the 10%, 5% and 1% levels.

The goodness-of-fit model scores, reported by **Figure 31** (in the **Appendix**), indicate and confirm that the model specifications provide good representations of the observed data.

4.2.2.2 RSiena

As already anticipated, an RSiena model was also estimated (**Table 49**), in order to perform a robustness-check of the insights found through ERGM, while applying a longitudinal lens to the study of network dynamics.

Table 49. RSiena models for the ‘call to action’ networks

Rate parameters	Estimate/(standard error)/[convergence t-ratio]
Period 1	5.363*** (1.233)
Period 2	1.869*** (0.320)
Other parameters	
Outdegree (density)	-3.653*** (0.202) [-0.043]
Local duty bearer (external) alter	-0.848 (0.466) [0.030]
Local duty bearer (internal) alter	-0.126 (0.600) [0.001]
Village similarity	-1.039*** (0.223) [0.047]
Gender similarity	0.318 (0.175) [0.037]
Iteration steps	2669
Overall maximum convergence ratio	0.1789

Notes: Estimation was conducted using the **rsiena** package in R (Ripley et al., 2023). *, ** and *** respectively indicate statistical significance at the 10%, 5% and 1% levels.

The rate parameters, assimilable to constants, indicate the estimated number of (unobserved) opportunities for change per actor between periods (Ripley et al., 2023). In this case, those were statistically significant (i.e., higher than in a random network) for changes with respect to both endline and baseline. In a similar manner to the computed ERGM, the density parameter was negative and strongly statistically significant. The average number of connections for external and internal duty bearers were, though, on the contrary of ERGM, not statistically significant, indicating that such characteristics were estimated by RSiena not to be crucial in determining an excess in ties, with respect to networks changing at random. The absence of village homophily was confirmed, albeit this was, as already mentioned, heavily influenced by the emergence of K39003. Finally, it was determined, this time, that gender was not a crucial factor in the creation of links. The overall maximum convergence ratio of less than 0.25 (rule-of-thumb threshold; Ripley et al., 2023) provides a confirmation that the algorithm’s convergence level was good. Concerning the adopted parameters, the values of convergence t-ratios below 0.1 denote full convergence in each case, ultimately authenticating the run model.

5. DISCUSSION

5.1 DISCUSSIONS AND IMPLICATIONS FOR FURTHER RESEARCH

This paper provided an exploratory analysis and preliminary insights into the effects of non-governmental cash transfers on citizenship, which can help to shed some light on the existing gap in the empirical and theoretical research on the topic. In addition, the study demonstrated the utility and feasibility of SNA as a complementary investigation method.

Relevant findings were identified for each of the specified citizenship dimensions. In particular, the research hypotheses were partially confirmed, as the matching procedure found a positive effect of the CT program on NGO legitimacy, measured as the responsibility that recipients attributed to NGOs for their own wellbeing, whereas no consistently negative and significant impact was detected on the legitimacy of the state, in accordance with the mixed insights provided by the theoretical literature on the issue. Concerning the third dimension of citizenship, the most prominent insight was the very low degree of individual political efficacy, both internal and external, in contrast to the high degree of collective efficacy. Even taking possible response effects into account, the difference is remarkable and likely linked to Ugandan political structures, culture, and history (Alava et al., 2019; Okidi & Guloba, 2006). The cash transfer also yielded substantial effects on state-citizen relations. While the matching techniques indicated positive repercussions on the frequency of contacts with service delivery staff, the most interesting study insight, in this sense, was that local duty bearers were progressively substituted, in the CT village's 'call to action' network, and finally lost their prominence by receiving less and less appeals from program beneficiaries. In this context, one particular actor, linked to the intervention, centralized (and later almost monopolized) recipients' calls over time, crowding out all local state representatives and being later elected as a local duty bearer himself. Even though it is not possible to empirically demonstrate the existence of a linkage between these two dynamics, such findings provide hints potentially confirming the hypothesis that expanded NGO legitimacy could, in fact, come at the expense of state-citizen interactions. By integrating data from two years after the end of the program, our research even provided some initial and suggestive evidence of the sustainability of these effects in the long run, a task that was never carried out by other comparable studies (EPAR, 2017; Molina Millán, Barham, Macours, Maluccio, & Stampini, 2019). In this case, the detected modifications in the network's structure and characteristics were not only still present, but even amplified, at follow-up (as confirmed by ERGMs). Interestingly, the non-profit organization's influence seems to have persisted after the sudden (although planned) cessation of the program, and notwithstanding its obvious repercussions on recipients' monetary and social security.

The observed increasing relevance of the external CT agent represents a similar conclusion, in a way, to the ones reached by Evans et al. (2019), who found that the Tanzanian Pilot TASAF program did

enhance trust in government and local leaders, but in an especially large manner in those that had been elected to run the CT intervention. Nonetheless, on the contrary of Evans et al. (2019), our insights derive from the investigation of a non-governmental handout, and therefore complement the scarce available evidence on the citizenship impacts of cash transfer programs provided by non-state actors (Brass, 2016). As a consequence, the aforementioned cash transfer effects could draw important implications for debates around CT programs' politics and implementation, especially in low-income countries (Corbridge et al., 2005; Leisering & Barrientos, 2013). As a matter of fact, related discussions could be spurred within CT-implementing governments, when it was confirmed that these programs, when carried out by non-governmental actors, might contribute to substantially shape and modify the local political horizon through their impacts on citizenship (Fowler, 1991; Schuller, 2009). The clarity and magnitude of the observed program effects – in spite of the implementing NGO's attempts to reduce its presence, exemplified by the choice of resorting to 'mobile money' – seem to validate the latter assumption. Governments should then devote efforts not only to increasingly recognize cash transfer programs' potential to spur citizenship and state legitimacy (Adato, Morales Barahona, & Roopnaraine, 2016; Corbridge et al., 2005; Leisering & Barrientos, 2013), but also to develop further understanding of how non-state provision of social assistance affects these outcomes of interest, a dynamic which remains unclear (Brass, 2016; Farrington et al., 2007). In fact, even when it actually could improve citizenship, a fundamental limitation of donor-funded NGO social assistance is the inability to, for instance, build longer-term institutionalized state-citizen relations. Coherently, the state is then still perceived as necessary for enabling the sustainability of cash transfer effects (Osofian, 2011). In this sense, it should be noticed that the detected evolutions, closely linked to the implementation of the analyzed CT program, could also represent its Achille's Heel, given that a highly centralized network depends too much on one individual. If that leader disappeared, for whatever reasons, the observed network would therefore immediately collapse (Borgatti, 2003; Freeman, 1978). In the case of the CT project under study, the detected unwanted and side effects are likely to result from the role K39003 had in multiple tasks related to the program. Possibly, the closeness of a CT actor to villagers provided them with the possibility to voice demand-side concerns and to hold the implementing organization accountable (Molyneux et al., 2016), ultimately contributing to improving beneficiaries' relationship with the NGO itself (Oduro, 2015). In light of this, it is recommended that the actor of interest (and NGOs working in the region, more in general) should seek to better formalize and disclose eventual cooperative relationships with the state, in order to expand beneficiaries' access to welfare and citizenship, and to avoid potential trade-offs in their impacts. Resorting to program design features such as unconditionality and universality can also contribute to the latter objectives (Cammett & MacLean, 2014; Loewe & Zintl, 2021).

To conclude, it is argued that cash transfers (and UBI, in particular; Pateman, 2004; Van Parijs, 2004) could yield transformative and sustained impacts (Devereux & Sabates-Wheeler, 2004) on several outcomes of citizenship, rather than just immediate monetary poverty alleviation, by making beneficiaries feel 'seen' by the implementing institution (Drucza, 2016, 2019), by encouraging them to seek active participation and citizenship in their communities, and by leading them to continuously demand policymakers for positive change. The present case study could be further investigated by supplementary mixed-methods research, addressed at shedding additional light on the magnitude and consequences of those effects, and possibly refining the assumptions formulated by our analytical framework. Furthermore, supplementary research is also needed as our investigation was conducted at the micro level, with results not necessarily being generalizable and extendable to different points in space and time. Additional investigation efforts, finally, should have the purpose to further understand the nature of tie formation mechanisms between individuals (whether trust, homophily, influence, or others) in the treatment village, after having graphically (and statistically, through hypothesis testing, even though ERGM and RSiena returned slightly different findings) observed not only that there were substantial changes occurring at the network level over time, but also that the empirical graphs were always far from being random.

5.2 LIMITATIONS

A first weakness of the study derives from the fact that the baseline network data was only reconstructed halfway through the program (Pratt, McGuigan, & Katzev, 2000). In addition, the exclusion of the control village from the visual network analysis might cause over- or under-estimations of the actual CT impacts, when there actually were some. The same could be said of the choice of matching covariates (Shortreed & Ertefaie, 2017; Zhu et al., 2015), which was limited to theoretical assumptions because of time constraints. The impossibility of ERGM to process missing values in node attributes, moreover, limited the completeness of the inferential analysis: given that 'K' and 'S' codes individuals did not receive the transfer (and, therefore, fill in the surveys), it was only possible to use a few reconstruct-able variables as individual characteristics in ERGMs and RSiena: being a local duty bearer or not, CT village residence, and gender. Several other potentially interesting outcomes present in the dataset, such as information on political efficacy and organizational membership (which could shed additional light on the mechanisms driving the observed network evolutions), had, on the contrary, to be excluded. Furthermore, the decision to include isolates might have influenced the validity of the computed metrics and graphed plots. The comprehensiveness and extensivity of the program questionnaire, together with its periodical repetition over a relatively short time, may have negatively impacted the reliability of the study insights, because of possible 'respondent fatigue' (Porter, Whitcomb, & Weitzer, 2004). Finally, future analyses could also try to capture some other of the many multidimensional meanings associated with citizenship (Eyben & Ladbury, 2006).

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APPENDIX

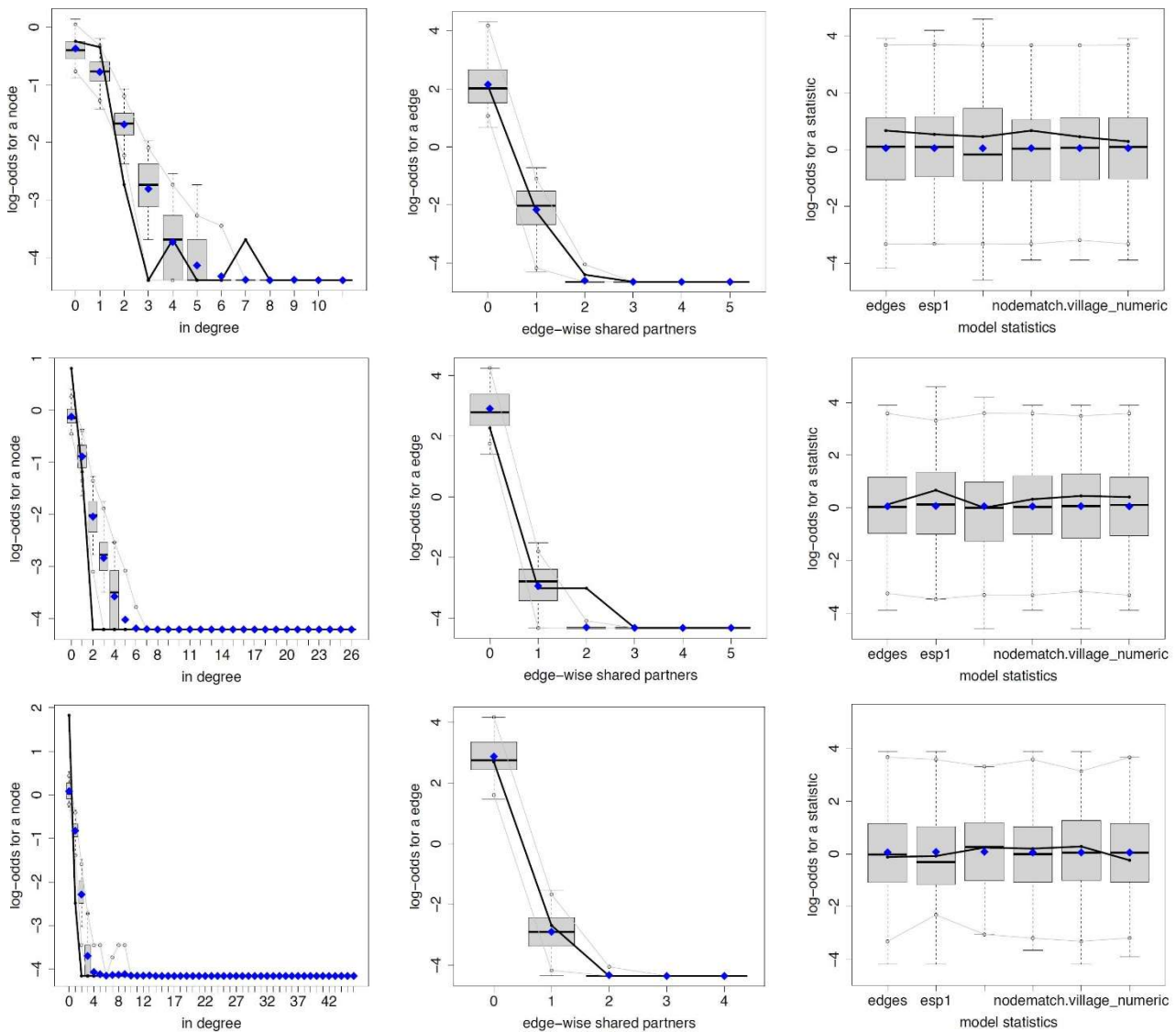


Figure 31. ERGM: goodness of fit estimations for in-degree, edgewise shared partners and models statistics in general. In descending order: baseline (Model (2)), endline (Model (4)) and follow-up (Model (6))

Even though the run models refer to different networks, produced at different points in time and with diverse amounts of nodes and ties, comparisons across model specifications' goodness of fit can be made by using the Akaike Information Criterion (AIC) and Bayesian Information Criterion (BIC). The aforementioned estimators approximate models' prediction errors, and therefore their relative quality (D. R. Anderson & Burnham, 2004). The gradual decrease in both statistics indicates the superiority of the follow-up model (6) against any other previously estimated one (D. R. Anderson & Burnham, 2004). Beyond examining the statistical significance of single parameters and error statistics, it is also important to have a look at the goodness of fit, by plotting the observed data against model simulations for some fundamental characteristics of the networks (in this case, we chose in-degree and edgewise shared partners, as recommended by Hunter et al. (2008), and in coherence with, respectively, the most interesting network metric and endogenous parameter included in our model). In this case, the

goodness-of-fit model scores indicate an imperfect fit. However, most of the observed data points, at all three collection rounds, fall within the 95% confidence interval of the simulations for each considered network feature, with the follow-up stage confirming the highest goodness of fit overall.

Table 50. Midline: multiple hypothesis testing

Variable	MDM				CEM			
	p-value	holm	simes	simes_FW	p-value	holm	simes	simes_FW
<i>Perceptions of the state</i>								
Responsibility for one's wellbeing: me	0.565	1.000	0.725	0.635	0.108	0.521	0.143	0.125
Responsibility for one's wellbeing: me	0.635	1.000	0.725	0.635	0.125	0.521	0.143	0.125
Responsibility for one's wellbeing: me	0.001***	0.001***	0.001***	0.001***	0.001***	0.001***	0.001***	0.001***
<i>State-citizen interactions</i>								
Frequency of contacting technical/administrative duty bearers	0.987	1.000	0.987	0.987	0.540	0.540	0.540	0.540
<i>Understanding of rights and responsibilities</i>								
Internal individual	0.308	1.000	0.616	0.411	0.087*	0.521	0.143	0.101
External individual	0.039**	0.272	0.156	0.138	0.002***	0.014**	0.008***	0.008***
Internal collective	0.433	1.000	0.692	0.433	0.091*	0.521	0.143	0.101
External collective	0.069*	0.412	0.184	0.138	0.098*	0.521	0.143	0.101

Legend: *, ** and *** respectively indicate statistical significance at the 10%, 5% and 1% levels. holm = Bonferroni-Holm method; simes = Benjamini-Hochberg method; simes_FW = Benjamini-Hochberg method, by outcome group (FW = family-wise).

Table 51. Endline: multiple hypothesis testing

Variable	MDM				CEM			
	p-value	holm	simes	simes_FW	p-value	holm	simes	simes_FW
<i>Perceptions of the state</i>								
Responsibility for one's wellbeing: me	0.176	0.759	0.281	0.263	0.496	1.000	0.661	0.496
Responsibility for one's wellbeing: me	0.437	1.000	0.499	0.437	0.285	1.000	0.661	0.427
Responsibility for one's wellbeing: me	0.007***	0.050**	0.05**	0.019**	0.002***	0.015**	0.015**	0.006***
<i>State-citizen interactions</i>								
Frequency of contacting technical/administrative duty bearers	0.152	0.759	0.281	0.152	0.055*	0.383	0.219	0.055*
<i>Understanding of rights and responsibilities</i>								
Internal individual	0.345	1.000	0.460	0.460	0.757	1.000	0.757	0.757
External individual	0.988	1.000	0.988	0.988	0.440	1.000	0.661	0.757
Internal collective	0.107	0.638	0.281	0.213	0.374	1.000	0.661	0.757
External collective	0.079*	0.549	0.281	0.213	0.634	1.000	0.725	0.757

Legend: *, ** and *** respectively indicate statistical significance at the 10%, 5% and 1% levels. holm = Bonferroni-Holm method; simes = Benjamini-Hochberg method; simes_FW = Benjamini-Hochberg method, by outcome group (FW = family-wise).

Table 52. Follow-up: multiple hypothesis testing

Variable	MDM				CEM			
	p-value	holm	simes	simes_FW	p-value	holm	simes	simes_FW
<i>Perceptions of the state</i>								
Responsibility for one's wellbeing: me	0.739	1.000	0.739	0.739	0.515	1.000	0.515	0.515
Responsibility for one's wellbeing: me	0.008***	0.054*	0.031**	0.012**	0.026**	0.177	0.101	0.076*
Responsibility for one's wellbeing: me	0.003***	0.021**	0.021**	0.008***	0.088*	0.527	0.215	0.132
<i>State-citizen interactions</i>								
Frequency of contacting technical/administrative duty bearers	0.069*	0.277	0.111	0.069*	0.003***	0.022**	0.022**	0.003***
<i>Understanding of rights and responsibilities</i>								
Internal individual	0.455	1.000	0.520	0.455	0.380	1.000	0.507	0.486
External individual	0.439	1.000	0.520	0.455	0.486	1.000	0.515	0.486
Internal collective	0.025**	0.150	0.067*	0.099*	0.108	0.538	0.215	0.430
External collective	0.056*	0.277	0.111	0.111	0.247	0.988	0.395	0.486

Legend: *, ** and *** respectively indicate statistical significance at the 10%, 5% and 1% levels. holm = Bonferroni-Holm method; simes = Benjamini-Hochberg method; simes_FW = Benjamini-Hochberg method, by outcome group (FW = family-wise).

CHAPTER 6

PERMANENTLY EXITING POVERTY TOGETHER? EVALUATING THE
SUSTAINABILITY OF THE COLLECTIVE-LEVEL IMPACTS OF A BASIC INCOME
EXPERIMENT IN RURAL UGANDA

PERMANENTLY EXITING POVERTY TOGETHER? EVALUATING THE SUSTAINABILITY OF THE COLLECTIVE-LEVEL IMPACTS OF A BASIC INCOME EXPERIMENT IN RURAL UGANDA^{91,92}

ABSTRACT

It is often assumed that the effects of cash transfer programs (CTs) could only be limited to temporary monetary poverty alleviation and consumption smoothing. According to theoretical discussions, such programs would in fact not bear the potential to yield long-lasting and transformative effects in recipient communities. However, the available (even if scarce) post-program evidence seems to actually suggest that positive CT repercussions on a variety of outcomes can actually persist after the cessation of support. The existing proofs, however, mainly focus on the analysis of effects at the individual and household levels, while collective-level impacts have been largely overlooked. Producing additional related evidence is crucial, when acknowledging that multiple dimensions, rather than income only, contribute to the individual status of poverty, and that sustainable reductions in poverty can only be attained through changes in the relationships that promote and perpetuate it (e.g., citizen-to-citizen and state-to-citizen interactions). In this context, this paper resorts to a quasi-experimental matching approach to explore the sustainability (i.e., persistence after end of exposure) of the impacts on collective-level variables – conceptualized as social capital, agency, and collective action – of a universal unconditional (as such, a basic income experiment) CT implemented in rural Uganda. The main findings relate to sustained or long-term impacts on social networks, life satisfaction, crime and (both individual and collective) demand for services. The observed effects on cognitive social capital could be interpreted as a persisting increase in support for universal programs, in contrast to targeted ones.

Keywords: UBI, sustainability, social capital, agency, collective action

⁹¹ A slightly revised version of this chapter is currently under review for joint publication with my supervisors.

⁹² The individual contributions of each author are reported as follows. *Filippo Grisolia*: conceptualization, investigation, software, formal analysis, visualization, validation, writing – original draft, writing – review and editing, data curation; *Nathalie Holvoet*: conceptualization, funding acquisition, resources, investigation, formal analysis, validation, supervision, writing – review and editing; *Sara Dewachter*: conceptualization, funding acquisition, resources, investigation, formal analysis, validation, supervision, writing – review and editing. All authors read and approved the final manuscript.

1. INTRODUCTION

Coherently with their increasingly common use, the effectiveness and impacts of cash transfer programs (CTs) have been widely analyzed by the literature (Bastagli et al., 2019; Davis et al., 2016; Kabeer, Piza, & Taylor, 2012). The available evidence, however, mostly focuses on CT effects at the individual and household levels (Bastagli et al., 2019), failing to acknowledge that such complex social assistance programs can profoundly shape the nature of social relations inside recipient communities (MacAuslan & Riemenschneider, 2011; Pavanello, Watson, Onyango-Ouma, & Bukuluki, 2016). In this sense, despite a recent surge in the interest and attention on this topic, the existing empirical proofs which evaluate the impacts of CTs on collective-level variables are still scarce (see **Chapter 1**). Moreover, the potential repercussions of cash transfers on social and relational patterns have also been overlooked by the theoretical literature, with just a few attempts at identifying the expected direction of impacts, returning a rather unclear outlook. As a matter of fact, while CTs could positively affect the social contract and trust in institutions (Drucza, 2016; Leites, Pereira, Rius, Salas, & Vigorito, 2017), they could also fuel feelings of resentment and jealousy towards beneficiaries (Devereux et al., 2017). Collective-level variables like social inclusion, cohesion, and stability are often still only regarded as beneficial externalities of well-designed programs – and not included in major assessment tools, such as the World Bank’s Social Risk Management (SRM) 2.0 framework (Jorgensen & Siegel, 2019).

The existence of these research gaps is not only surprising because leaving collective effects out makes it impossible to retain a complete picture of program effectiveness, but especially after considering some of the most prominent emergent trends in the debate around cash transfers’ (and social protection’s, more in general) role. First, it has by now been demonstrated that CTs can produce positive impacts on a variety of outcomes, including personal agency and social capital (Samuels, Jones, Alder, & Foley, 2013). Second, and partly as a consequence of the previous finding, scholars have been reconsidering CT’s potential to yield long-lasting and transformative effects (Devereux & Sabates-Wheeler, 2004; Molyneux, Jones, & Samuels, 2016) beyond the generally expected temporary poverty reduction and relief. As such, in particular, enhanced attention should be devoted to the collective impacts of CTs, and to their sustainability (i.e., persistence after program end; OECD, 2021). The latter statement is not only to be attributed to the fact that a positive collective impact represents a desirable outcome in itself, but also and mostly to the direct relationship between poverty and social aspects (Rock et al., 2016). In fact, numerous dimensions other than income – noticeably including social relations – concur in defining the individual status of poverty (Drucza, 2016). As such, it could be argued that it is only possible to achieve sustainable reductions in poverty through improvements in the relationships which generate and perpetuate poverty, namely the state-to-citizen and citizen-to-citizen interfaces (Devereux & McGregor, 2014).

In this context, this paper aims at expanding and complementing the (little) existing empirical evidence around CTs' collective-level impacts (see **Chapter 1**) – described as the effects on social capital, agency, and collective action – and the even scarcer literature on their sustainability (Molina Millán, Barham, Macours, Maluccio, & Stampini, 2019; Owusu-Addo et al., 2023). In order to do so, the study analyzes the collective impacts of a universal unconditional non-governmental CT program, which was carried out in a rural Ugandan village between 2017 and 2019, by resorting to quantitative data collected at three different points in time. The last round, more specifically, having been conducted in 2021 (two years after the finalization of the transfer), enabled us to evaluate whether eventual program effects on collective-level variables were sustained over time, or not.

The rest of the document is structured as follows: **Section 2** summarizes the existing knowledge on the (sustainability of the) collective-level effects of CTs, besides formulating the research questions and some related hypotheses. **Section 3** examines 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 COLLECTIVE EFFECTS OF CASH TRANSFERS

In the context of this paper, as already put forward by the **introductory chapter**, by '*collective-level*' impacts of cash transfers, we refer to positive effects on proxies of social capital, agency, and collective action. The choice to focus on these three outcome areas was driven by the acknowledgment that – while more and more deemed as a critical factor for sustainable development and societal prosperity (Garbarino & Holland, 2009) – social capital alone is not sufficient to spur collective action, another major group-level dimension. Furthermore, empirical research has demonstrated that enhancements in (influential) actors' agency are also necessary, alongside positive changes in social capital, to foster collective action and development (Krishna, 2002).

Chapter 1 has already summarized the existing evidence around the impacts of cash transfer programs on collective-level variables. Among the outcomes of interest of this study, social capital was the most widely investigated concept. Empirical investigations on its structural component return a rather mixed, but predominantly optimistic picture: positive program impacts were for instance measured on social participation and networks (de Milliano, Barrington, Angeles, & Gbedemah, 2021; Merttens et al., 2016; Pavanello et al., 2016), while negative insights were typically attributed to issues of mistargeting, leading to the insurgence of resentment and social exclusion (Adato, Roopnaraine, Alvarado Álvarez, Böttel Peña, & Meléndez Castrillo, 2004; MacAuslan & Riemenschneider, 2011). Analyses of effects on cognitive social capital also pointed to generally positive findings, with improved patterns of trust in others (Evans & Kosec, 2023), trust in institutions (Camacho, 2014), and solidarity (Granlund &

Hochfeld, 2020). On the contrary, very little efforts have been addressed, by the social protection-related literature, at investigating the impacts of CTs on agency (Nnaeme, Patel, & Plageron, 2020), possibly due to the assumption that it cannot represent a viable solution to problems of poverty and unemployment (Deacon & Mann, 1999; Wright, 2012). The few existing empirical sources, nevertheless, generally indicate positive impacts of CT programs on indicators of agency such as personal efficacy (Nnaeme et al., 2020), individual autonomy (Attah et al., 2016), and ability to act on personal goals (Gram et al., 2019; Hunter & Sugiyama, 2014; Pavanello et al., 2016; Valli, Peterman, & Hidrobo, 2019). Finally, even if quite scarce and inconclusive, the existing empirical sources found beneficial (or at least null) impacts of CTs on collective action, often measured through public goods games (Attanasio, Polania-Reyes, & Pellerano, 2015; Polanía-Reyes, 2018), or qualitatively (Evans, Holtemeyer, & Kosec, 2019).

The indicators used by this paper to measure and operationalize the outcomes of interest are schematically summarized by **Table 53**. More specifically, structural social capital was mainly captured through organizational membership, (property and violent) crime, and the size of three distinct types of each individual's social networks – social support, financial support, and 'call to action'. Cognitive social capital was investigated by analyzing the changes in responses to a hypothetical inquiry of which selection criteria would individuals trust in the event of a targeted – rather than universal – transfer, including letting local leaders, the government, or fellow villagers decide. Agency was operationalized as life satisfaction (Valli et al., 2019) and individual demand for services (e.g., frequency of attending community meetings, contacting duty bearers, etc.), while collective action was inquired as collective demand for services (i.e., frequency of getting together to raise an issue of common concern) and investment in collective projects.

Table 53. Operationalization of the outcomes of interest

Outcomes (and components)		Main adopted indicators
Social capital	Structural	Membership in organizations, crime and antisocial behaviour, social networks
	Cognitive	Interpersonal and institutional trust
Agency		Life satisfaction, individual demand for services
Collective action		Collective demand for services, collective investment

2.2 THE SUSTAINABILITY OF (COLLECTIVE) CT IMPACTS

Previous chapters of this dissertation have already discussed how a majorly overlooked (Owusu-Addo et al., 2023) issue in CT-related literature, notwithstanding the recent rise in interest, is the 'sustainability' of their effects – described as the “*extent to which the net benefits of the intervention continue or are likely to continue*” (OECD, 2021, p. 71). As already briefly introduced, the overall

sustainability of CT impacts is closely linked to collective variables, given that poverty is also described in terms of social relations, and because of the tight connection between deprivation and its social aspects (Devereux & McGregor, 2014; Rock et al., 2016). In this sense, the social capital-agency interplay is assumed to represent a crucial mechanism through which cash transfers could activate collective action, and ultimately generate the public goods (e.g., schools, water facilities, roads) needed to sustainably lift recipients out of poverty (Bodin & Crona, 2008). Through improvements in collective outcomes, then, it is claimed that CTs' benefits could go beyond mere temporary poverty alleviation, and rather include long-lasting and transformative impacts on beneficiary communities (Granlund & Hochfeld, 2020; Molyneux et al., 2016; Ressler, 2008).

This study will focus on the persistence of collective effects themselves, rather than on an overall sustainability of program impacts at large. The available evidence (see **Chapter 2**) is still very limited, with just a few empirical examples, and none of them explicitly analyzing collective action-related indicators. In Colombia, statistically significant decreases in crime (committed by men) were computed up to 8 years after the last receipt of *Familias en Acción* (Attanasio, Sosa, Medina, Meghir, & Posso-Suárez, 2021). Positive and sustained impacts on an index of trust and sense of community were registered in the context of a 'graduation' program (coupling cash with productive assets; Devereux & Sabates-Wheeler, 2015; Hashemi & Umaira, 2011) in Uganda, but just for the recipients of the full 'enterprise' program arm – on the contrary of simple CT beneficiaries (Sedlmayr, Shah, & Sulaiman, 2020). Another graduation project, the Targeting-the-Ultra-Poor (TUP), sustainably and positively impacted political involvement (an index incorporating organizational membership and individual demand for services) in various countries (Banerjee et al., 2015). Finally, a CT targeted to young girls and female adolescents in Liberia yielded long-lasting positive effects on social networks, plus agency-assimilable proxies such as gender norms (Özler et al., 2020).

2.3 RESEARCH QUESTIONS AND HYPOTHESIZED EFFECTS

This paper's main research questions were whether the analyzed CT did yield any *collective effects* on recipients, and if so, whether these *persisted after the end* of the program, or not.

In this context, building on the discussed theoretical and empirical literature, some starting hypotheses could be formulated (**Table 54**). More specifically, it is claimed that the CT program could positively impact both *structural and cognitive social capital* by enhancing networks and trust (among others) through spurring feelings of dignity, self-acceptance, and equality (Bastagli et al., 2016; Leites et al., 2017), especially because of its universal design (Drucza, 2016; Kidd, Nycander, Tran, & Cretney, 2020). In fact, such design feature allows avoiding potentially dangerous issues of resentment, jealousy, and stigma – typically derived from mistargeting and targeting errors (Babajanian & Hagen-Zanker, 2012; MacAuslan & Riemenschneider, 2011; Valli et al., 2019).

Table 54. Hypothesized collective effects (and their sustainability) of the analyzed CT

Outcomes and indicators	Effect direction	Sustained?
<i>Social capital</i>		
Structural	+	Yes
Cognitive	+	
<i>Agency</i>		
	+	
<i>Collective action</i>		
	+/-	

Agency, operationalized as life satisfaction and individual demand for services, would also be positively affected in the short term (Hunter & Sugiyama, 2014; Nnaeme et al., 2020), given the increased autonomy enabled by a predictable availability of financial means, together with the enhanced self-esteem granted by the CT (Attah et al., 2016). While a beneficial effect on *collective action* – as a result of the interplay of improved social capital and agency (Krishna, 2002) – could be expected (Attanasio et al., 2015; Polanía-Reyes, 2018), a decreased need for collaboration and political action could also be fostered by the program, not only because of its groundbreaking economic benefit, but especially given its non-governmental nature (Brass, 2010). Finally, it is further hypothesized that the eventually observed beneficial impacts on structural social capital would be maintained over time, while other effects could possibly gradually dissipate (see **Chapter 2**; Molina Millán et al., 2019).

3. DATA AND EMPIRICAL STRATEGY

3.1 SETTING AND DATA COLLECTION

This study analyzes the impacts of a universal unconditional mobile cash transfer (UCT) experiment conducted in a rural Western Ugandan village between 2017 and 2019. Over the course of two years, in fact, all the inhabitants of the village – adults, but also children (in a halved amount paid to their mothers) – received a monthly transfer from a non-profit organization. This village was selected by the implementing organization on the basis of geographical, sociodemographic, and economic criteria. The amount of the monetary transfer was established in order to make a difference for recipients, while still not drastically improving their living standards (Davalá, Jhabvala, Standing, & Mehta, 2015). It was determined, then, to set the value to 30% of the average income of local lower income families. The design features of the program – most noticeably, its universality and unconditionality – clarify the choice to define it as a small-scale UBI pilot (Gentilini, Grosh, Rigolini, & Yemtsov, 2020).

The CT recipients, together with the inhabitants of a control village⁹³, were interviewed three times in the context of the research. As a matter of fact, measurements were carried out in 2018 (one year since program inception; midline stage), 2019 (just after CT closure; endline) and 2021 (two years after its finalization; follow-up). The follow-up data collection round, more specifically, took place with the explicit goal to investigate the sustainability of eventually observed CT impacts.

3.2 DATA MANAGEMENT AND ANALYSIS

The data analysis strategy implemented by this article closely resembles those of **Chapter 5** and of **Chapter 7**. Given the lack of baseline data, a quasi-experimental matching technique (Gertler, Martinez, Premand, Rawlings, & Vermeersch, 2016) represented the only viable possibility for evaluating CT effects. The choice of matching covariates, then, was aimed at using all of the available objective variables, while still taking into consideration that their number had to be limited, given the relatively low number of observations in the dataset. As a result, cash transfer recipients were ‘matched’ with members of the control group on the basis of their age, gender, educational level, and social support network at baseline^{94,95}.

Robustness-checking of the magnitude and statistical significance of impacts was guaranteed by applying two different methods, to the assessment of program effects: Mahalanobis Distance Matching (MDM) and Coarsened Exact Matching (CEM). These were preferred to Propensity Score Matching (PSM), which is more frequently used (King & Nielsen, 2019), because resorting to PSM would fail to

⁹³ The control village was chosen to closely resemble the treatment group on its selection criteria, while ensuring that it would be located geographically distant enough, so that its inhabitants would not be aware of – and therefore not be affected by – the ongoing CT program (Gertler, Martinez, Premand, Rawlings, & Vermeersch, 2016).

⁹⁴ Proper baseline data were not collected, but it was possible to reconstruct social networks at baseline – together with some other outcomes – by resorting to a few ‘recall’ questions (Nimon, Zigarmi, & Allen, 2011; Pratt, McGuigan, & Katzev, 2000) included in the midline survey. Nevertheless, such reconstructive process did not involve any of the independent variables which represent the outcomes of interest of this study. The other mentioned covariate variables (age, gender, and educational level) were used because deemed as time-invariant, either in an absolute sense, or in cross-group comparison.

⁹⁵ It is often recommended to resort to dimensionality-reducing machine learning techniques (like adaptive LASSO; Least Absolute Shrinkage and Selection Operator) or model averaging (such as Bayesian) methods to adequately justify variable (more importantly, covariate) selection in quasi-experimental matching (Brookhart et al., 2006; Moral-Benito, 2013; Zhu, Schonbach, Coffman, & Williams, 2015). In fact, the parameter space could be very large, and improperly selected covariates could result in biased estimators of treatment effects (Shortreed & Ertefaie, 2017). In this case, however, because of time constraints, we rely on the theoretical assumption that the chosen (demographic and socioeconomic) covariates (particularly age, gender and previous social capital attainment, operationalized as the size of the social support network at baseline) represent some of the most relevant drivers of differences in collective-level outcomes (Bastagli et al., 2019). Furthermore, we argue that the employed variables, while associated with the outcomes of interest, are unrelated to program exposure (because the CT program was universal – the same applies to the size of recipients’ social support networks, given that only its baseline values were used for matching), ultimately improving (rather than reducing) the precision of our estimations (Shortreed & Ertefaie, 2017; Zhu et al., 2015). In this sense, while we acknowledge that other ‘true’ confounders, whose exclusion could reduce precision (Shortreed & Ertefaie, 2017), may have been left out, it should be noted that it is fundamental to conduct a balance assessment between predictive power and bias (Zhu et al., 2015), especially when low number of observations and the characteristics of the employed matching methods (CEM and MDM work in the original covariate space) do not allow matching on the basis of an exhaustive list of covariates (Iacus, King, & Porro, 2012).

ensure the appropriateness of the adopted methodology, in the case of a universal program⁹⁶. On the contrary, in addition to producing reduced imbalance, inefficiency, and bias – with respect to PSM (King & Nielsen, 2019; King, Nielsen, Coberley, Pope, & Wells, 2011) – both MDM and CEM work in the original covariate space⁹⁷. More specifically, MDM pairs observations on the basis of their Mahalanobis distance, it is to say their distance in the multivariate space (King et al., 2011), whereas CEM couples units with the same covariate values, before pruning the unmatched observations (Iacus, King, & Porro, 2012). While the latter characteristic of CEM could, for instance, be interpreted as a potential weakness of the implemented methodology, it should be pointed out that the validity of matching results is not hampered by a low number of observations (Pirracchio, Resche-Rigon, & Chevret, 2012). The findings gathered through the matching impact evaluation were also integrated with a few descriptive graphs and qualitative insights, whereby their inclusion was aimed at shedding additional light on the causal pathways and drivers behind the observed impacts.

4. RESULTS

This section will present the main insights derived from the performed matching analysis, distinguishing them on the basis of the described outcome areas of interest. The overall impact evaluation will also be completed by a heterogeneity analysis of effects by gender.

4.1 STRUCTURAL SOCIAL CAPITAL

The overall program impact on *organizational membership* was positive, statistically significant, and sustained (**Table 55**), as demonstrated by the computed coefficients on the total membership in organizations' score – an arithmetic sum of the individual involvement (from not a member to leader of organization) in each different type of association. Nevertheless, membership was not spurred for every kind of considered

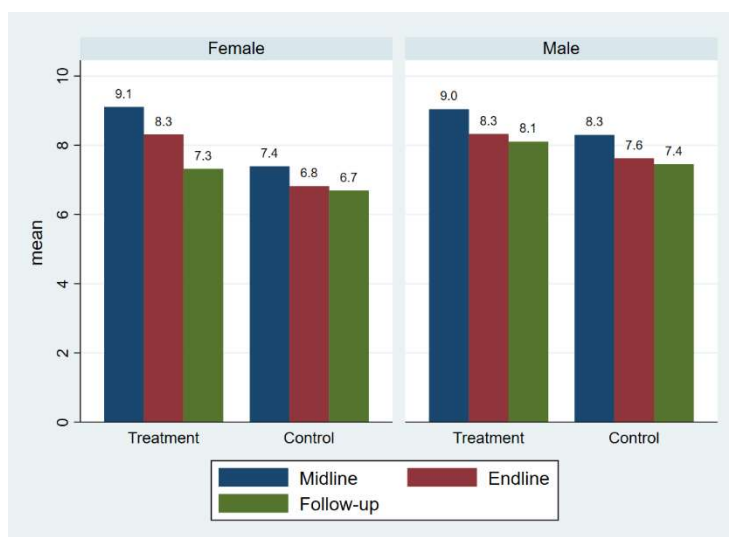


Figure 32. Average total membership score, by gender

organization: while recipients' participation in saving groups (SACCOs), NGOs, and community-based organizations (in the latter case, only significant for MDM) was fostered by the transfer, it was not

⁹⁶ As a matter of fact, PSM matches observations according to their computed probability to be 'treated'. This procedure would have not represented a meaningful operation in the context of a universal project, whereby all members of a group were chosen to receive the treatment, on the mere basis of residing in the selected village.

⁹⁷ Therefore, they can be programmed to produce identical results to exact matching, and, as a consequence, approximate a fully blocked experimental design with zero imbalance (Iacus, King, & Porro, 2012).

possible to reach the same conclusion concerning water user committees and faith-based organizations. The persisting positive effect on NGO membership should not be considered a surprising result, as it could be heavily influenced by the nature of the CT-implementing organization. Interestingly, the beneficial program repercussions on involvement in SACCOs, and, most importantly, in total organizational membership in general were led by women (**Table 60**, in the **Appendix**), as treatment coefficients on the latter variables were only statistically significant for female beneficiaries.

Table 55. Sustainability of the effects on structural social capital

Variable [range]	Midline [§]		Endline		Follow-up	
	MDM	CEM	MDM	CEM	MDM	CEM
Membership in organizations						
Community-based organizations [1,4]	0.241* (0.235) [124]	0.133 (0.149) [84]	0.327** (0.159) [104]	0.101 (0.099) [61]	0.192** (0.087) [104]	0.008 (0.086) [84]
Saving and loan groups (SACCOs) [1,4]	0.963*** (0.227) [124]	0.812*** (0.240) [83]	0.714*** (0.256) [105]	0.273 (0.254) [61]	0.451* (0.262) [105]	0.399* (0.230) [85]
Water user committees [1,4]	-0.038 (0.141) [118]	0.125 (0.100) [77]	0.022 (0.022) [100]	0.000 (0.000) [58]	0.043 (0.043) [100]	-0.011 (0.012) [76]
Faith-based organizations [1,4]	0.036 (0.248) [123]	-0.230 (0.246) [83]	0.261 (0.285) [102]	-0.093 (0.452) [60]	0.212 (0.285) [106]	0.035 (0.220) [85]
Non-Governmental Organizations [1,4]	0.431*** (0.120) [118]	0.583*** (0.177) [82]	0.245** (0.095) [105]	0.269** (0.130) [61]	0.157*** (0.059) [98]	0.161 (0.099) [79]
Other civil society organizations [1,4]	0.038 (0.039) [119]	-0.017 (0.017) [80]	0.082* (0.049) [105]	0.000 (0.000) [61]	-0.085 (0.161) [94]	-0.052 (0.069) [78]
<i>Total membership in organizations' score</i> [0,6]	1.618*** (0.584) [126]	1.413** (0.590) [84]	1.340** (0.592) [107]	0.737 (0.755) [62]	1.192** (0.551) [107]	0.905* (0.459) [87]
Crime and antisocial behaviour						
Frequency of property crimes faced by the HH during the past year [1,5]	-0.109 (0.163) [126]	-0.110 (0.128) [84]	0.000 (0.306) [105]	-0.360 (0.317) [61]	0.250 (0.261) [105]	0.591*** (0.209) [86]
<i>Comparison with just before program start [-1,1]</i>	-0.673*** (0.164) [123]	-0.588*** (0.177) [81]	-0.388* (0.214) [104]	-0.397* (0.218) [60]	-0.190 (0.194) [79]	-0.311* (0.164) [61]
Frequency of violent crimes faced by the HH during the past year [1,5]	-0.111 (0.124) [123]	0.018 (0.109) [83]	0.000 (0.146) [104]	0.031 (0.148) [61]	-0.154 (0.221) [104]	0.228 (0.201) [84]
<i>Comparison with just before program start [-1.1]</i>	-0.618*** (0.178) [125]	-0.810*** (0.167) [83]	-0.286 (0.205) [105]	-0.262 (0.224) [61]	-0.314* (0.166) [97]	-0.357*** (0.130) [78]
Social networks						
Size of social support network [0+]			0.220 (0.369) [107]	0.596 (0.370) [62]	0.500** (0.232) [107]	0.469** (0.235) [87]
Size of financial support network [0+]			0.060 (0.169) [107]	0.096 (0.167) [62]	0.577*** (0.141) [107]	0.585*** (0.196) [87]
Size of call-to-action network [0+]			0.320* (0.193) [107]	0.417* (0.241) [62]	0.365*** (0.125) [107]	0.464*** (0.120) [87]

Legend: *, ** and *** respectively indicate statistical significance at the 10%, 5% and 1% levels. Matching: direction, magnitude and significance level of average treatment on the treated (ATT) coefficients of selected indicators. MDM = Mahalanobis Distance Matching; CEM = Coarsened Exact Matching. (Robust) standard errors in brackets, number of observations in squared parentheses. [§] Baseline, in the case of social networks, so presentation of first round results not meaningful.

Figure 32, nevertheless, shows how the average organizational membership score of the treatment group was always higher than the control one for both genders, potentially implying that an actual positive effect – albeit not statistically significant – could have taken place for men, too. In this sense, the average values for recipient women were basically equal to the ones of their male counterparts, returning an interesting insight around the repercussions of the CTs, especially in light of the gender disparity shown by the control group. Women’s enhanced participation to savings groups could, on the other hand, be attributed to the fact that they – by being entitled to receive the amounts for children – were generally being granted much larger CTs than men (Fiszbein & Schady, 2009; Yoong, Rabinovich, & Diepeveen, 2012), with a consequential possibility and need to resort to such groups to improve and upscale their savings habits.

Crime and antisocial behaviour patterns did also significantly reduce, as a consequence of the program, inside and around the treatment village. As a matter of fact, even though no statistically significant coefficient was computed in the case of crime frequency variables – with the exception of an increase in perceived property misconduct at follow-up, according to CEM – sustainable reductions in delinquency were found through self-assessed comparison⁹⁸ inquiries. These reported statistically significant and sustained reductions in both property and violent crimes. The heterogeneity analysis by gender led to concluding that the magnitude of these perceived decreases was larger in the case of women, especially regarding violent crimes. The latter finding becomes particularly interesting, as female CT recipients tend to be victims of crime more often than their male counterparts (Nnaeme, 2022).

Lastly, the cash transfer also seemed to have substantially spurred *social networks*, in the long term. The follow-up increases in network sizes (i.e., the number of individuals listed by each respondent as belonging to their ‘egonetwork’; Wasserman & Faust, 1994) affected, in fact, all of the connection types accounted for by the study – spanning social support (approaching people to discuss an important matter), financial support, and ‘call-to-action’ (calling upon someone to demand positive changes in the community). This insight is consistent with the idea that, being a ‘third-order’ or ‘final’ outcome, beneficial impacts on social capital could only become visible in the longer run, and spurred by improvements on other variables typically enhanced by CTs (Bastagli et al., 2016). In the case of the ‘call-to-action’ network, however, the CT effect was visible at endline, and was maintained afterwards, providing potential hints at beneficial program impacts on ‘linking’ social capital (Warren, Thompson, & Saegert, 2001) or state-citizen relations (Plagerson, Harpham, & Kielmann, 2012), too. Nevertheless, **Chapter 5** already actually clarified that participants’ relations with the state had not necessarily been

⁹⁸ ‘Comparison’ questions asked CT-receiving respondents to equate their current situation with the one just preceding the start of the program, by indicating whether they were now doing better, the same, or worse, on a particular outcome. Control interviewees were instead demanded to perform that same comparison, but with respect to just before the first survey we conducted.

improved by the program, as CT recipients included less and less local politicians in their ‘call-to-action’ networks, over time, progressively substituting them with a representative of the CT-implementing organization. The gender disaggregation of impacts on the three network types further explicated how the positive and persisting impacts on social support networks were led by men, while those on the other two network types were larger, already visible at endline, and better sustained for women. This last insight seems to suggest that female recipients may have been enabled, by the CT, to enhance their risk-sharing and resilience (together with agency) capabilities, in the long run.

4.2 COGNITIVE SOCIAL CAPITAL

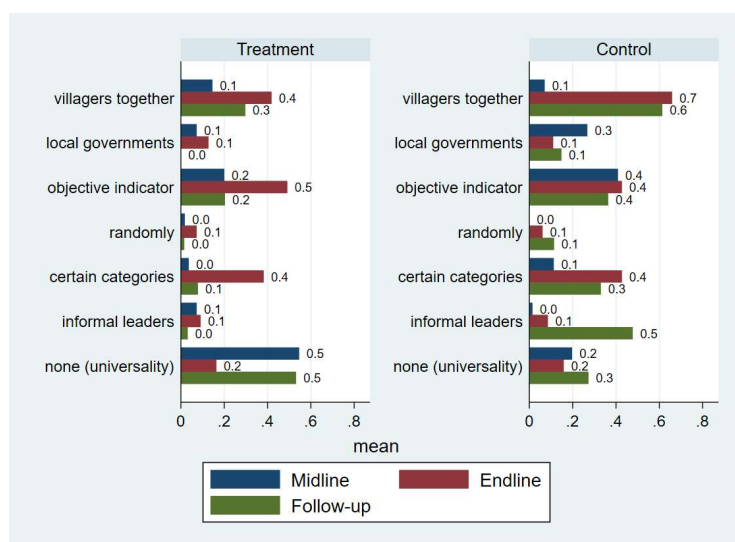


Figure 33. Trust: preferred criteria for hypothetical targeting

The cognitive component of social capital was investigated through a binary hypothetical question, which asked villagers to indicate the most appropriate and fairest targeting methods, in the event of a non-universal CT that could have been implemented in the future. Such design allowed to measure impacts on a variety of *trust proxies*, including *confidence in others and in the institutions*. Interestingly, recipients

were significantly less likely to indicate themselves collectively as appropriate decision-maker, than their control counterparts, at endline and follow-up (Table 56), even though a sustained increase in the variable was still observed in the treatment group alone (Figure 33). Trust in institutions was also negatively affected, as beneficiaries were sustainably less likely to appoint Local Governments (LGs) as fair targeters. Moreover, at follow-up respondents also began not to endorse selection criteria such as random choice, or election by certain categories. On the other hand, after an initial negative and significant (but just through CEM) treatment coefficient on targeting through an objective indicator, it could not be concluded that the CT impact the latter variable in a persistent manner. A positive cash transfer effect was measured, instead, on trust in informal leaders at midline, before turning into a strongly statistically significant and negative one at the follow-up stage. All the aforementioned findings are in line, then, with the insight that the only maintained positive program impact was on the ‘none’ option – as graphically visible in Figure 33 – even though the related coefficients were inconsistent and insignificant at the midline stage. As a result, it could be claimed that recipients, after having participated in a Universal Basic Income program, did only perceive such a grant, a universal or non-targeted one, as fair, being reluctant to accept any alternative. Overall, then, it could be stated that,

rather than an indication of decreased trust in others, in leaders, and in institutions, this general picture would point at permanently modified targeting (or rather, non-targeting) method preferences, suggesting the rise of an adverse attitude of the beneficiary community towards targeted programs, and their design and implementation flaws (Kidd et al., 2020). The heterogeneity analysis by gender (**Table 61**, in the **Appendix**) further showed that the effects on skepticism in beneficiaries' selection by villagers together, or informal community leaders, were larger and more strongly significant for men. No other very substantial gender differences were found.

Table 56. Sustainability of the effects on cognitive social capital

Variable [range]	Midline		Endline		Follow-up	
	MDM	CEM	MDM	CEM	MDM	CEM
Trust: preferred criteria for targeting of hypothetical CT [0,1]						
Villagers together	0.055 (0.090) [126]	0.060 (0.074) [84]	-0.271** (0.128) [105]	-0.321** (0.141) [60]	-0.231* (0.121) [107]	-0.295*** (0.111) [87]
Local Governments (LGs)	-0.182* (0.102) [126]	-0.140* (0.075) [84]	-0.063 (0.085) [105]	-0.025 (0.074) [60]	-0.231*** (0.088) [107]	-0.159*** (0.056) [87]
Objective indicator	-0.200 (0.124) [126]	-0.206* (0.120) [84]	0.125 (0.131) [105]	-0.007 (0.134) [60]	-0.096 (0.118) [107]	-0.123 (0.108) [87]
Randomly	0.018 (0.018) [126]	0.000 (0.000) [84]	0.000 (0.058) [105]	-0.163 (0.139) [60]	-0.096* (0.055) [107]	-0.076** (0.032) [87]
Certain categories	-0.127 (0.088) [126]	-0.184** (0.082) [84]	-0.146 (0.132) [105]	-0.150 (0.150) [60]	-0.308*** (0.104) [107]	-0.224** (0.093) [87]
Informal leaders	0.073** (0.035) [126]	0.022 (0.035) [84]	0.042 (0.083) [105]	0.068 (0.078) [60]	-0.442*** (0.109) [107]	-0.437*** (0.089) [87]
None (universal CT)	0.400*** (0.102) [126]	0.427*** (0.110) [84]	-0.063 (0.101) [105]	0.030 (0.116) [60]	0.115 (0.118) [107]	0.276*** (0.105) [87]

Legend: *, ** and *** respectively indicate statistical significance at the 10%, 5% and 1% levels. Matching: direction, magnitude and significance level of average treatment on the treated (ATT) coefficients of selected indicators. MDM = Mahalanobis Distance Matching; CEM = Coarsened Exact Matching. (Robust) standard errors in brackets, number of observations in squared parentheses.

4.3 AGENCY

The most clearly positive and statistically significant, comparatively largest, and best sustained program impacts, among collective variables, were computed on the agency proxy of *life satisfaction*. As a matter of fact, the emergence of such beneficial effects on life satisfaction was observed on all of the related variables, including comparison inquiries – with just before program start, and between the phase preceding COVID-19 and the inception of the CT (**Table 57**). Interestingly, after a slower start than their male counterparts, it was women who drove the sustainability of the impacts on life satisfaction (**Table 62**, in the **Appendix**). With the exception of the simple comparison inquiry (significant for both genders), follow-up coefficients were only statistically significant for female recipients, besides being very largely positive. The latter findings provide hints at the fact that the cash

transfer could have spurred women's agency in the long term, by putting them in a more favourable position to reach their personal goals, and therefore making them more satisfied with their lives.

Table 57. Sustainability of the effects on agency

Variable [range]	Midline		Endline		Follow-up	
	MDM	CEM	MDM	CEM	MDM	CEM
Life satisfaction						
Current life satisfaction [1,10]	1.945*** (0.510) [124]	1.996*** (0.444) [83]	1.375*** (0.503) [105]	1.378** (0.643) [60]	1.423** (0.619) [107]	0.831* (0.472) [87]
<i>Comparison with just before program start [-1,1]</i>	0.519*** (0.152) [116]	0.549*** (0.191) [77]	0.333* (0.192) [105]	0.260 (0.182) [60]	1.058*** (0.150) [107]	0.956*** (0.140) [87]
<i>Comparison pre-COVID situation with just before program start* [-1,1]</i>					0.451** (0.179) [105]	0.316* (0.176) [85]
Demand for services' frequency						
Attending a community meeting [1,7]	0.164 (0.333) [125]	0.236 (0.254) [83]	0.958*** (0.276) [105]	0.333 (0.312) [59]	0.692** (0.332) [104]	0.786*** (0.290) [84]
<i>Comparison with just before program start° [-1,1]</i>	0.377*** (0.112) [123]	0.402*** (0.129) [82]	0.064 (0.127) [104]	0.123 (0.119) [59]		
<i>Comparison pre-COVID situation with just before program start* [-1,1]</i>					0.000 (0.098) [101]	-0.018 (0.088) [85]
Actively raising an issue at a community meeting [1,7]	0.250 (0.330) [122]	0.478* (0.283) [83]	0.813*** (0.310) [105]	0.148 (0.327) [60]	0.808*** (0.309) [105]	0.818*** (0.291) [86]
<i>Comparison with just before program start° [-1,1]</i>	0.370*** (0.121) [115]	0.388*** (0.132) [76]	0.021 (0.118) [104]	0.015 (0.122) [60]		
<i>Comparison pre-COVID situation with just before program start* [-1,1]</i>					0.000 (0.101) [100]	-0.015 (0.089) [84]
Contacting service delivery to complain about their services [1,7]	0.176 (0.286) [122]	-0.006 (0.270) [82]	0.553** (0.273) [104]	0.365* (0.207) [59]	0.440*** (0.153) [101]	0.161 (0.108) [85]
<i>Comparison with just before program start° [-1,1]</i>	0.109 (0.097) [116]	0.162 (0.119) [76]	0.087 (0.085) [103]	0.022 (0.097) [59]		
<i>Comparison pre-COVID situation with just before program start* [-1,1]</i>					0.063 (0.078) [99]	0.044 (0.074) [82]
Contacting local duty bearers to complain about their services [1,7]	0.020 (0.345) [121]	-0.033 (0.144) [80]	0.511** (0.255) [104]	0.257 (0.169) [59]	-0.551 (0.493) [102]	-0.707** (0.338) [83]
<i>Comparison with just before program start° [-1,1]</i>	0.042 (0.095) [116]	0.003 (0.111) [76]	0.000 (0.080) [103]	0.000 (0.088) [58]		
<i>Comparison pre-COVID situation with just before program start* [-1,1]</i>					0.043 (0.095) [99]	0.026 (0.091) [81]

Legend: *, ** and *** respectively indicate statistical significance at the 10%, 5% and 1% levels. Matching: direction, magnitude and significance level of average treatment on the treated (ATT) coefficients of selected indicators. MDM = Mahalanobis Distance Matching; CEM = Coarsened Exact Matching. (Robust) standard errors in brackets, number of observations in squared parentheses. ° follow-up-only variable ° midline- and endline-only variable.

Effects on agency were also measured through indicators of (*individual*) demand for services., with overall positive findings, at least in the long run. The frequencies of attending a community meeting, of actively raising an issue at one of them, and of contacting service delivery, were positively – although not always robustly – affected by the CT in a sustainable manner. Nevertheless, the same could not be concluded concerning the regularity of contacting duty bearers, with even negative and significant follow-up coefficients (by CEM, only), in accordance to the previously briefly introduced ‘call-to-action’ findings

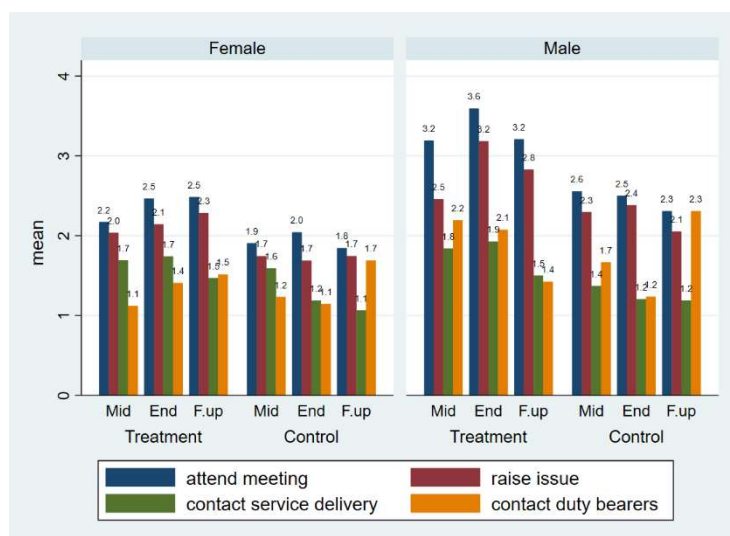


Figure 34. Individual demand for services, by gender

from Chapter 5. Gendered analyses provided the additional insight that the observed positive findings on individual demand for services were driven by impacts on women, confirming the intuitions about women’s agency obtained through studying life satisfaction. However, it should be noticed that – despite the clear program impact on female recipients – mean frequencies of individual demand for services remained substantially higher for men, as elucidated by Figure 34.

4.4 COLLECTIVE ACTION

Finally, the impacts on *collective investment* (on, for instance, schools, roads, wells, etc.) were overall insignificant at all stages, with inconsistent effect direction on the absolute variable, and on the computed comparison inquiries (Table 58). The initially robustly positive and strongly significant impacts on men’s collective investment did not last beyond the midline phase (Table 63, in the

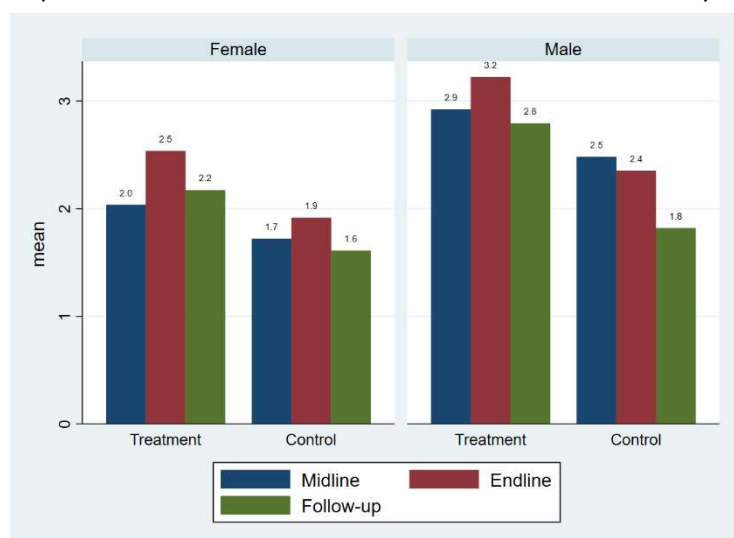


Figure 35. Collective demand for services, by gender

Appendix), with the effect rapidly fading out afterwards. On the contrary, (*collective*) demand for services, operationalized as the frequency of getting together with others to raise an issue of common concern, was positively affected by the program starting from the endline survey, with the effects being robustly sustained at the follow-up stage. The generic comparison question actually

indicated self-assessed positive program impacts on the variable at the midline stage as well. Pre-COVID comparison coefficients were (slightly) negative, albeit not in a statistically significant manner. Once again, the evidence pointed at more robust positive effects on women's ability to organize collective action, even though men's average frequencies remained higher (**Figure 35**).

Table 58. Sustainability of the effects on collective action

Variable [range]	Midline		Endline		Follow-up	
	MDM	CEM	MDM	CEM	MDM	CEM
Collective investment						
HH investment in collective projects [1,6]	0.245 (0.185) [123]	0.313 (0.274) [82]	-0.063 (0.233) [105]	-0.058 (0.108) [60]	0.137 (0.084) [103]	-0.031 (0.031) [85]
<i>Comparison with just before program start* [-1,1]</i>	0.094 (0.079) [123]	0.057 (0.110) [82]	0.063 (0.063) [105]	0.000 (0.058) [60]		
<i>Comparison pre-COVID situation with just before program start* [-1,1]</i>					-0.043 (0.066) [95]	-0.032 (0.056) [81]
Demand for services' frequency						
Getting together with others to raise an issue [1,7]	0.241 (0.350) [124]	0.325 (0.246) [82]	0.521* (0.284) [104]	0.405 (0.326) [59]	0.827** (0.320) [105]	0.747** (0.293) [85]
<i>Comparison with just before program start* [-1,1]</i>	0.327*** (0.100) [123]	0.291** (0.146) [82]	0.021 (0.122) [104]	0.035 (0.130) [60]		
<i>Comparison pre-COVID situation with just before program start* [-1,1]</i>					-0.020 (0.116) [99]	-0.008 (0.089) [83]

Legend: *, ** and *** respectively indicate statistical significance at the 10%, 5% and 1% levels. Matching: direction, magnitude and significance level of average treatment on the treated (ATT) coefficients of selected indicators. MDM = Mahalanobis Distance Matching; CEM = Coarsened Exact Matching. (Robust) standard errors in brackets, number of observations in squared parentheses. + follow-up-only variable ° midline- and endline-only variable.

4.5 MULTIPLE HYPOTHESIS TESTING

In a similar fashion to **Chapter 5**, we once again ran multiple-test procedures (as explained in the **methodology chapter**), to control for the robustness of the computed treatment coefficients. The analysis, differentiated by survey round (because of the cross-sectional nature of the selected quasi-experimental matching techniques) and applied matching tool (given that we used two), highlighted how – as theoretically expected (List, Shaikh, & Xu, 2019) – the Bonferroni-Holm rule was the most restrictive algorithm (**Table 59**), severely reducing the number of statistically significant p-values. However, the Benjamini-Hochberg method returned more optimistic insights, confirming the significance of a relatively high percentage of the calculated coefficients – especially in the case of MDM and of structural social capital and agency. On the other hand, further attention should be devoted at understanding CEM's multiple hypothesis testing performance, particularly at endline, whereby none of the previously significant coefficients was maintained as such by any of the considered procedures. **Tables 64-75** in the **Appendix** present the full lists of (adjusted) p-values by survey round.

Table 59. Number of p-values and adjusted p-values<0.1, by survey round, matching method and outcome group

Variable	no. outcomes	MDM				CEM			
		p-value	holm	simes	simes_FW	p-value	holm	simes	simes_FW
Midline									
Structural social capital	11	6	4	5	5	5	4	5	5
Cognitive social capital	7	3	1	1	1	4	1	2	2
Agency	10	4	4	4	4	5	2	4	4
Collective action	4	1	1	1	1	1	0	0	0
<i>Total</i>	32	14	10	11	11	15	7	11	11
Endline									
Structural social capital	14	7	0	2	2	3	0	0	0
Cognitive social capital	7	1	0	0	0	1	0	0	0
Agency	10	6	1	3	5	2	0	0	0
Collective action	4	1	0	0	0	0	0	0	0
<i>Total</i>	35	15	1	5	7	6	0	0	0
Follow-up									
Structural social capital	14	8	1	6	6	8	1	4	4
Cognitive social capital	7	5	1	3	3	6	1	6	6
Agency	11	6	1	6	6	6	1	4	3
Collective action	4	1	0	1	1	1	0	1	1
<i>Total</i>	36	20	3	16	16	21	3	15	14
Grand total	103	49	14	32	34	42	10	26	25

Legend: holm = Bonferroni-Holm method; simes = Benjamini-Hochberg method; simes_FW = Benjamini-Hochberg method, by outcome group (FW = family-wise).

5. DISCUSSION

This study produced additional evidence around the sustainability of CT impacts on collective-level variables, contributing to further dismiss the hypothesis that cash transfer programs are not sufficient, by themselves, to yield effects that would be maintained after their closure (Devereux & Sabates-Wheeler, 2015). The paper's research questions were addressed, and most of the formulated hypotheses confirmed: the majority of the inquired outcomes were positively affected by the CT, and some of the observed impacts – not only the ones on structural social capital – did persist up to 2 years after program cessation.

The largest and best sustained beneficial impacts were computed on social networks, life satisfaction, and collective demand for services – respectively indicators of (structural) social capital, agency, and collective action. Moreover, several interesting insights were extracted from the investigation. For instance, program recipients, after being exposed to a universal transfer, proved to be less and less willing, over time, to exchange such design with any other targeted CT – regardless of the proposed selection criteria for targeting. While potentially indicating trends of decreasing trust in others, in

institutions, and in local leaders, by not judging them worth to make a meaningful decision of the group to target, in the event of a non-universal program to be carried out in the village, the latter finding should rather be interpreted – if anything – as increasing reluctance, by the treatment group, to accept flawed targeted programs as a whole (Kidd et al., 2020). It is further claimed that universality itself might have partially driven some of the observed positive effects, by allowing to avoid the rise of feelings of resentment and jealousy, and more in general of negative influences on beneficiaries' social capital (Devereux et al., 2017; Leites et al., 2017). Furthermore, several study insights pointed at enhanced recipient agency, not only as increased life satisfaction and improved demand for services, but also through enlarged financial and 'call-to-action' social networks. Such an effect proves to be a very desirable outcome of CTs, especially in light of the fact that individuals who can access and rely on strong social networks, such as risk-sharing arrangements, are less vulnerable to shocks (Bastagli et al., 2016). As expected, nevertheless, beneficial impacts on social networks, and on other assessed collective proxies, only became manifest (or clearly visible) at the follow-up stage, coherently with their 'third-order' nature (Bastagli et al., 2016). A predictable late appearance was then also shared by program effects on collective action, operationalized as the frequency of getting together with others to raise an issue. Putting these findings together, it is therefore claimed, in accordance with the presented theoretical literature, that collective action could have been activated through the necessary concurrent positive program repercussions on both social capital and agency (Bodin & Crona, 2008). Additionally, it is expected that the enabled collective action could contribute to help participants to permanently escape the 'poverty trap', besides incrementing their perceived capabilities and resilience to shocks (Daidone, Pellerano, Handa, & Davis, 2015; Devereux & Sabates-Wheeler, 2015; Sabates-Wheeler & Devereux, 2013). In this sense, the magnitude and significance of the computed impacts acquire further relevance when acknowledging that they often persisted at follow-up, notwithstanding the outbreak of the COVID-19 pandemic – which took place in between the endline and follow-up rounds. In summary, the observed CT benefits could – as it was partially demonstrated by this paper – extend beyond mere temporary poverty alleviation, and actually represent transformative effects, for the beneficiary community (Granlund & Hochfeld, 2020; Molyneux et al., 2016; Ressler, 2008). When upscaling these programs on a larger scale, such impacts could even reflect themselves at the aggregate macro-level, given that positive shifts in social networks of beneficiary households and communities can enhance social inclusion, create greater social cohesion, and ultimately contribute to state-building by strengthening the social contract (Babajanian, 2012; Bastagli et al., 2016; Drucza, 2016).

Differential effects by gender, like the ones detected on social networks, individual and collective demand for services, and life satisfaction, could be attributed to the analyzed program's design (most noticeably, the handing out of transfers for children to their mothers, when present; Fiszbein & Schady, 2009; Yoong et al., 2012). Simultaneously, the lack of significant CT impacts on collective investment

could represent a source of concern, potentially invalidating the positive and sustained effects on collective demand for services. Future qualitative research could, nevertheless, shed additional light on the contingent events, mechanisms and pathways which drove the observed impacts (or the lack thereof).

Finally, increasing attention should be devoted to investigating issues of sustainability and transformative capacity of CTs (Devereux & Sabates-Wheeler, 2004; EPAR, 2017) and of UBI (de Paz-Báñez, Asensio-Coto, Sánchez-López, & Aceytuno, 2020; Gibson, Hearty, & Craig, 2018; **Chapter 2**), considering the scarcity of the currently available literature (see **Chapter 2**; Owusu-Addo et al., 2023). Organizations implementing such programs could particularly benefit from additional proofs around the sustainability of collective-level impacts, given its close link with the overall transformative potential of CTs (Devereux & McGregor, 2014; Rock et al., 2016). In conclusion, the study's main limitation lies in the lack of baseline data – with the exception of social network sizes – which made cross-sectional matching comparisons the only available tool for the evaluation of program impacts. Another shortcoming to be taken into account is the purely theoretical – because of time constraints – selection of covariates for matching the treatment and control groups together, which might have led to bias in impact estimation (Shortreed & Ertefaie, 2017; Zhu et al., 2015).

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APPENDIX

Table 60. Sustainability of the effects on structural social capital. Matching coefficients by gender

Variable [range]	Women						Men					
	Midline [§]		Endline		Follow-up		Midline [§]		Endline		Follow-up	
	MDM	CEM	MDM	CEM	MDM	CEM	MDM	CEM	MDM	CEM	MDM	CEM
Membership in organizations												
Community-based organizations [1,4]	0.034 (0.178) [72]	0.143 (0.188) [56]	0.160 (0.149) [58]	0.105 (0.105) [42]	0.000 (0.000) [58]	-0.011 (0.012) [57]	0.480** (0.184) [52]	0.045 (0.227) [27]	0.500* (0.286) [46]	0.143 (0.136) [29]	0.417** (0.180) [46]	0.117 (0.217) [39]
Saving and loan groups (SACCOs) [1,4]	1.172*** (0.272) [72]	1.090*** (0.284) [55]	0.760** (0.302) [58]	0.351 (0.340) [42]	0.593* (0.299) [58]	0.294 (0.283) [58]	0.680* (0.375) [52]	0.168 (0.376) [27]	0.250 (0.353) [47]	0.107 (0.332) [29]	-0.083 (0.416) [47]	0.079 (0.349) [40]
Water user committees [1,4]	0.000 (0.000) [70]	0.000 (0.000) [53]	-0.042 (0.137) [56]	-0.036 (0.038) [41]	0.000 (0.000) [56]	0.000 (0.000) [55]	-0.250 (0.322) [48]	0.319 (0.277) [23]	0.000 (0.000) [44]	0.000 (0.000) [27]	0.100 (0.100) [36]	-0.028 (0.029) [34]
Faith-based organizations [1,4]	0.034 (0.337) [70]	-0.061 (0.307) [55]	0.080 (0.377) [58]	-0.012 (0.508) [42]	0.500 (0.342) [59]	-0.013 (0.295) [58]	-0.346 (0.446) [53]	-0.644 (0.417) [27]	0.381 (0.441) [44]	0.110 (0.367) [28]	-0.250 (0.456) [47]	0.031 (0.400) [41]
Non-Governmental Organizations [1,4]	0.321* (0.163) [68]	0.429** (0.212) [54]	0.320** (0.138) [58]	0.421** (0.176) [42]	0.185* (0.093) [56]	0.098 (0.120) [55]	0.565*** (0.176) [50]	0.750*** (0.270) [27]	0.167 (0.130) [47]	0.000 (0.000) [29]	0.125* (0.069) [42]	0.125 (0.085) [37]
Other civil society organizations [1,4]	0.000 (0.000) [68]	0.000 (0.000) [53]	0.000 (0.000) [58]	0.000 (0.000) [42]	0.000 (0.000) [53]	0.000 (0.000) [52]	0.080 (0.080) [51]	-0.071 (0.072) [26]	0.167* (0.098) [47]	0.071 (0.071) [29]	-0.182 (0.349) [41]	-0.407 (0.302) [38]
<i>Total membership in organizations' score</i> [0,6]	1.552** (0.644) [73]	1.611** (0.703) [56]	1.240* (0.753) [59]	1.043 (0.900) [43]	1.464** (0.659) [60]	0.844 (0.659) [60]	0.923 (0.877) [53]	0.659 (1.056) [27]	0.720 (0.914) [48]	0.321 (0.614) [29]	0.625 (0.842) [47]	0.542 (0.798) [41]
Crime and antisocial behaviour												
Frequency of property crimes faced by the HH during the past year [1,5]	-0.034 (0.184) [73]	-0.117 (0.128) [56]	0.120 (0.339) [58]	-0.125 (0.394) [42]	0.286 (0.355) [59]	0.731*** (0.237) [59]	-0.192 (0.280) [53]	-0.065 (0.259) [27]	-0.125 (0.501) [47]	-0.286 (0.407) [29]	0.458 (0.350) [46]	0.583* (0.302) [41]
<i>Comparison with just before program start [-1,1]</i>	-0.519** (0.228) [71]	-0.736*** (0.185) [54]	-0.480* (0.260) [58]	-0.217 (0.224) [42]	-0.174 (0.263) [46]	-0.138 (0.184) [41]	-0.640*** (0.222) [52]	-0.520* (0.286) [26]	-0.167 (0.346) [46]	-0.455* (0.248) [28]	-0.211 (0.229) [33]	-0.251 (0.223) [29]

Frequency of violent crimes faced by the HH during the past year [1,5]	0.000 (0.166) [72]	0.099 (0.123) [56]	-0.040 (0.217) [58]	0.136 (0.152) [42]	0.036 (0.285) [58]	0.383 (0.236) [57]	-0.280 (0.199) [51]	-0.133 (0.189) [26]	0.130* (0.072) [46]	0.071 (0.184) [29]	-0.208 (0.310) [46]	-0.073 (0.236) [41]
<i>Comparison with just before program start [-1.1]</i>	-0.517** (0.242) [73]	-0.913*** (0.191) [56]	-0.320 (0.257) [58]	-0.148 (0.235) [42]	-0.370 (0.226) [56]	-0.276* (0.139) [55]	-0.577** (0.261) [52]	-0.844*** (0.281) [26]	-0.333 (0.317) [47]	-0.321 (0.253) [29]	-0.292 (0.174) [41]	-0.353* (0.175) [37]
Social networks												
Size of social support network [0+]			0.280 (0.433) [59]	0.596 (0.425) [43]	0.036 (0.329) [60]	0.415* (0.249) [60]			-0.160 (0.574) [48]	0.786* (0.455) [29]	1.000*** (0.336) [47]	0.833** (0.360) [41]
Size of financial support network [0+]			0.320** (0.132) [59]	0.307** (0.130) [43]	0.571*** (0.194) [60]	0.619*** (0.225) [60]			-0.320 (0.321) [48]	-0.321 (0.275) [29]	0.500** (0.203) [47]	0.521** (0.252) [41]
Size of call-to-action network [0+]			0.560** (0.234) [59]	0.675** (0.290) [43]	0.357** (0.143) [60]	0.528*** (0.135) [60]			0.000 (0.355) [48]	0.143 (0.249) [29]	0.458** (0.226) [47]	0.375* (0.196) [41]

Legend: *, ** and *** respectively indicate statistical significance at the 10%, 5% and 1% levels. Matching: direction, magnitude and significance level of average treatment on the treated (ATT) coefficients of selected indicators. MDM = Mahalanobis Distance Matching; CEM = Coarsened Exact Matching. (Robust) standard errors in brackets, number of observations in squared parentheses. * follow-up-only variable. ⁵ Baseline, in the case of social networks, so presentation of first round results not meaningful.

Table 61. Sustainability of the effects on cognitive social capital. Matching coefficients by gender

Variable [range]	Women						Men					
	Midline		Endline		Follow-up		Midline		Endline		Follow-up	
	MDM	CEM	MDM	CEM	MDM	CEM	MDM	CEM	MDM	CEM	MDM	CEM
Trust: preferred criteria for targeting of hypothetical CT [0,1]												
Villagers together	0.034 (0.129) [73]	0.124 (0.095) [56]	-0.080 (0.175) [59]	-0.169 (0.174) [42]	-0.179 (0.164) [60]	-0.366*** (0.133) [60]	0.115* (0.064) [53]	0.055 (0.098) [27]	-0.478*** (0.176) [46]	-0.478** (0.174) [28]	-0.375** (0.158) [47]	-0.479*** (0.148) [41]
Local Governments (LGs)	-0.241* (0.125) [73]	-0.187** (0.079) [56]	0.040 (0.119) [59]	0.051 (0.082) [42]	-0.179* (0.102) [60]	-0.157* (0.082) [60]	-0.154 (0.169) [53]	-0.052 (0.166) [27]	-0.174 (0.154) [46]	-0.214* (0.119) [28]	-0.167 (0.155) [47]	-0.271** (0.110) [41]
Objective indicator	-0.103 (0.150) [73]	-0.206 (0.145) [56]	0.280* (0.166) [59]	0.134 (0.153) [42]	0.036 (0.141) [60]	-0.011 (0.136) [60]	-0.423** (0.188) [53]	-0.324 (0.194) [27]	0.000 (0.212) [46]	-0.223 (0.202) [28]	-0.417** (0.184) [47]	-0.385** (0.150) [41]
Randomly	0.000 (0.000) [73]	0.000 (0.000) [56]	-0.120 (0.079) [59]	-0.146 (0.153) [42]	-0.071 (0.063) [60]	-0.047 (0.030) [60]	0.038 (0.038) [53]	0.091 (0.090) [27]	0.130* (0.072) [46]	-0.036 (0.037) [28]	0.000 (0.099) [47]	-0.063 (0.094) [41]
Certain categories	-0.138 (0.097) [73]	-0.156* (0.078) [56]	-0.160 (0.173) [59]	-0.090 (0.180) [42]	-0.393*** (0.143) [60]	-0.209* (0.188) [60]	-0.038 (0.128) [53]	-0.105 (0.078) [27]	-0.087 (0.211) [46]	-0.412** (0.184) [28]	-0.292* (0.161) [47]	-0.271** (0.126) [41]
Informal leaders	0.103* (0.058) [73]	0.027 (0.052) [56]	0.000 (0.108) [59]	0.087 (0.075) [42]	-0.357*** (0.134) [60]	-0.449*** (0.111) [60]	0.038 (0.038) [53]	0.000 (0.000) [27]	0.043 (0.128) [46]	0.041 (0.085) [28]	-0.625*** (0.161) [47]	-0.656*** (0.104) [41]
None (universal CT)	0.414*** (0.140) [73]	0.392*** (0.148) [56]	-0.240 (0.147) [59]	-0.220 (0.164) [42]	0.214 (0.161) [60]	0.346*** (0.125) [60]	0.385*** (0.134) [53]	0.285 (0.179) [27]	0.174** (0.081) [46]	0.313* (0.158) [28]	0.125 (0.158) [47]	0.229 (0.148) [41]

Legend: *, ** and *** respectively indicate statistical significance at the 10%, 5% and 1% levels. Matching: direction, magnitude and significance level of average treatment on the treated (ATT) coefficients of selected indicators. MDM = Mahalanobis Distance Matching; CEM = Coarsened Exact Matching. (Robust) standard errors in brackets, number of observations in squared parentheses. * follow-up-only variable.

Table 62. Sustainability of the effects on agency. Matching coefficients by gender

Variable [range]	Women						Men					
	Midline		Endline		Follow-up		Midline		Endline		Follow-up	
	MDM	CEM	MDM	CEM	MDM	CEM	MDM	CEM	MDM	CEM	MDM	CEM
Life satisfaction												
Current life satisfaction [1,10]	1.586** (0.659) [72]	1.664*** (0.551) [55]	0.560 (0.522) [59]	0.756 (0.583) [42]	2.143*** (0.803) [60]	0.997* (0.555) [60]	2.077** (0.790) [52]	2.130*** (0.715) [27]	2.391*** (0.871) [46]	1.777* (0.884) [28]	0.375 (0.944) [47]	0.313 (0.738) [41]
<i>Comparison with just before program start [-1,1]</i>	0.724*** (0.179) [68]	0.491** (0.225) [52]	0.160 (0.236) [59]	0.264 (0.198) [42]	1.143*** (0.165) [60]	0.897*** (0.186) [60]	0.280 (0.240) [48]	0.539** (0.261) [25]	0.478 (0.330) [46]	0.401 (0.345) [28]	0.792*** (0.236) [47]	0.552** (0.246) [41]
<i>Comparison pre-COVID situation with just before program start* [-1,1]</i>					0.630*** (0.234) [59]	0.393* (0.223) [58]					0.292 (0.247) [46]	0.281 (0.218) [41]
Demand for services' frequency												
Attending a community meeting [1,7]	0.345 (0.321) [72]	0.382 (0.323) [55]	0.458 (0.334) [58]	0.102 (0.352) [40]	0.786* (0.428) [58]	0.970*** (0.322) [57]	-0.115 (0.507) [53]	-0.294 (0.431) [27]	1.292*** (0.404) [47]	0.893** (0.397) [29]	0.875* (0.509) [46]	0.604 (0.446) [41]
<i>Comparison with just before program start* [-1,1]</i>	0.481*** (0.142) [70]	0.405** (0.168) [54]	0.083 (0.152) [58]	0.150 (0.136) [41]			0.308* (0.174) [53]	0.206 (0.194) [27]	0.043 (0.242) [46]	0.426** (0.182) [28]		
<i>Comparison pre-COVID situation with just before program start* [-1,1]</i>					0.000 (0.134) [59]	-0.080 (0.110) [59]					0.000 (0.153) [42]	-0.042 (0.074) [40]
Actively raising an issue at a community meeting [1,7]	0.429 (0.390) [71]	0.690* (0.361) [55]	0.542 (0.356) [58]	0.350 (0.380) [41]	0.786* (0.434) [59]	0.895*** (0.330) [59]	-0.208 (0.515) [51]	-0.412 (0.419) [27]	1.000** (0.456) [47]	0.321 (0.449) [29]	1.042** (0.443) [46]	0.896** (0.419) [41]
<i>Comparison with just before program start* [-1,1]</i>	0.400*** (0.140) [67]	0.348** (0.157) [51]	0.042 (0.126) [58]	0.048 (0.118) [41]			0.333 (0.203) [48]	0.229 (0.260) [24]	-0.043 (0.208) [46]	0.349 (0.212) [28]		
<i>Comparison pre-COVID situation with just before program start* [-1,1]</i>					0.000 (0.134) [59]	-0.080 (0.110) [59]					-0.050 (0.165) [41]	-0.042 (0.074) [39]
Contacting service delivery to complain about their services [1,7]	-0.192 (0.372) [70]	-0.006 (0.320) [54]	0.521* (0.276) [57]	0.539** (0.275) [40]	0.519*** (0.163) [57]	0.288** (0.139) [59]	0.480 (0.421) [52]	0.191 (0.360) [27]	0.708 (0.461) [47]	0.286 (0.269) [29]	0.391 (0.264) [44]	0.100 (0.203) [40]

<i>Comparison with just before program start° [-1,1]</i>	0.250** (0.101) [67]	0.267** (0.105) [52]	0.000 (0.108) [57]	0.059 (0.104) [40]			0.045 (0.169) [49]	-0.179 (0.256) [23]	0.174 (0.120) [46]	0.153 (0.153) [28]		
<i>Comparison pre-COVID situation with just before program start° [-1,1]</i>					0.074 (0.098) [58]	-0.009 (0.078) [57]					0.095 (0.121) [41]	0.046 (0.109) [39]
Contacting local duty bearers to complain about their services [1,7]	-0.080 (0.166) [68]	-0.119 (0.175) [52]	0.043 (0.262) [57]	0.268 (0.212) [40]	0.107 (0.551) [58]	0.030 (0.314) [57]	0.346 (0.665) [53]	0.124 (0.323) [27]	0.958** (0.429) [47]	0.214 (0.246) [29]	-1.429* (0.773) [44]	-1.928*** (0.670) [39]
<i>Comparison with just before program start° [-1,1]</i>	0.000 (0.102) [66]	-0.031 (0.101) [51]	0.000 (0.108) [57]	0.059 (0.104) [40]			0.087 (0.157) [50]	0.043 (0.229) [24]	0.000 (0.109) [46]	-0.167 (0.112) [27]		
<i>Comparison pre-COVID situation with just before program start° [-1,1]</i>					0.000 (0.121) [58]	-0.075 (0.104) [57]					0.100 (0.129) [41]	0.000 (0.121) [38]

Legend: *, ** and *** respectively indicate statistical significance at the 10%, 5% and 1% levels. Matching: direction, magnitude and significance level of average treatment on the treated (ATT) coefficients of selected indicators. MDM = Mahalanobis Distance Matching; CEM = Coarsened Exact Matching. (Robust) standard errors in brackets, number of observations in squared parentheses. ° follow-up-only variable ° midline- and endline-only variable.

Table 63. Sustainability of the effects on collective action. Matching coefficients by gender

Variable [range]	Women						Men					
	Midline		Endline		Follow-up		Midline		Endline		Follow-up	
	MDM	CEM	MDM	CEM	MDM	CEM	MDM	CEM	MDM	CEM	MDM	CEM
Collective investment												
HH investment in collective projects [1,6]	-0.071 (0.272) [71]	0.194 (0.316) [54]	0.000 (0.000) [58]	0.000 (0.000) [41]	0.107 (0.107) [58]	0.000 (0.000) [58]	0.600*** (0.208) [52]	0.818*** (0.293) [27]	-0.125 (0.543) [47]	-0.286 (0.368) [29]	0.000 (0.236) [45]	-0.125 (0.189) [41]
<i>Comparison with just before program start° [-1,1]</i>	0.074 (0.102) [70]	0.024 (0.105) [54]	-0.083 (0.058) [58]	-0.111 (0.076) [41]			0.115 (0.115) [53]	0.091 (0.209) [27]	0.250** (0.122) [47]	0.071 (0.071) [29]		
<i>Comparison pre-COVID situation with just before program start° [-1,1]</i>					-0.077 (0.098) [54]	-0.056 (0.074) [56]					0.000 (0.069) [41]	-0.071 (0.071) [38]
Demand for services' frequency												
Getting together with others to raise an issue [1,7]	0.464 (0.315) [71]	0.518 (0.312) [54]	0.417 (0.384) [57]	0.326 (0.407) [40]	0.714* (0.365) [59]	0.824*** (0.287) [58]	-0.077 (0.560) [53]	-0.194 (0.341) [27]	0.625 (0.407) [47]	0.464 (0.401) [29]	1.167** (0.575) [46]	0.583 (0.465) [41]
<i>Comparison with just before program start° [-1,1]</i>	0.346*** (0.121) [70]	0.241 (0.153) [54]	0.083 (0.144) [57]	0.122 (0.149) [41]			0.308* (0.155) [53]	0.455** (0.205) [27]	-0.042 (0.195) [47]	0.214 (0.207) [29]		
<i>Comparison pre-COVID situation with just before program start° [-1,1]</i>					0.000 (0.134) [58]	-0.045 (0.109) [57]					-0.048 (0.175) [41]	-0.089 (0.090) [39]

Legend: *, ** and *** respectively indicate statistical significance at the 10%, 5% and 1% levels. Matching: direction, magnitude and significance level of average treatment on the treated (ATT) coefficients of selected indicators. MDM = Mahalanobis Distance Matching; CEM = Coarsened Exact Matching. (Robust) standard errors in brackets, number of observations in squared parentheses. ° follow-up-only variable ° midline- and endline-only variable.

Table 64. Midline: multiple hypothesis testing (structural social capital)

Variable	MDM				CEM			
	p-value	holm	simes	simes_FW	p-value	holm	simes	simes_FW
<i>Membership in organizations</i>								
Community-based organizations	0.077*	1.000	0.176	0.141	0.375	1.000	0.506	0.433
Saving and loan groups (SACCOs)	0.001***	0.002***	0.002***	0.001***	0.002***	0.031**	0.008***	0.005***
Water user committees	0.786	1.000	0.838	0.864	0.216	1.000	0.371	0.395
Faith-based organizations	0.884	1.000	0.913	0.884	0.352	1.000	0.502	0.433
Non-Governmental Organizations	0.001***	0.014**	0.004***	0.002***	0.002***	0.038**	0.008***	0.005***
Other civil society organizations	0.320	1.000	0.487	0.502	0.327	1.000	0.502	0.433
<i>Total membership in organizations' score</i>	0.007***	0.143	0.019**	0.015**	0.019**	0.415	0.059*	0.042**
<i>Crime and antisocial behaviour</i>								
Frequency of property crimes faced by the HH during the past year	0.505	1.000	0.647	0.618	0.393	1.000	0.508	0.433
<i>Comparison with just before program start</i>	0.001***	0.003***	0.002***	0.001***	0.002***	0.037**	0.008***	0.005***
Frequency of violent crimes faced by the HH during the past year	0.373	1.000	0.542	0.513	0.870	1.000	0.929	0.870
<i>Comparison with just before program start</i>	0.001***	0.020**	0.004***	0.002***	0.001***	0.001***	0.001***	0.001***

Legend: *, ** and *** respectively indicate statistical significance at the 10%, 5% and 1% levels. holm = Bonferroni-Holm method; simes = Benjamini-Hochberg method; simes_FW = Benjamini-Hochberg method, by outcome group (FW = family-wise).

Table 65. Endline: multiple hypothesis testing (structural social capital)

Variable	MDM				CEM			
	p-value	holm	simes	simes_FW	p-value	holm	simes	simes_FW
<i>Membership in organizations</i>								
Community-based organizations	0.043**	1.000	0.168	0.148	0.314	1.000	0.614	0.518
Saving and loan groups (SACCOs)	0.007***	0.215	0.077*	0.077*	0.287	1.000	0.614	0.518
Water user committees	0.320	1.000	0.560	0.498	1.000	1.000	1.000	1.000
Faith-based organizations	0.362	1.000	0.576	0.507	0.838	1.000	1.000	0.977
Non-Governmental Organizations	0.011**	0.341	0.077*	0.077*	0.044**	1.000	0.506	0.393
Other civil society organizations	0.100*	1.000	0.235	0.201	1.000	1.000	1.000	1.000
<i>Total membership in organizations' score</i>	0.026**	0.77	0.150	0.120	0.333		0.614	0.518
<i>Crime and antisocial behaviour</i>								
Frequency of property crimes faced by the HH during the past year	1.000	1.000	1.000	1.000	0.261	1.000	0.614	0.518
<i>Comparison with just before program start</i>	0.073*	1.000	0.213	0.201	0.074*	1.000	0.522	0.393
Frequency of violent crimes faced by the HH during the past year	1.000	1.000	1.000	1.000	0.835	1.000	1.000	0.977
<i>Comparison with just before program start</i>	0.166	1.000	0.364	0.291	0.248	1.000	0.614	0.518
<i>Social networks</i>								
Size of social support network	0.553	1.000	0.774	0.703	0.113	1.000	0.561	0.393
Size of financial support network	0.724	1.000	0.905	0.844	0.567	1.000	0.944	0.794
Size of call-to-action network	0.099*	1.000	0.235	0.201	0.089*	1.000	0.522	0.393

Legend: *, ** and *** respectively indicate statistical significance at the 10%, 5% and 1% levels. holm = Bonferroni-Holm method; simes = Benjamini-Hochberg method; simes_FW = Benjamini-Hochberg method, by outcome group (FW = family-wise).

Table 66. Follow-up: multiple hypothesis testing (structural social capital)

Variable	MDM				CEM			
	p-value	holm	simes	simes_FW	p-value	holm	simes	simes_FW
<i>Membership in organizations</i>								
Community-based organizations	0.030**	0.740	0.086*	0.079*	0.923	1.000	0.930	0.923
Saving and loan groups (SACCOs)	0.089*	1.000	0.168	0.155	0.087*	1.000	0.148	0.151
Water user committees	0.320	1.000	0.491	0.434	0.329	1.000	0.438	0.419
Faith-based organizations	0.459	1.000	0.590	0.525	0.874	1.000	0.925	0.923
Non-Governmental Organizations	0.009***	0.27	0.045**	0.041**	0.106	1.000	0.173	0.164
Other civil society organizations	0.599	1.000	0.695	0.599	0.454	1.000	0.583	0.529
<i>Total membership in organizations' score</i>	0.033**	0.787	0.086*	0.079*	0.052*	1.000	0.110	0.121
<i>Crime and antisocial behaviour</i>								
Frequency of property crimes faced by the HH during the past year	0.341	1.000	0.491	0.434	0.006***	0.186	0.032**	0.027**
<i>Comparison with just before program start</i>	0.331	1.000	0.491	0.434	0.063*	1.000	0.126	0.126
Frequency of violent crimes faced by the HH during the past year	0.488	1.000	0.606	0.525	0.259	1.000	0.373	0.362
<i>Comparison with just before program start</i>	0.062*	1.000	0.131	0.124	0.008***	0.224	0.033**	0.027**
<i>Social networks</i>								
Size of social support network	0.034**	0.787	0.086*	0.079*	0.049**	1.000	0.110	0.121
Size of financial support network	0.001***	0.004***	0.002***	0.002***	0.004***	0.124	0.032**	0.027**
Size of call-to-action network	0.005***	0.142	0.036**	0.030**	0.001***	0.008***	0.003***	0.003***

Legend: *, ** and *** respectively indicate statistical significance at the 10%, 5% and 1% levels. holm = Bonferroni-Holm method; simes = Benjamini-Hochberg method; simes_FW = Benjamini-Hochberg method, by outcome group (FW = family-wise).

Table 67. Midline: multiple hypothesis testing (cognitive social capital)

Variable	MDM				CEM			
	p-value	holm	simes	simes_FW	p-value	holm	simes	simes_FW
<i>Trust: preferred criteria for targeting of hypothetical CT</i>								
Villagers together	0.549	1.000	0.650	0.549	0.418	1.000	0.519	0.502
Local Governments (LGs)	0.077*	1.000	0.176	0.180	0.066*	1.000	0.156	0.131
Objective indicator	0.110	1.000	0.234	0.192	0.089*	1.000	0.196	0.133
Randomly	0.320	1.000	0.487	0.373	1.000	1.000	1.000	1.000
Certain categories	0.152	1.000	0.303	0.212	0.028**	0.572	0.077*	0.082*
Informal leaders	0.042**	0.873	0.111	0.146	0.528	1.000	0.630	0.528
None (universal CT)	0.001***	0.005***	0.002***	0.002***	0.001***	0.006***	0.003***	0.002***

Legend: *, ** and *** respectively indicate statistical significance at the 10%, 5% and 1% levels. holm = Bonferroni-Holm method; simes = Benjamini-Hochberg method; simes_FW = Benjamini-Hochberg method, by outcome group (FW = family-wise).

Table 68. Endline: multiple hypothesis testing (cognitive social capital)

Variable	MDM				CEM			
	p-value	holm	simes	simes_FW	p-value	holm	simes	simes_FW
<i>Trust: preferred criteria for targeting of hypothetical CT</i>								
Villagers together	0.037**	1.000	0.168	0.257	0.027**	0.932	0.506	0.187
Local Governments (LGs)	0.465	1.000	0.707	0.720	0.741	1.000	1.000	0.930
Objective indicator	0.343	1.000	0.571	0.720	0.960	1.000	1.000	0.960
Randomly	1.000	1.000	1.000	1.000	0.248	1.000	0.614	0.682
Certain categories	0.272	1.000	0.559	0.720	0.323	1.000	0.614	0.682
Informal leaders	0.617	1.000	0.800	0.720	0.390	1.000	0.682	0.682
None (universal CT)	0.538	1.000	0.774	0.720	0.797	1.000	1.000	0.930

Legend: *, ** and *** respectively indicate statistical significance at the 10%, 5% and 1% levels. holm = Bonferroni-Holm method; simes = Benjamini-Hochberg method; simes_FW = Benjamini-Hochberg method, by outcome group (FW = family-wise).

Table 69. Follow-up: multiple hypothesis testing (cognitive social capital)

Variable	MDM				CEM			
	p-value	holm	simes	simes_FW	p-value	holm	simes	simes_FW
<i>Trust: preferred criteria for targeting of hypothetical CT</i>								
Villagers together	0.059*	1.000	0.131	0.104	0.010***	0.260	0.034**	0.019**
Local Governments (LGs)	0.010***	0.299	0.045**	0.024**	0.006***	0.186	0.032**	0.019**
Objective indicator	0.417	1.000	0.565	0.417	0.259	1.000	0.373	0.259
Randomly	0.085*	1.000	0.168	0.119	0.021**	0.479	0.054*	0.025**
Certain categories	0.004***	0.129	0.036**	0.014**	0.018**	0.423	0.049**	0.025**
Informal leaders	0.001***	0.004***	0.002***	0.001***	0.001***	0.001***	0.001***	0.001***
None (universal CT)	0.333	1.000	0.491	0.388	0.009***	0.268	0.034**	0.019**

Legend: *, ** and *** respectively indicate statistical significance at the 10%, 5% and 1% levels. holm = Bonferroni-Holm method; simes = Benjamini-Hochberg method; simes_FW = Benjamini-Hochberg method, by outcome group (FW = family-wise).

Table 70. Midline: multiple hypothesis testing (agency)

Variable	MDM				CEM			
	p-value	holm	simes	simes_FW	p-value	holm	simes	simes_FW
<i>Life satisfaction</i>								
Current life satisfaction	0.001***	0.007***	0.002***	0.003***	0.001***	0.001***	0.001***	0.001***
<i>Comparison with just before program start</i>	0.001***	0.024**	0.005***	0.004***	0.006***	0.121	0.019**	0.014**
<i>Demand for services' frequency</i>								
Attending a community meeting	0.624	1.000	0.713	0.734	0.356	1.000	0.502	0.509
<i>Comparison with just before program start</i>	0.002***	0.026**	0.005***	0.004***	0.003***	0.064*	0.012**	0.013**
Actively raising an issue at a community meeting	0.451	1.000	0.627	0.734	0.095*	1.000	0.197	0.190
<i>Comparison with just before program start</i>	0.003***	0.065*	0.009***	0.007***	0.005***	0.109	0.018**	0.014**
Contacting service delivery to complain about their services	0.540	1.000	0.650	0.734	0.987	1.000	0.987	0.987
<i>Comparison with just before program start</i>	0.264	1.000	0.445	0.528	0.180	1.000	0.347	0.300
Contacting local duty bearers to complain about their services	0.955	1.000	0.955	0.955	0.822	1.000	0.911	0.987
<i>Comparison with just before program start</i>	0.661	1.000	0.729	0.734	0.976	1.000	0.987	0.987

Legend: *, ** and *** respectively indicate statistical significance at the 10%, 5% and 1% levels. holm = Bonferroni-Holm method; simes = Benjamini-Hochberg method; simes_FW = Benjamini-Hochberg method, by outcome group (FW = family-wise).

Table 71. Endline: multiple hypothesis testing (agency)

Variable	MDM				CEM			
	p-value	holm	simes	simes_FW	p-value	holm	simes	simes_FW
<i>Life satisfaction</i>								
Current life satisfaction	0.008***	0.244	0.077*	0.034**	0.037**	1.000	0.506	0.365
<i>Comparison with just before program start</i>	0.086*	1.000	0.232	0.144	0.159	1.000	0.614	0.398
<i>Demand for services' frequency</i>								
Attending a community meeting	0.001***	0.027**	0.027**	0.008***	0.290	1.000	0.614	0.507
<i>Comparison with just before program start</i>	0.614	1.000	0.800	0.768	0.304	1.000	0.614	0.507
Actively raising an issue at a community meeting	0.011**	0.325	0.077*	0.034**	0.653	1.000	0.994	0.933
<i>Comparison with just before program start</i>	0.858	1.000	0.977	0.953	0.900	1.000	1.000	1.000
Contacting service delivery to complain about their services	0.046**	1.000	0.168	0.096*	0.083*	1.000	0.522	0.398
<i>Comparison with just before program start</i>	0.307	1.000	0.560	0.438	0.821	1.000	1.000	1.000
Contacting local duty bearers to complain about their services	0.048**	1.000	0.168	0.096*	0.134	1.000	0.586	0.398
<i>Comparison with just before program start</i>	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000

Legend: *, ** and *** respectively indicate statistical significance at the 10%, 5% and 1% levels. holm = Bonferroni-Holm method; simes = Benjamini-Hochberg method; simes_FW = Benjamini-Hochberg method, by outcome group (FW = family-wise).

Table 72. Follow-up: multiple hypothesis testing (agency)

Variable	MDM				CEM			
	p-value	holm	simes	simes_FW	p-value	holm	simes	simes_FW
<i>Life satisfaction</i>								
Current life satisfaction	0.024**	0.611	0.077*	0.065*	0.082*	1.000	0.148	0.151
<i>Comparison with just before program start</i>	0.002***	0.012**	0.005***	0.004***	0.001***	0.001***	0.001***	0.001***
<i>Comparison pre-COVID situation with just before program start</i>	0.014**	0.359	0.048**	0.049**	0.076*	1.000	0.144	0.151
<i>Demand for services' frequency</i>								
Attending a community meeting	0.040**	0.872	0.096*	0.088*	0.009***	0.228	0.033**	0.030**
<i>Comparison pre-COVID situation with just before program start</i>	1.000	1.000	1.000	1.000	0.842	1.000	0.925	0.869
Actively raising an issue at a community meeting	0.090***	0.299	0.045**	0.049**	0.007***	0.187	0.032**	0.030**
<i>Comparison pre-COVID situation with just before program start</i>	1.000	1.000	1.000	1.000	0.869	1.000	0.925	0.869
Contacting service delivery to complain about their services	0.005***	0.158	0.036**	0.049**	0.139	1.000	0.218	0.219
<i>Comparison pre-COVID situation with just before program start</i>	0.424	1.000	0.565	0.665	0.548	1.000	0.680	0.753
Contacting local duty bearers to complain about their services	0.267	1.000	0.457	0.489	0.040**	0.876	0.096*	0.110
<i>Comparison pre-COVID situation with just before program start</i>	0.655	1.000	0.737	0.900	0.776	1.000	0.901	0.869

Legend: *, ** and *** respectively indicate statistical significance at the 10%, 5% and 1% levels. holm = Bonferroni-Holm method; simes = Benjamini-Hochberg method; simes_FW = Benjamini-Hochberg method, by outcome group (FW = family-wise).

Table 73. Midline: multiple hypothesis testing (collective action)

Variable	MDM				CEM			
	p-value	holm	simes	simes_FW	p-value	holm	simes	simes_FW
Collective investment								
HH investment in collective projects	0.188	1.000	0.354	0.316	0.257	1.000	0.419	0.343
<i>Comparison with just before program start</i>	0.237	1.000	0.421	0.316	0.609	1.000	0.699	0.609
Demand for services' frequency								
Getting together with others to raise an issue	0.493	1.000	0.647	0.493	0.190	1.000	0.347	0.343
<i>Comparison with just before program start</i>	0.002***	0.033**	0.005***	0.006***	0.050**	0.987	0.128	0.198

Legend: *, ** and *** respectively indicate statistical significance at the 10%, 5% and 1% levels. holm = Bonferroni-Holm method; simes = Benjamini-Hochberg method; simes_FW = Benjamini-Hochberg method, by outcome group (FW = family-wise).

Table 74. Endline: multiple hypothesis testing (collective action)

Variable	MDM				CEM			
	p-value	holm	simes	simes_FW	p-value	holm	simes	simes_FW
Collective investment								
HH investment in collective projects	0.790	1.000	0.953	0.865	0.593	1.000	0.944	1.000
<i>Comparison with just before program start</i>	0.320	1.000	0.560	0.640	1.000	1.000	1.000	1.000
Demand for services' frequency								
Getting together with others to raise an issue	0.070*	1.000	0.213	0.278	0.219	1.000	0.614	0.874
<i>Comparison with just before program start</i>	0.865	1.000	0.977	0.865	0.789	1.000	1.000	1.000

Legend: *, ** and *** respectively indicate statistical significance at the 10%, 5% and 1% levels. holm = Bonferroni-Holm method; simes = Benjamini-Hochberg method; simes_FW = Benjamini-Hochberg method, by outcome group (FW = family-wise).

Table 75. Follow-up: multiple hypothesis testing (collective action)

Variable	MDM				CEM			
	p-value	holm	simes	simes_FW	p-value	holm	simes	simes_FW
<i>Collective investment</i>								
HH investment in collective projects	0.107	1.000	0.192	0.213	0.325	1.000	0.438	0.650
<i>Comparison pre-COVID situation with just before program start</i>	0.518	1.000	0.622	0.691	0.569	1.000	0.682	0.758
<i>Demand for services' frequency</i>								
Getting together with others to raise an issue	0.012**	0.313	0.045**	0.045**	0.013**	0.316	0.038**	0.051*
<i>Comparison pre-COVID situation with just before program start</i>	0.861	1.000	0.940	0.861	0.930	1.000	0.930	0.930

Legend: *, ** and *** respectively indicate statistical significance at the 10%, 5% and 1% levels. holm = Bonferroni-Holm method; simes = Benjamini-Hochberg method; simes_FW = Benjamini-Hochberg method, by outcome group (FW = family-wise).

CHAPTER 7

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?

**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?^{99,100}**

ABSTRACT

The productive impacts of cash transfer (CT) programs have not yet been extensively analyzed by the literature, but the related interest is rising. While the existing evidence base on savings and investment points at positive findings, the proofs concerning business and enterprise patterns indicate more mixed effects. Most noticeably, the hypothesis that CTs would disincentivize work – representing one of the main criticisms drawn against social assistance programs – has so far not been proved, rather to the contrary.

Even less is known about the sustainability of CT impacts, as these programs are traditionally conceptualized as short-term social interventions, supposedly insufficient, by design, at yielding long-lasting and transformative benefits in recipients' livelihoods. Our study specifically focuses on the sustainability of productive effects given the close connection between the latter and the overall sustainability of CT impacts. We draw upon data from a quasi-experimental study of a universal unconditional cash transfer initiative in rural Uganda to explore whether effects on savings, debt, investment, incomes, assets and labour allocation (if any) also remain after the end of the cash transfer. Our findings highlight that, despite the concurrent outbreak of the COVID-19 pandemic, sustained impacts – with interesting gender differences – were recorded on, amongst others, savings, (agricultural) incomes and business ownership, while no consistent pattern was found in the cases, for instance, of assets and migration.

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

⁹⁹ A slightly revised version of this chapter is currently under review for joint publication with my supervisors.

¹⁰⁰ The individual contributions of each author are reported as follows. *Filippo Grisolia*: conceptualization, investigation, formal analysis, visualization, validation, writing – original draft, writing – review and editing, data curation; *Nathalie Holvoet*: conceptualization, funding acquisition, resources, investigation, formal analysis, validation, supervision, writing – review and editing; *Sara Dewachter*: conceptualization, funding acquisition, resources, investigation, formal analysis, validation, supervision, writing – review and editing. All authors read and approved the final manuscript.

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; Kabber, Piza, & Taylor, 2012). Most surprisingly, even though only a relatively small number of sources have sought to investigate them (Daidone, Davis, Handa, & Winters, 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 criticisms to cash transfers, Universal Basic Income (UBI), and social assistance in general, is the idea that they would disincentivize work (Baird, McKenzie, & Özler, 2018; Gentilini, Grosh, Rigolini, & Yemtsov, 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; Bastagli et al., 2019; Blattman, Green, Jamison, Lehmann, & Annan, 2016; O'Brien, Marzi, Pellerano, & Visram, 2013). 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, Case, & Hosegood, 2009; Cheema, Hunt, Javeed, Lone, & O'Leary, 2014; Kassouf & de Oliveira, 2012). Similar conclusions were reached by reviews of the effects of UBI on labour supply¹⁰¹ (de Paz-Báñez, Asensio-Coto, Sánchez-López, & Aceytuno, 2020; Francisco, Otto, & Van Lancker, 2024). 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, 2013).

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 could 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

¹⁰¹ However, more in general, a lack of clarity still surrounds discussions on UBI's 'general equilibrium' effects – namely, its repercussions on labour supply and demand, inflation and consumption (Chrip, 2023; Heikkinen, 2018) – given that no nationwide experiment (or reliable simulation) has been carried out yet (Marx, 2024).

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, Davis, Dewbre, Handa, & Winters, 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, Pellerano, Handa, & Davis, 2015; Devereux & Sabates-Wheeler, 2004; Molyneux, Jones, & Samuels, 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 (**Chapter 2; Chapter 5**; Molina Millán, Barham, Macours, Maluccio, & Stampini, 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, Islam, Nuzhat, Smyth, & Yang, 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, Natali, Seidenfeld, Tembo, & Davis, 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, Davis, & Winters, 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 36**).

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

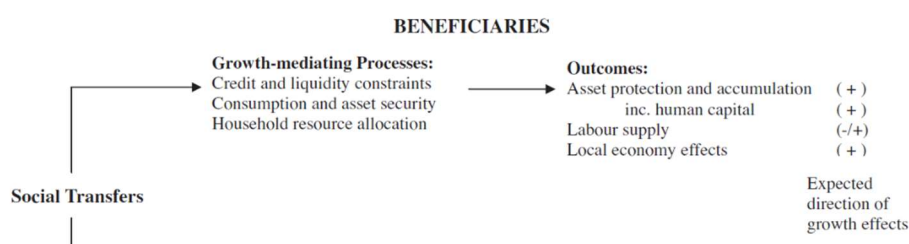
Source: extracted from Bastagli et al. (2019)

Figure 36. Outcome domains of interest

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, Knowles, & Davis, 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 37**). 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, Behrman, & Quisumbing, 2010).



Source: Barrientos (2012)

Figure 37. Basic framework linking cash transfers and improvements in productive capacity

2.2 THE SUSTAINABILITY OF (PRODUCTIVE) CT IMPACTS

As already discussed, 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, Sabates, & Devereux, 2018; Sedlmayr, Shah, & Sulaiman, 2020), the same statement also holds for cash-only projects. On savings, for instance, the evidence (see **Chapter 2**) returns exclusively positive insights – 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, Mills, & Premand, 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, Baez, & Del Carpio, 2011; Avitabile, Cunha, & Meilman Cohn, 2019) and migration (Barham, Macours, & Maluccio, 2018; Rodríguez-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 analyzed 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 76**).

Table 76. Hypothesized productive effects (and their sustainability) of the analyzed CT

Outcomes and indicators	Effect direction	Sustained?
<i>Savings, investment and production</i>		
Savings and debt	+	Yes
Investment	+	
Assets	+/-	Yes
Business and enterprise	+/-	Yes
<i>Employment</i>		
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 (see **Chapter 2**; 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 non-profit organization. The beneficiary village was chosen in order to satisfy a number of sociodemographic, economic and geographical requirements: more specifically, the non-profit organization 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, Jhabvala, Standing, & Mehta, 2015). The universality and unconditionality of the analyzed 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, n.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, Martinez, Premand, Rawlings, & Vermeersch, 2016).

3.2 DATA MANAGEMENT AND ANALYSIS

The data analysis strategy implemented by this article closely resembles those of **Chapter 5** and of **Chapter 6**. 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

covariates¹⁰² (i.e., age, gender¹⁰³, educational level and size of the social support network at baseline¹⁰⁴). 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, Nielsen, Coberley, Pope, & Wells, 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 space¹⁰⁵. In addition, comparative analyses of effectiveness have demonstrated that PSM increases imbalance, inefficiency, and bias, as opposed to alternative matching technique (King & Nielsen, 2019; King et al., 2011). Furthermore, matching tools do not require extensive data sets (Pirracchio, Resche-Rigon, & Chevret, 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 complemented¹⁰⁶ by some descriptive graphs, which could shed additional light on the pathways driving the evolutions in impacts over time.

¹⁰² It is often recommended to resort to dimensionality-reducing machine learning techniques (like adaptive LASSO; Least Absolute Shrinkage and Selection Operator) or model averaging (such as Bayesian) methods to adequately justify variable (more importantly, covariate) selection in quasi-experimental matching (Brookhart et al., 2006; Moral-Benito, 2013; Zhu, Schonbach, Coffman, & Williams, 2015). In fact, the parameter space could be very large, and improperly selected covariates could result in biased estimators of treatment effects (Shortreed & Ertefaie, 2017). In this case, however, because of time constraints, we rely on the theoretical assumption that the chosen (demographic and socioeconomic) covariates represent some of the most relevant drivers of differences in productive-level outcomes (Bastagli et al., 2019; Covarrubias et al., 2012; de Mel, McKenzie, & Woodruff, 2012). Furthermore, we argue that the employed variables, while associated with the outcomes of interest, are unrelated to program exposure (because the CT program was universal – the same applies to the size of recipients’ social support networks, given that only its baseline values were used for matching), ultimately improving (rather than reducing) the precision of our estimations (Shortreed & Ertefaie, 2017; Zhu et al., 2015). In this sense, while we acknowledge that other ‘true’ confounders, whose exclusion could reduce precision (Shortreed & Ertefaie, 2017), may have been left out, it should be noted that it is fundamental to conduct a balance assessment between predictive power and bias (Zhu et al., 2015), especially when low number of observations and the characteristics of the employed matching methods (CEM and MDM work in the original covariate space) do not allow matching on the basis of an exhaustive list of covariates (Iacus, King, & Porro, 2012).

¹⁰³ Gender was omitted, when conducting heterogeneity analyses by it, because of collinearity.

¹⁰⁴ As the midline survey included a few ‘recall’ questions (Nimon, Zigarmi, & Allen, 2011; Pratt, McGuigan, & Katzev, 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.

¹⁰⁵ 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).

¹⁰⁶ See an empirical policy and research brief we recently published (Grisolia, Dewachter, & Holvoet, 2023), for additional information.

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 77**). 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 inception of the cash transfers¹⁰⁷. At follow-up, given the impossibility to disentangle the influence of the (still ongoing, 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 82**, 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 38** 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

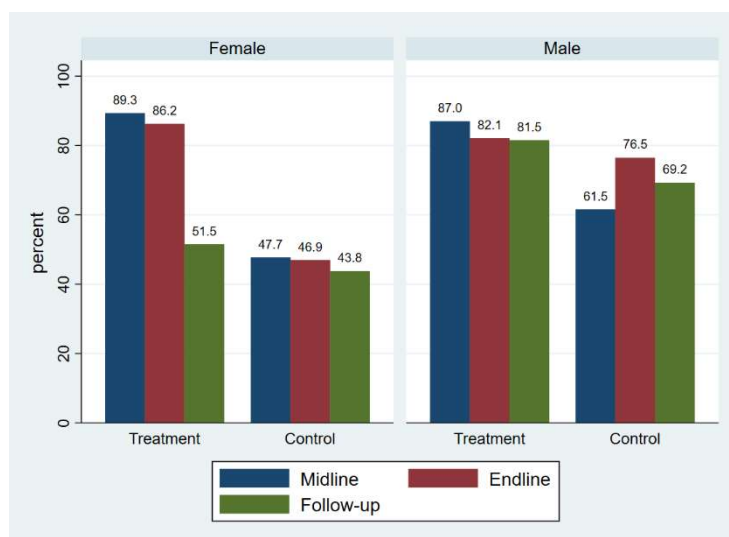


Figure 38. Percentage of respondents declaring to be saving

respondents were asked if they currently had more, less, or the same savings with respect to just before the inception of the cash transfers¹⁰⁷. At follow-up, given the impossibility to disentangle the influence of the (still ongoing, 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 82**, 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 38** 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

¹⁰⁷ In the case of the control group, interviewees were asked instead to compare their current situation with just before the first interview we conducted.

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).

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 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).

Table 77. Sustainability of the effects on savings and debt

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

Legend: *, ** and *** respectively indicate statistical significance at the 10%, 5% and 1% levels. Matching: direction, magnitude and significance level of average treatment on the treated (ATT) coefficients of selected indicators. MDM = Mahalanobis Distance Matching; CEM = Coarsened Exact Matching. (Robust) standard errors in brackets, number of observations in squared parentheses. * follow-up-only variable.

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 with which money was invested, both concerning agriculture and non-agriculture (**Table 78**). 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 78. Sustainability of the effects on investment, assets, and business

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

Legend: *, ** and *** respectively indicate statistical significance at the 10%, 5% and 1% levels. Matching: direction, magnitude and significance level of average treatment on the treated (ATT) coefficients of selected indicators. MDM = Mahalanobis Distance Matching; CEM = Coarsened Exact Matching. (Robust) standard errors in brackets, number of observations in squared parentheses. * follow-up-only variable.

Lastly, CT impacts on *business and enterprise* were only visible at follow-up, coherently with the idea

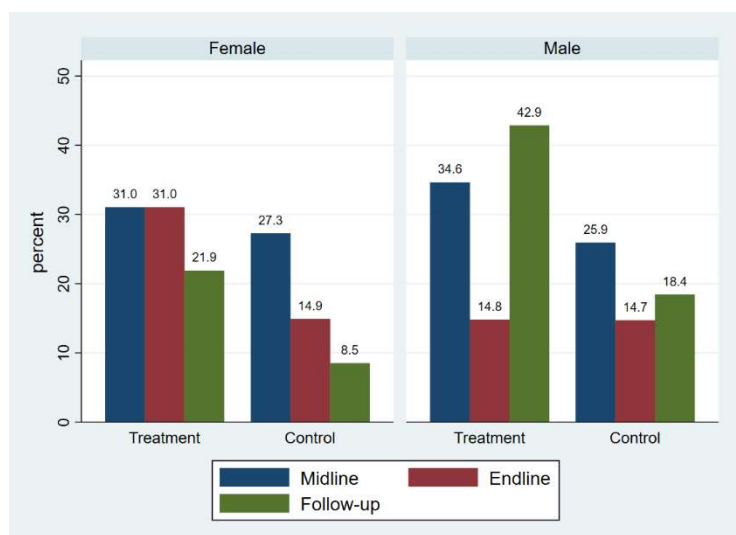


Figure 39. Percentage of respondents with an operational business

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 39**). 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 79**). 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 83**, 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 79. Sustainability of the effects on labour participation and incomes

Variable [range]	Midline		Endline		Follow-up	
	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]
<i>Comparison with just before program start [-1,1]</i>	-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]
<i>Comparison with just before program start [-1,1]</i>	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]
<i>Comparison with just before program start [-1,1]</i>	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]
<i>Comparison with just before program start [-1,1]</i>	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: *, ** and *** respectively indicate statistical significance at the 10%, 5% and 1% levels. Matching: direction, magnitude and significance level of average treatment on the treated (ATT) coefficients of selected indicators. 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). 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 40**). 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.

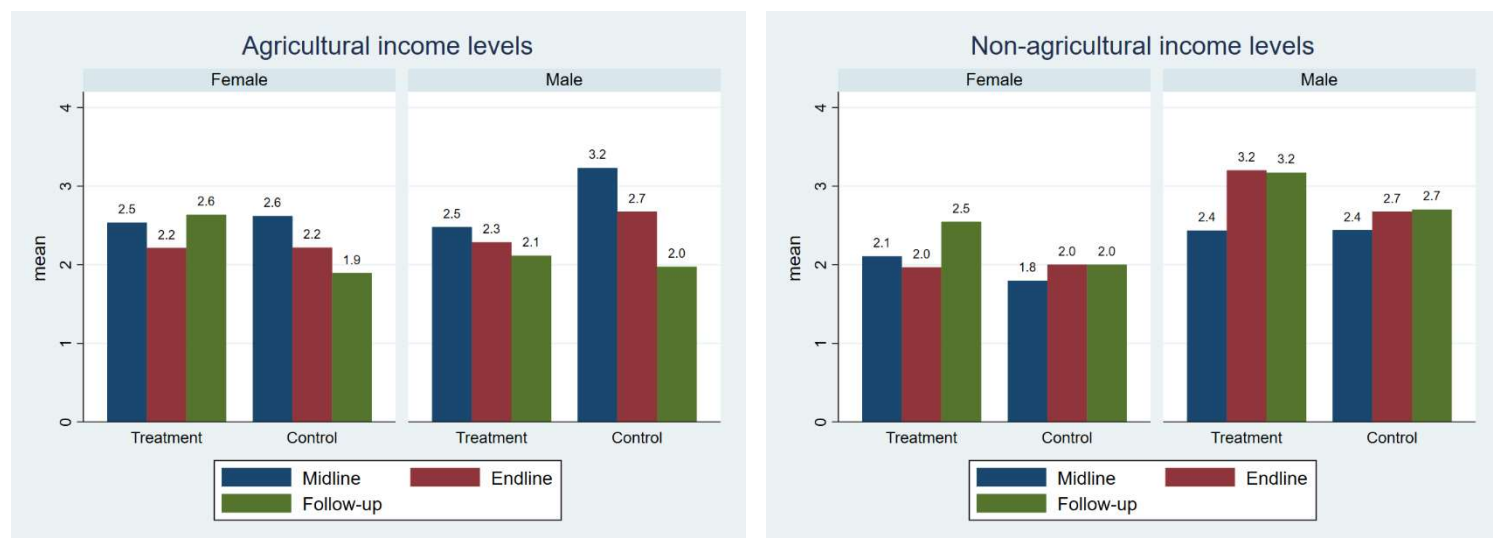


Figure 40. Average income levels of respondents

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 80). 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 80. Sustainability of the effects on child labour and migration

Variable [range]	Midline		Endline		Follow-up	
	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]
<i>Comparison with just before program start [-1,1]</i>	-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]
<i>Comparison with just before program start [-1,1]</i>	-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: *, ** and *** respectively indicate statistical significance at the 10%, 5% and 1% levels. Matching: direction, magnitude and significance level of average treatment on the treated (ATT) coefficients of selected indicators. MDM = Mahalanobis Distance Matching; CEM = Coarsened Exact Matching. (Robust) standard errors in brackets, number of observations in squared parentheses.

4.3 MULTIPLE HYPOTHESIS TESTING

Similarly to the previous empirical chapters, we conducted multiple-test procedures (see **methodology chapter** for additional information) with the aim of assessing the likelihood of having incurred in Type I errors (i.e., mistakenly rejecting the null hypothesis; List, Shaikh, & Xu, 2019). In this sense, we once again took the methodological design of this chapter (cross-sectional evaluation, robustness-checking through the application of two different quasi-experimental matching techniques) and carried out separate multiple-test procedures by survey round and by employed statistical tool. **Table 81** shows the obtained numbers of significant adjusted p-values (or q-values) with respect to those resulting from the analyses presented by the precedent sections. As expectable, the most conservative rule (the Bonferroni-Holm one) rejected the vast majority of the statistically significant coefficients for both MDM and CEM. The Benjamini-Hochberg-derived outlook was more promising, at least concerning MDM, and especially when considering the procedures by outcome family. More in general, finally, the most robust and strongly significant coefficients confirmed to belong to the ‘savings and debt’ thematic category. **Tables 84-95** in the **Appendix** report the complete tables of (corrected) p-values by survey round and variable domain.

Table 81. Number of p-values and adjusted p-values<0.1, by survey round, matching method and outcome group

Variable	no. outcomes	MDM				CEM			
		p-value	holm	simes	simes_FW	p-value	holm	simes	simes_FW
Midline									
Savings and debt	5	4	2	2	4	2	1	1	2
Investment, assets and business	8	2	0	1	1	0	0	0	0
Labour participation and incomes	8	2	0	0	0	2	0	0	0
Child labour and migration	5	2	0	0	0	1	0	0	0
<i>Total</i>	26	10	2	3	5	5	1	1	2
Endline									
Savings and debt	5	3	0	0	3	1	0	0	0
Investment, assets and business	8	1	0	0	0	1	0	0	0
Labour participation and incomes	8	2	0	0	0	1	0	0	0
Child labour and migration	5	2	0	0	0	0	0	0	0
<i>Total</i>	26	8	0	0	3	3	0	0	0
Follow-up									
Savings and debt	6	2	0	1	2	3	1	1	1
Investment, assets and business	10	3	2	3	3	3	0	0	0
Labour participation and incomes	8	3	0	2	2	2	2	2	2
Child labour and migration	5	0	0	0	0	1	0	0	0
<i>Total</i>	29	8	2	6	7	9	3	3	3
Grand total	81	26	4	9	15	17	4	4	5

Legend: holm = Bonferroni-Holm method; simes = Benjamini-Hochberg method; simes_FW = Benjamini-Hochberg method, by outcome group (FW = family-wise).

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 analyzed 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 analyzed 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 absence 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; Francisco et al., 2024; Gibson, Hearty, & Craig, 2018). In particular, further evidence from basic income trials could contribute to advancing the debates on labour and 'general equilibrium' effects of UBI (Chrisp, 2023; Marx, 2024). While related sources are lacking for any of the most typical outcome dimensions affected by cash transfers, CT-implementing organizations 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 through a matching procedure starting from the midline phase. Another shortcoming to be noted is the time constraints-led merely theoretical covariate selection in the performed matching evaluations. The implementation of model averaging or machine learning techniques, in this regard, could have contributed to further decrease bias in treatment effect estimation (Brookhart et al., 2006; Shortreed & Ertefaie, 2017; Zhu et al., 2015).

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APPENDIX

Table 82. Sustainability of the effects on 'savings, investment and production'. Matching coefficients by gender

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

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<i>Number of non-agricultural expenditure categories on which money was invested [0,4]</i>	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: *, ** and *** respectively indicate statistical significance at the 10%, 5% and 1% levels. Matching: direction, magnitude and significance level of average treatment on the treated (ATT) coefficients of selected indicators. MDM = Mahalanobis Distance Matching; CEM = Coarsened Exact Matching. (Robust) standard errors in brackets, number of observations in squared parentheses. * follow-up-only variable.

Table 83. Sustainability of the effects on 'employment'. Matching coefficients by gender¹⁰⁸

Variable [range]	Women						Men					
	Midline		Endline		Follow-up		Midline		Endline		Follow-up	
	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]
<i>Comparison with just before program start [-1,1]</i>	-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]
<i>Comparison with just before program start [-1,1]</i>	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]
<i>Comparison with just before program start [-1,1]</i>	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]
<i>Comparison with just before program start [1-,1]</i>	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: *, ** and *** respectively indicate statistical significance at the 10%, 5% and 1% levels. Matching: direction, magnitude and significance level of average treatment on the treated (ATT) coefficients of selected indicators. MDM = Mahalanobis Distance Matching; CEM = Coarsened Exact Matching. (Robust) standard errors in brackets, number of observations in squared parentheses.

¹⁰⁸ 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.

Table 84. Midline: multiple hypothesis testing (savings and debt)

Variable	MDM				CEM			
	p-value	holm	simes	simes_FW	p-value	holm	simes	simes_FW
Savings								
Money saved by the HH	0.001***	0.003***	0.002***	0.001***	0.012**	0.283	0.147	0.029**
HH savings' level (amount)	0.026**	0.595	0.146	0.044**	0.592	1.000	0.733	0.740
<i>Comparison with just before program start</i>	0.001***	0.002***	0.002***	0.001***	0.001***	0.012**	0.012**	0.003***
Debt								
HH debt's level (amount)	0.154	1.000	0.312	0.154	0.784	1.000	0.847	0.784
<i>Comparison with just before program start</i>	0.052*	0.987	0.169	0.065*	0.117	1.000	0.419	0.195

Legend: *, ** and *** respectively indicate statistical significance at the 10%, 5% and 1% levels. holm = Bonferroni-Holm method; simes = Benjamini-Hochberg method; simes_FW = Benjamini-Hochberg method, by outcome group (FW = family-wise).

Table 85. Endline: multiple hypothesis testing (savings and debt)

Variable	MDM				CEM			
	p-value	holm	simes	simes_FW	p-value	holm	simes	simes_FW
Savings								
Money saved by the HH	0.028**	0.626	0.177	0.059*	0.151	1.000	0.528	0.376
HH savings' level (amount)	0.035**	0.770	0.182	0.059*	0.434	1.000	0.687	0.723
<i>Comparison with just before program start</i>	0.007***	0.161	0.161	0.031**	0.097*	1.000	0.528	0.376
Debt								
HH debt's level (amount)	0.331	1.000	0.563	0.331	0.801	1.000	0.833	0.801
<i>Comparison with just before program start</i>	0.180	1.000	0.398	0.224	0.688	1.000	0.755	0.801

Legend: *, ** and *** respectively indicate statistical significance at the 10%, 5% and 1% levels. holm = Bonferroni-Holm method; simes = Benjamini-Hochberg method; simes_FW = Benjamini-Hochberg method, by outcome group (FW = family-wise).

Table 86. Follow-up: multiple hypothesis testing (savings and debt)

Variable	MDM				CEM			
	p-value	holm	simes	simes_FW	p-value	holm	simes	simes_FW
Savings								
Money saved by the HH	0.014**	0.333	0.078*	0.076*	0.082*	1.000	0.262	0.163
HH savings' level (amount)	0.156	1.000	0.412	0.256	0.132	1.000	0.273	0.198
<i>Comparison with just before program start</i>	0.026**	0.576	0.104	0.076*	0.001***	0.002***	0.002***	0.001***
<i>Comparison pre-COVID situation with just before program start</i>	0.574	1.000	0.693	0.574	0.073*	1.000	0.262	0.163
Debt								
HH debt's level (amount)	0.392	1.000	0.568	0.470	0.768	1.000	0.925	0.768
<i>Comparison with just before program start</i>	0.171	1.000	0.412	0.256	0.313	1.000	0.520	0.376

Legend: *, ** and *** respectively indicate statistical significance at the 10%, 5% and 1% levels. holm = Bonferroni-Holm method; simes = Benjamini-Hochberg method; simes_FW = Benjamini-Hochberg method, by outcome group (FW = family-wise).

Table 87. Midline: multiple hypothesis testing (investment, assets and business)

Variable	MDM				CEM			
	p-value	holm	simes	simes_FW	p-value	holm	simes	simes_FW
Investment								
Amount invested in agriculture since program start	0.009***	0.206	0.075*	0.069*	0.816	1.000	0.847	0.816
<i>Number of agricultural expenditure categories on which money was invested</i>	0.700	1.000	0.811	0.858	0.274	1.000	0.548	0.816
Amount invested in non-agriculture since program start	0.033**	0.721	0.146	0.131	0.467	1.000	0.733	0.816
<i>Number of non-agricultural expenditure categories on which money was invested</i>	0.156	1.000	0.312	0.400	0.559	1.000	0.733	0.816
Assets								
Ownership of cultivated land	0.750	1.000	0.811	0.858	0.707	1.000	0.836	0.816
Total number of owned agricultural tools	0.873	1.000	0.873	0.873	0.158	1.000	0.419	0.816
Business and enterprise								
Ownership of currently operational business	0.234	1.000	0.405	0.400	0.747	1.000	0.845	0.816
Ownership of failed business	0.250	1.000	0.406	0.400	0.562	1.000	0.733	0.816

Legend: *, ** and *** respectively indicate statistical significance at the 10%, 5% and 1% levels. holm = Bonferroni-Holm method; simes = Benjamini-Hochberg method; simes_FW = Benjamini-Hochberg method, by outcome group (FW = family-wise).

Table 88. Endline: multiple hypothesis testing (investment, assets and labour)

Variable	MDM				CEM				
	p-value	holm	simes	simes_FW	p-value	holm	simes	simes_FW	
Investment									
Amount invested in agriculture since program start	0.956	1.000	0.994	1.000	0.468	1.000	0.687	0.624	
<i>Number of agricultural expenditure categories on which money was invested</i>	0.210	1.000	0.420	0.420	0.286	1.000	0.620	0.458	
Amount invested in non-agriculture since program start	0.184	1.000	0.398	0.420	0.859	1.000	0.859	0.859	
<i>Number of non-agricultural expenditure categories on which money was invested</i>	0.108	1.000	0.312	0.420	0.215	1.000	0.528	0.441	
Assets									
Ownership of cultivated land	1.000	1.000	1.000	1.000	0.017**	0.440	0.440	0.136	
Total number of owned agricultural tools	0.514	1.000	0.742	0.822	0.573	1.000	0.687	0.654	
Business and enterprise									
Ownership of currently operational business	0.729	1.000	0.947	0.971	0.212	1.000	0.528	0.441	
Ownership of failed business	0.023**	0.571	0.177	0.183	0.221	1.000	0.528	0.441	

Legend: *, ** and *** respectively indicate statistical significance at the 10%, 5% and 1% levels. holm = Bonferroni-Holm method; simes = Benjamini-Hochberg method; simes_FW = Benjamini-Hochberg method, by outcome group (FW = family-wise).

Table 89. Follow-up: multiple hypothesis testing (investment, assets and business)

Variable	MDM				CEM				
	p-value	holm	simes	simes_FW	p-value	holm	simes	simes_FW	
Investment									
(Mobile) money spent on investment	0.001***	0.007***	0.007***	0.003***	0.025**	0.608	0.141	0.122	
Amount invested in agriculture since program start	0.169	1.000	0.412	0.421	0.179	1.000	0.345	0.357	
<i>Number of agricultural expenditure categories on which money was invested</i>	0.222	1.000	0.433	0.443	0.376	1.000	0.561	0.484	
Amount invested in non-agriculture since program start	0.968	1.000	0.968	0.968	0.835	1.000	0.925	0.908	
<i>Number of non-agricultural expenditure categories on which money was invested</i>	0.360	1.000	0.549	0.514	0.323	1.000	0.52	0.484	
Assets									
Ownership of cultivated land	0.657	1.000	0.763	0.822	0.908	1.000	0.936	0.908	
Total number of owned agricultural tools	0.916	1.000	0.949	0.968	0.387	1.000	0.561	0.484	
Business and enterprise									
Ownership of currently operational business	0.003***	0.067*	0.035**	0.012**	0.128	1.000	0.273	0.320	
Ownership of failed business	0.011**	0.279	0.078*	0.036**	0.021**	0.544	0.141	0.122	
Having experienced negative effects of COVID-19 on business	0.297	1.000	0.483	0.494	0.067*	1.000	0.262	0.223	

Legend: *, ** and *** respectively indicate statistical significance at the 10%, 5% and 1% levels. holm = Bonferroni-Holm method; simes = Benjamini-Hochberg method; simes_FW = Benjamini-Hochberg method, by outcome group (FW = family-wise).

Table 90. Midline: multiple hypothesis testing (labour participation and incomes)

Variable	MDM				CEM				
	p-value	holm	simes	simes_FW	p-value	holm	simes	simes_FW	
<i>Agricultural labour</i>									
Average hours worked weekly	0.780	1.000	0.811	0.780	0.847	1.000	0.847	0.847	
<i>Comparison with just before program start</i>	0.209	1.000	0.387	0.556	0.194	1.000	0.419	0.258	
Income level	0.068*	1.000	0.186	0.286	0.019**	0.450	0.163	0.150	
<i>Comparison with just before program start</i>	0.072*	1.000	0.186	0.286	0.520	1.000	0.733	0.595	
<i>Non-agricultural labour</i>									
Average hours worked weekly	0.737	1.000	0.811	0.78	0.065*	1.000	0.334	0.257	
<i>Comparison with just before program start</i>	0.417	1.000	0.573	0.623	0.103	1.000	0.419	0.258	
Income level	0.419	1.000	0.573	0.623	0.166	1.000	0.419	0.258	
<i>Comparison with just before program start</i>	0.467	1.000	0.607	0.623	0.193	1.000	0.419	0.258	

Legend: *, ** and *** respectively indicate statistical significance at the 10%, 5% and 1% levels. holm = Bonferroni-Holm method; simes = Benjamini-Hochberg method; simes_FW = Benjamini-Hochberg method, by outcome group (FW = family-wise).

Table 91. Endline: multiple hypothesis testing (labour participation and incomes)

Variable	MDM				CEM				
	p-value	holm	simes	simes_FW	p-value	holm	simes	simes_FW	
<i>Agricultural labour</i>									
Average hours worked weekly	0.818	1.000	0.967	0.902	0.488	1.000	0.687	0.656	
<i>Comparison with just before program start</i>	0.599	1.000	0.819	0.902	0.086*	1.000	0.528	0.656	
Income level	0.024**	0.571	0.177	0.186	0.195	1.000	0.528	0.656	
<i>Comparison with just before program start</i>	0.085*	1.000	0.274	0.337	0.368	1.000	0.683	0.656	
<i>Non-agricultural labour</i>									
Average hours worked weekly	0.347	1.000	0.563	0.872	0.461	1.000	0.687	0.656	
<i>Comparison with just before program start</i>	0.902	1.000	0.977	0.902	0.574	1.000	0.687	0.656	
Income level	0.785	1.000	0.967	0.902	0.532	1.000	0.687	0.656	
<i>Comparison with just before program start</i>	0.436	1.000	0.667	0.872	0.697	1.000	0.755	0.697	

Legend: *, ** and *** respectively indicate statistical significance at the 10%, 5% and 1% levels. holm = Bonferroni-Holm method; simes = Benjamini-Hochberg method; simes_FW = Benjamini-Hochberg method, by outcome group (FW = family-wise).

Table 92. Follow-up: multiple hypothesis testing (labour participation and incomes)

Variable	MDM				CEM				
	p-value	holm	simes	simes_FW	p-value	holm	simes	simes_FW	
<i>Agricultural labour</i>									
Average hours worked weekly	0.247	1.000	0.447	0.329	0.235	1.000	0.425	0.375	
<i>Comparison with just before program start</i>	0.214	1.000	0.433	0.329	0.730	1.000	0.925	0.875	
Income level	0.488	1.000	0.674	0.558	0.119	1.000	0.273	0.237	
<i>Comparison with just before program start</i>	0.006***	0.145	0.052*	0.043**	0.002***	0.051*	0.019**	0.008***	
<i>Non-agricultural labour</i>									
Average hours worked weekly	0.081*	1.000	0.293	0.216	0.936	1.000	0.936	0.936	
<i>Comparison with just before program start</i>	0.844	1.000	0.906	0.844	0.766	1.000	0.925	0.875	
Income level	0.122	1.000	0.392	0.243	0.107	1.000	0.273	0.237	
<i>Comparison with just before program start</i>	0.018**	0.425	0.086*	0.071*	0.002***	0.039**	0.019**	0.008***	

Legend: *, ** and *** respectively indicate statistical significance at the 10%, 5% and 1% levels. holm = Bonferroni-Holm method; simes = Benjamini-Hochberg method; simes_FW = Benjamini-Hochberg method, by outcome group (FW = family-wise).

Table 93. Midline: multiple hypothesis testing (child labour and migration)

Variable	MDM				CEM				
	p-value	holm	simes	simes_FW	p-value	holm	simes	simes_FW	
Child labour									
Average hours worked weekly in agriculture	0.034**	0.721	0.146	0.117	0.028**	0.639	0.181	0.139	
<i>Comparison with just before program start</i>	0.146	1.000	0.312	0.243	0.136	1.000	0.419	0.340	
Average hours worked weekly in non-agriculture	0.047**	0.934	0.169	0.117	0.324	1.000	0.600	0.539	
<i>Comparison with just before program start</i>	0.407	1.000	0.573	0.508	0.571	1.000	0.733	0.571	
Migration									
Migration by any HH member since program start	0.620	1.000	0.768	0.62	0.507	1.000	0.733	0.571	

Legend: *, ** and *** respectively indicate statistical significance at the 10%, 5% and 1% levels. holm = Bonferroni-Holm method; simes = Benjamini-Hochberg method; simes_FW = Benjamini-Hochberg method, by outcome group (FW = family-wise).

Table 94. Endline: multiple hypothesis testing (child labour and migration)

Variable	MDM				CEM				
	p-value	holm	simes	simes_FW	p-value	holm	simes	simes_FW	
Child labour									
Average hours worked weekly in agriculture	0.867	1.000	0.977	0.867	0.175	1.000	0.528	0.372	
<i>Comparison with just before program start</i>	0.136	1.000	0.352	0.226	0.119	1.000	0.528	0.372	
Average hours worked weekly in non-agriculture	0.295	1.000	0.547	0.368	0.581	1.000	0.687	0.581	
<i>Comparison with just before program start</i>	0.078*	1.000	0.274	0.195	0.224	1.000	0.528	0.372	
Migration									
Migration by any HH member since program start	0.052*	1.000	0.224	0.195	0.332	1.000	0.663	0.415	

Legend: *, ** and *** respectively indicate statistical significance at the 10%, 5% and 1% levels. holm = Bonferroni-Holm method; simes = Benjamini-Hochberg method; simes_FW = Benjamini-Hochberg method, by outcome group (FW = family-wise).

Table 95. Follow-up: multiple hypothesis testing (child labour and migration)

Variable	MDM				CEM			
	p-value	holm	simes	simes_FW	p-value	holm	simes	simes_FW
Child labour								
Average hours worked weekly in agriculture	0.224	1.000	0.433	0.715	0.122	1.000	0.273	0.304
<i>Comparison with just before program start</i>	0.554	1.000	0.693	0.715	0.861	1.000	0.925	0.861
Average hours worked weekly in non-agriculture	0.572	1.000	0.693	0.715	0.814	1.000	0.925	0.861
<i>Comparison with just before program start</i>	0.300	1.000	0.483	0.715	0.533	1.000	0.736	0.861
Migration								
Migration by any HH member since program start	0.817	1.000	0.906	0.817	0.073*	1.000	0.262	0.304

Legend: *, ** and *** respectively indicate statistical significance at the 10%, 5% and 1% levels. holm = Bonferroni-Holm method; simes = Benjamini-Hochberg method; simes_FW = Benjamini-Hochberg method, by outcome group (FW = family-wise).

CHAPTER 8

FACING CLIMATE CHANGE TOGETHER? THE ROLE OF THE COLLECTIVE
DIMENSION IN MEDIATING CASH TRANSFER EFFECTS ON CLIMATE ADAPTATION

FACING CLIMATE CHANGE TOGETHER? THE ROLE OF THE COLLECTIVE DIMENSION IN MEDIATING CASH TRANSFER EFFECTS ON CLIMATE ADAPTATION^{109,110}

ABSTRACT

Surprisingly little literature exists on how cash transfer (CT) programs affect climate adaptation, notwithstanding the severity of the ongoing climate emergence, and the overlap in aims between social protection and climate policy. In this sense, if social protection programs' objective is to yield (long-run) transformative reductions in poverty and vulnerability, such goal cannot be achieved without enabling recipients to better tackle climate hazards. CTs can improve climate resilience through positively impacting its several dimensions, among which, it is postulated that the social component plays a key role. This paper analyzes, through quasi-experimental difference-in-differences, the midline effects of a (universal) unconditional CT conducted in rural Uganda, on adaptation to climate change and collective-level outcomes – operationalized as social capital, agency and collective action. The main finding was that the program did spur the adoption of (both preventive and absorptive) coping mechanisms against shocks. Interestingly, not only 'beneficial' strategies – such as savings and credit – but also 'mal-adaptation' practices – like selling productive assets and withdrawing children from school – were increasingly employed. Causal Mediation Analysis suggested that the increasing utilization of beneficial mechanisms was driven by CT-led improvements in collective-level outcomes, whereas the latter did not significantly influence changes in the usage of adverse strategies.

Keywords: cash transfers, climate change, social capital, causal mediation analysis, Uganda

¹⁰⁹ A slightly revised version of this chapter is currently under review for joint publication with my supervisors.

¹¹⁰ The individual contributions of each author are reported as follows. *Filippo Grisolia*: conceptualization, investigation, formal analysis, validation, writing – original draft, writing – review and editing, data curation; *Nathalie Holvoet*: conceptualization, funding acquisition, resources, investigation, formal analysis, validation, supervision, writing – review and editing; *Sara Dewachter*: conceptualization, funding acquisition, resources, investigation, formal analysis, validation, supervision, writing – review and editing. All authors read and approved the final manuscript.

1. INTRODUCTION

Climate change possibly represents the biggest challenge of our time, posing existential threats to most people's livelihoods, but especially and disproportionately to the ones of marginalized individuals in poor Global South settings (IPCC, 2022). In fact, communities exposed to severe climate hazards are often incapable to adequately cope with the effects of disasters (Heltberg, Oviedo, & Talukdar, 2015), given their limited adaptive capacity and resilience. Such condition creates vicious circles, perpetuating vulnerability, and ultimately making the attainment of poverty reduction and economic growth even more complicated (Asfaw, Davis, & Dewbre, 2011). In this sense, the aims of social assistance and climate policy should, and do, overlap (Agrawal, Kaur, Shakya, & Norton, 2020).

Their entailed benefits also partially coincide as social protection can contribute to help recipients tackling climate change-related consequences (Heltberg, Jorgensen, & Siegel, 2008) – even if its role should not be overestimated (Tenzing, 2020). It is argued that positive repercussions of social protection include improvements in resilience to shocks, even when this is not an explicit objective of programs (Ulrichs, Slater, & Costella, 2019). Cash transfers (CTs) are, for instance, viewed as a resilience-building tool because, by providing a periodic and reliable safety net, they could enhance individuals' capacity to absorb the negative effects of climate-related shocks and stresses (Ulrichs et al., 2019). However, CTs' ability to build livelihoods and resilience against climate change is still poorly understood, as a natural reflection of the fact that few – when any – programs are designed to foster them (Béné, 2011; Johnson, Bansha Dulal, Prowse, Krishnamurthy, & Mitchell, 2013; Wood, 2011). Notwithstanding the magnitude of the ongoing climate emergence and the extensive use of cash transfers in countries' poverty reduction strategies, social protection and climate change adaptation (CCA) have been evolving separately (Béné, 2011). Bringing these fields together has been identified as a key development challenge (Davies et al., 2013), partly addressed by the recent surge of the concept of 'Adaptive Social Protection' (ASP; (Davies & Leavy, 2007), developed by exploring the linkages between social protection and climate change adaptation in the agricultural sector. While approaches such as ASP, climate-smart, and 'shock-responsive' social protection are gaining ground (Ulrichs et al., 2019), the related demand and supply is still insufficient (Costella et al., 2023).

As a consequence, a fundamental gap in the literature exists concerning CTs' repercussions on climate adaptation. On a theoretical level, if anything, scholars have been skeptical of transfers' ability to tackle patterns of poverty and environmental vulnerability, especially in the long run (Devereux & McGregor, 2014; Johnson et al., 2013; Johnson & Krishnamurthy, 2010; Nenning, Bridgen, Zimmermann, Büchs, & Mesäislehto, 2023). The empirical evidence is also surprisingly limited, considering the relatively vast amount of experimental knowledge that exists around CT effects on a variety of other outcomes, spanning labour supply, empowerment, and food security, amongst others (Bastagli et al., 2019; Kabeer, Piza, & Taylor, 2012). Moreover, the few available investigations rarely analyze impacts on

climate resilience directly, carrying the task out, instead, through the evaluation of effects on indicators associated with it, such as savings, consumption, asset ownership, and education (Agrawal et al., 2020).

This acknowledgment is easily explained by considering how vulnerability and resilience are often understood as highly dependent on and mediated by several different dimensions explicative of individual livelihoods' quality (Premand & Stoeffler, 2020; Sengupta & Costella, 2023). Among these, the social and collective aspect is assigned a prominent role by the literature, as numerous sources attribute a fundamental part of improvements in climate adaptation to enhancements in local social networks, levels of trust, and collective action (Paul, Weinthal, Bellemare, & Jeuland, 2016; Saptutyingsih, Diswandi, & Jaung, 2020; Yaméogo, Fonta, & Wünscher, 2018). In particular, social relations are seen as a crucial tool to spur long-term adaptive capacity, and therefore to unleash the transformative potential of CTs (Davies et al., 2013).

In this context, this study expands the available empirical evidence on cash transfer impacts on climate adaptation, on collective outcomes – operationalized as social capital, agency, and collective action, on which also just a few sources exist (see **Chapter 1**) – and the relationship between the two effect domains. To carry out the aforementioned exercise, the paper analyzes the midline impacts of a universal unconditional CT program, initiated in 2022 in a rural Ugandan village, through the implementation of quasi-experimental difference-in-differences techniques (Gertler, Martinez, Premand, Rawlings, & Vermeersch, 2016) and Causal Mediation Analysis (Charters, Kaufman, & Nandi, 2023; Pace, Sebastian, Daidone, Prifti, & Davis, 2022). The latter tool was specifically employed to determine how much of the total CT-led effect – if any existed – on adaptive capacity to climate shocks could be attributed to (program impacts on) collective-level variables. Lastly, a few qualitative insights derived from key-informant interviews contributed to explain the observed effects.

The rest of the article is structured as follows: **Section 2** introduces the main concepts of interest to the paper, such as climate adaptation and collective-level outcomes, and their relations. **Section 3** presents the study's methodology and the context of the analyzed program. **Section 4** discusses the results of the conducted impact evaluation and mediation analyses. Finally, **Section 5** concludes and identifies key limitations and implications for further research.

2. LITERATURE REVIEW

2.1 CASH TRANSFERS AND CLIMATE RESILIENCE

Several theoretical sources put forward that social protection could represent an important tool in contributing to reduce the immediate consequences of climate disasters (Béné, 2011). This acknowledgement builds on the general consensus that social protection programs provide participants with improved resilience – seen as the ability to independently act against climate shocks

and stresses (Ulrichs et al., 2019) – by reducing the levels of transitory and chronic poverty caused by these events (Bagolle, Costella, & Goyeneche, 2023). According to Costella et al. (2023), there are four main pathways through which social protection could foster climate-resilient development: 1) by reducing overall climate vulnerability; 2) by responding to climate shocks; 3) by compensating for the negative impacts of climate change responses; and 4) by underpinning climate change adaptation and mitigation responses. However, the growing recognition of the need for a ‘climate-proofed’ social protection has been largely ignored by practitioners and policymakers (Bagolle et al., 2023; Béné, 2011; Heltberg et al., 2008; Siddiqi, 2011). A notable exception, represented by Payments for Ecosystem Services (PES) programs, does not constitute a social protection intervention *per se* (Farley & Costanza, 2010; Van Hecken & Bastiaensen, 2010).

Even the emerging notion of Adaptive Social Protection (Davies & Leavy, 2007), integrating social protection, disaster risk reduction (DRR) and climate change adaptation (CCA) agendas (Davies et al., 2013; Nenning et al., 2023), has mostly remained limited to the conceptual level, with very few programs actually incorporating these elements (Costella et al., 2023; Johnson et al., 2013; Wood, 2011). This is surprising when considering that, in light of the magnitude of the ongoing climate crisis, the designs and objectives of social assistance and climate policy need, by *force majeure*, to overlap (Agrawal et al., 2020; Coirolo, Commins, Haque, & Pierce, 2013), if longer-term chronic poverty and environmental vulnerability reduction – rather than short-term consumption alleviation – really represent their common goals (Agrawal et al., 2020).

The climate-tackling potential of social protection alone is not to be excessively emphasized, though: in order to ensure proper responses to climate change, it should in fact be coupled with pre-disaster mitigation and prevention measures, as well as post-disaster adaptation strategies (Coirolo et al., 2013; Tenzing, 2020). In this sense, the long-run ‘transformative’ role (Devereux & McGregor, 2014) of ASP in addressing the structural causes of vulnerability to climate change has not been harnessed by policymakers yet (Tenzing, 2020), and has been discussed with skepticism in the academic discourse (Johnson & Krishnamurthy, 2010; Tenzing, 2020). But although changes in transformative resilience are rare (Agrawal et al., 2020), social assistance and cash transfers have, for instance, been linked to improvements in recipients’ protective, preventive and promotive coping potential and strategies (Davies et al., 2013). Consequently, cash transfers could offer a particularly interesting adaptation option as, in comparison to other types of intervention, they are supported by a wider evidence base, yield substantial potential for scaling up, tend to gain local acceptance, and do not require a lot of climate-related information (Wood, 2011). Moreover, because of their guaranteed periodic design, they cater well to the context of climate change, characterized by severe uncertainty (Lawlor, Handa, & Seidenfeld, 2015).

The mentioned ‘wider’ evidence base is however not very large in the case of climate resilience impacts: as a result of the lack of attention to the issue, just a few of the available empirical proofs directly investigate CT effects – or impacts of any social protection program in general – on this outcome (Agrawal et al., 2020). A paper evaluating the impacts of the Zambia Child Grant Programme found, for instance, that the transfer enabled recipient households to better cope with climate shocks, by increasingly employing adaptive mechanisms which do not increase the likelihood of falling into a poverty trap (Lawlor et al., 2015). Another study from Ethiopia showed that CTs can positively impact farmers’ profit efficiency, even in the event of rainfall shocks, by allowing the purchase of modern productive inputs (Daidone & Fontes, 2023). The majority of the existing knowledge pieces analyzes CT effects on climate resilience in an indirect manner, by evaluating program impacts on proxies typically associated with the concept, like consumption, savings, asset ownership, and education (Agrawal et al., 2020). Such approach reflects the commonly shared belief that cash transfers could foster resilience through mechanisms of savings facilitation, asset accumulation, and income smoothing (Premand & Stoeffler, 2020). It is the case, for example, of an investigation of *Familias en Acción* in Colombia, which concluded that the program did not yield any significant effect on vulnerability to climate change, operationalized as an index – comprising wealth, health, access to information, access to basic facilities, financial vulnerability, resilience to natural disasters, and nutrition (Arena, Guasti, & Hussein, 2023). Similarly, a study from Ethiopia suggested that the Productive Safety Net Programme (PSNP) had not enabled smallholders to diversify income sources in such a way to stimulate climate adaptation (Weldegebriel & Prowse, 2013). Other studies actually find that CTs can improve resilience to climate, by spurring income diversification in Nicaragua (Macours, Premand, & Vakis, 2012), or income security and savings in Niger (Premand & Stoeffler, 2020). In summary, much of the available evidence is only suggestive of eventual cash transfer beneficial impacts on climate resilience and adaptation.

2.2 CLIMATE ADAPTATION: PREVENTIVE AND ABSORPTIVE MEASURES

This paper looks at resilience by focusing on cash transfers’ impacts on climate adaptation¹¹¹, adopting an ASP-inspired definition, whereby adaptation is described as a mix of: “*disaster risk management focusing on preventing, mitigating and preparing to deal with shocks, and adaptive change management that aims to modify behaviors and practices over the medium-to long-term*” (Asfaw et al., 2011, p. 2). The study maintained this distinction, by asking interviewees to indicate which kinds of coping mechanisms they resorted to, both as a way to anticipate, and to react to the consequences of climate shocks. This is relevant for the purposes of this work because, according to the theoretical literature, both tasks can be facilitated by cash transfers (Agrawal et al., 2020; Ulrichs et al., 2019). The

¹¹¹ While recognizing the paramount importance of discourses on climate mitigation, this article will instead only focus on adaptation, because of constraints in scopes and resources. As already briefly introduced, theoretical sources argue that social protection could foster both adaptation and mitigation even though, in the latter’s case, such conclusion is not straightforward, as it could logically be expected from income support interventions to increase individual consumption and, therefore, emissions (Bhalla, Knowles, Dahlet, & Poudel, 2024; Costella et al., 2023).

3As framework actually posits that CTs can benefit recipients' *anticipatory* (pre-; being better prepared for the eventuality of shocks), *absorptive* (post-; cope with stresses while and after they occur), and *adaptive* (transformative; adapting to long-term climate risks) capacity (Bahadur, Peters, Wilkinson, Pichon, & Tanner, 2015). Hence, greater (at least anticipatory and absorptive) abilities are likely to result from CT-derived strengthening of resilience, even if the obtained impacts clearly depend on a variety of factors, including prior wellbeing levels and the nature of experienced climate hazards (Agrawal et al., 2020).

Table 96. Locally adopted anticipatory/preventive, absorptive and adaptive coping mechanisms

Type	Anticipatory/absorptive	Adaptive
Beneficial/nuanced	Agricultural practices Informal credit and/or assistance Formal credit and/or assistance Saving Working more Planning to migrate	Agricultural practices
Adverse ('mal-adaptation')	Reducing food consumption Reducing expenditures Selling productive assets and/or livestock Sending children to work Withdrawing children from school Sending children to live elsewhere	

Sources: amongst others, Berman et al., 2015; Helgeson et al., 2013; Hisali et al., 2011; Yaméogo et al., 2018

In this case, the list of inquired mechanisms was drafted on the basis of a literature review of the most typically adopted climate adaptation techniques in Sub-Saharan Africa (Asfaw et al., 2011; Heltberg et al., 2015; Yaméogo et al., 2018), (rural) Uganda (Helgeson, Dietz, & Hochrainer-Stigler, 2013; Hisali, Birungi, & Buyinza, 2011) and even in the specific region in which the CT of interest is conducted (Berman, Quinn, & Paavola, 2015; Okonya, Syndikus, & Kroschel, 2013). An additional differentiation (see **Table 96**) was also introduced to distinguish between 'mal-adaptation' strategies (Schipper, 2020), and the ones generally perceived as positive, or at least more nuanced (Lawlor et al., 2015). Mal-adaptation techniques are activities which provide a temporary relief from the consequences of climate change but that, in the longer-term, may activate vicious circles, and ultimately trap households into poverty (Barrett, Carter, & Little, 2006; Helgeson et al., 2013). In this sense, selling productive assets or livestock is typically seen as the most significant driver of poverty traps, but other adverse and harmful coping strategies comprise those which reduce households' human capital investment, such as withdrawing children from school, and sending them to work (Helgeson et al., 2013; Lawlor et al., 2015).

For all of the selected strategies – regardless of their beneficial or adverse nature – it was inquired whether they had been employed in anticipation, absorption of climate consequences, or both. Among these, the adoption of agricultural practices, considered a beneficial strategy, was further investigated, by asking respondents to indicate which exact agricultural tasks they had been carrying out – including changing planting dates, diversifying crops, and increasing the use of fertilizers and/or pesticides (Asfaw et al., 2011; Okonya et al., 2013; Yaméogo et al., 2018). The latter choice was driven by the acknowledgment that resorting to such practices – either as ex-ante or ex-post solutions – could return hints and insights around the possibility of increases in CT recipients’ adaptive capacity to climate change (Bahadur et al., 2015).

2.3 THE COLLECTIVE/SOCIAL ASPECT OF CLIMATE ADAPTATION

Resilience is often measured through associated proxies (Agrawal et al., 2020; Premand & Stoeffler, 2020) and understood as the sum of several different components and dimensions of one’s livelihood (Sengupta & Costella, 2023). According to the GIZ multidimensional resilience index (Welle, Witting, Birkmann, & Brossmann, 2014), for instance, adaptive capacity can be strengthened by enhancing the five main dimensions of vulnerability, namely the social, ecological, economic, physical, and institutional ones (Sengupta & Costella, 2023). In this sense, the social domain represents a main driver of transformative long-term improvements in adaptation to climate change (Welle et al., 2014). Adaptation is in fact recognized as a dynamic social process, whereby a society’s ability to adapt is partially determined by its capacity to act collectively (Adger, 2003). Collective action is considered crucial in driving numerous decisions related to the management of natural resources, and social networks play a major role in adaptation, with networking social capital sometimes even regarded as a potential substitute of government (Adger, 2003). When facing environmental threats, poor households may indeed have to draw upon social capital (among other forms of capital) to cope, especially in the absence of strong higher-level institutions (Paul et al., 2016). For instance, social networks bear the potential to affect farmers’ attitudes about climate change (Nam, Choi, Yoo, & Jang, 2012), to enrich their adaptation knowledge (Fankhauser, Smith, & Tol, 1999), and to improve their ability to estimate climate-derived risks (Kane & Shogren, 2000). Consequently, beneficial investments in social networks and relations – such as the instalment of a cash transfer program (Asfaw et al., 2011) – could contribute to strengthening recipients’ resilience to a number of climate hazards (Agrawal et al., 2020). However, the effectiveness of social capital is dependent on the local level of available resources and possessed knowledge of solutions against environmental stresses (Paul et al., 2016).

Empirical research has proven that social capital can facilitate adaptation: several sources have demonstrated that the social component is a key driver of poor communities’ climate resilience. A study from Ethiopia determined that trust influenced the extent of individual contributions to public adaptation goods (Paul et al., 2016). Another paper from Indonesia showed that farmers’ willingness

to participate in the process of climate change adaptation was positively correlated with trust, community engagement and personal relations (Saptutyningsih et al., 2020). Lastly, evidence from Burkina Faso showed that social capital affected the choice, the number, and the degree of effective implementation of adopted adaptation techniques (Yaméogo et al., 2018).

This article evaluates CT impacts on collective (or ‘social’) outcomes – and the extent to which they mediate effects on climate adaptation – by conceptualizing them as repercussions on social capital, agency and collective action. Despite a rising interest, the number of existing empirical proofs on the topic is scarce, although pointing to positive cash transfer impacts on these domains (**Chapter 1**). As already discussed, proxies of social capital (Paul et al., 2016; Yaméogo et al., 2018) and collective action (Adger, 2003; Saptutyningsih et al., 2020) can spur adaptation. Investigating agency’s role is also necessary because social capital – regarded as a critical factor in sustainable development (Garbarino & Holland, 2009) – is in itself not sufficient to spur the collective action processes which lead to improved climate adaptation patterns, sometimes described as private or local public goods (Hasson, Löfgren, & Visser, 2010; Khan & Munira, 2021). Alongside beneficial social capital changes, in fact, enhancements in (influential) actors’ agency are also indispensable (Krishna, 2002). This study’s analytical framework is depicted in **Figure 41** – adapted from the overarching PhD framework –, highlighting the expected theory of change, beyond CT effects at the individual- and household-levels (Bastagli et al., 2019), reaching better climate adaptation through beneficial impacts on collective outcomes.

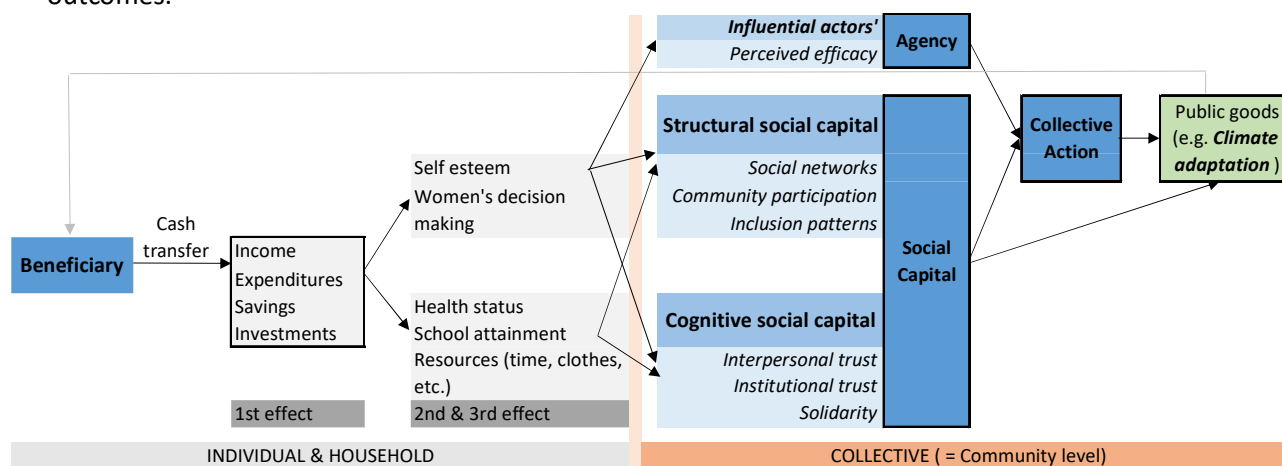


Figure 41. Analytical framework of the climate resilience study

In our case, social capital was operationalized by resorting to proxies reflecting the categorization of the World Bank Social Capital Assessment Tool (SOCAT; (Grootaert & Van Bastelar, 2002), which distinguishes between the *structural* (e.g., networks and inclusion patterns) and *cognitive* (trust and solidarity) dimensions of the concept¹¹² (see **Table 97**). The adopted definition of agency mainly concerned its perceived efficacy (Harvey, 2002; Onyx & Bullen, 2000) aspects, together with life

¹¹² For a more extensive discussion of the differences between structural and cognitive social capital, see **Chapter 1**.

satisfaction (Emirbayer & Mische, 1998; Valli, Peterman, & Hidrobo, 2019) and individual demand for services. Finally, collective action was investigated, in an economic perspective (Olson, 1965), through its indicators of collective investment and demand for services.

Table 97. Operationalization of the collective outcomes of interest

Outcomes (and components)		Main adopted indicators
Social capital	Structural	Membership in organizations, community participation, frequency of property crimes, social inclusion, social relations, social networks
	Cognitive	Interpersonal and institutional trust, solidarity, trust in NGOs
Agency		Perceived efficacy, life satisfaction, individual demand for services
Collective action		Collective demand for services, collective investment

3. DATA AND EMPIRICAL STRATEGY

3.1 SETTING AND DATA COLLECTION

This article investigates the preliminary impacts of a universal unconditional mobile cash transfer (UCT) program which started in September 2022, with expected end date in September 2024. Likewise other CT experiments previously conducted by the program's implementing body, a non-profit organization, the project consists – for a fixed period of two years – of a monthly monetary transfer to all adult inhabitants of a rural Western Uganda village. Children are also indirect beneficiaries of half of the amount destined to adults, through additional transfers given to their mothers. The consequent 'full' universality of the program – even if limited to the village scale – together with its unconditionality, individuality, in-cash and periodic nature, explains why it is labelled as a Universal Basic Income (UBI) pilot (Gentilini, Grosh, Rigolini, & Yemtsov, 2020). In this sense, alongside GiveDirectly transfers, it should be regarded as one of the few true UBI experiments implemented not only in Sub-Saharan Africa, but even worldwide (Stanford Basic Income Lab, n.d.). The transferred amount was determined with the aim to significantly improve recipients' living standards, while still not allowing them to make a decent living just on the premises of the UBI. The individual CT, set to 30% of the local lower-income households' average income (Davala, Jhabvala, Standing, & Mehta, 2015), would in fact not enable participants to completely give up labour.

The treatment and control villages were selected on the basis of a combination of geographical, economic, and sociodemographic criteria. In addition, the search was informed, guided, and limited to regions severely affected by climate hazards, such as floods and drought. Residents of both villages, situated in the climate-affected district of Kasese (Berman et al., 2015; Okonya et al., 2013), were so far interviewed twice: in 2022, just before the start of the program in the CT village (baseline stage), and in 2023, roughly one year into the project (midline). Future rounds are also forecasted, in order to

validate and integrate the midline findings. Finally, qualitative insights based on key-informant interviews were used to contextualize and provide more in-depth information about the observed patterns.

3.2 EMPIRICAL STRATEGY

3.2.1 TOTAL CT IMPACTS

Given the relatively low number of observations of the study, alongside the absence of a randomized targeting and allocation process, it could not be ensured that the two analyzed groups would be statistically identical. As a consequence, pursuing experimental RCT as an effect estimation method would have not been meaningful (Gertler et al., 2016). A quasi-experimental difference-in-differences (DiD) procedure was followed instead, in view of its numerous advantages, including its intuitiveness and relaxation of the hypothesis on conditional exogeneity of with-and-without comparisons (Stock & Watson, 2020). In this context, because of the lack of pre-baseline data and fake outcome-assimilable variables (i.e., variables not affected by the program, on which to perform ‘placebo’ tests; Gertler et al., 2016; Pace et al., 2022), it was not possible to check for the validity of the *equal trends* assumption (Gertler et al., 2016), posing a limitation to the reliability of the study findings which should be acknowledged. Nevertheless, while agreeing that the equal trends assumption is a strong supposition, it should also be reminded that it cannot be conclusively proven, but just assessed against the validity of the abovementioned tests (Gertler et al., 2016; Stock & Watson, 2020).

Even though simple DiD regressions already provide unbiased estimations of the average treatment effect (ATE), the precision of models was improved through the inclusion of individual-level demographic and socioeconomic characteristics as control variables, ultimately also increasing the plausibility of the equal trends assumption (Stock & Watson, 2020). As a result, the model used for carrying out the analysis is summarized by the following **Equation (1)**:

$$Y_{it} = \beta_0 + \beta_1 T_{it} + \beta_2 CT_{it} + \beta_3 CT * T_{it} + \beta_4^T Ind_covariate_{it} + \varepsilon_{it} \quad (1)$$

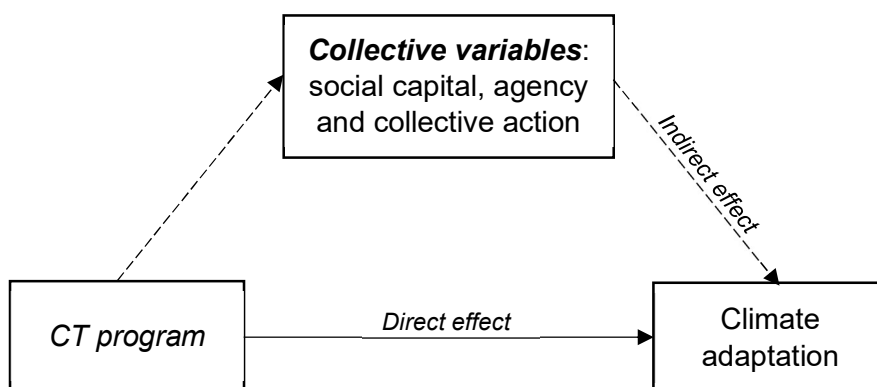
where:

Y_{it} is a proxy of climate adaptation or collective-level outcomes for individual i at time t ; T is the time dummy, distinguishing between baseline (equaling 0) and midline (1) data; CT is an indicator which equals 1 if individual i is a program recipient, and 0 otherwise; $Ind_covariate$ is a vector of the considered individual covariates.

Robust¹¹³ standard errors were used for the estimations. The observed DiD findings were also complemented with some qualitative insights, with the objective of shedding additional light on their causal pathways and contingent drivers.

3.2.2 DIRECT AND MEDIATED IMPACTS

Afterwards, in order to determine whether eventual program effects on climate adaptation were mediated by its causal impacts on collective-level outcomes or not, Causal Mediation Analysis (Baron & Kenny, 1986; Imai, Keele, & Tingley, 2010) was employed. Such technique has only been applied a few times to the impact evaluation of cash transfer programs. For instance, it was used to verify that the nutritional outcome benefits of the *Red de Protección Social* program in Nicaragua were highly dependent on health check-ups and dietary diversity (Charters et al., 2023). Another study concluded that a considerable share of the Zimbabwe Harmonized Social Cash Transfer effects on food security and nutrition were mediated by and attributable to agricultural activities (Pace et al., 2022). This approach disentangles the causal mediation effects from the total treatment impact, by distinguishing between indirect – or ‘mediated’ – effects, channeled by the intermediate variable under analysis, and direct consequences, fostered by all the other channels (Imai et al., 2010). A visual clarification of this differentiation is provided by **Figure 42**.



Source: adapted from Pace et al., 2022

Figure 42. Mediation process

¹¹³ Clustering standard errors would have been necessary and meaningful in the context of the study, given its experimental design which assigned the treatment status on a village, rather than individual, basis (Abadie, Athey, Imbens, & Wooldridge, 2023). However, with only two clusters (the treatment and control groups), cluster-robust standard errors are unreliable (Canay, Santos, & Shaikh, 2021), and other methods, notably wild cluster bootstrapping (WCB; Cameron, Gelbach, & Miller, 2008), are to be preferred (Canay et al., 2021). Nevertheless, a few conditions should hold in order for wild cluster bootstrapped-errors to work well: a ‘pure’ treatment model (i.e., where all observations within clusters are either treated or not), sufficiently large clusters (at least 50 observations per group) and, most importantly, similar cluster sizes for all considered groups (MacKinnon & Webb, 2018). In our study’s case, the last criterium is not satisfied, leading to – as empirically verified, when applying WCB – underrejecting issues, whereby virtually all treatment coefficients (not only those computed by the present chapter, but also the matched coefficients of **Chapter 5**, **Chapter 6** and **Chapter 7**) would turn (strongly) statistically significant. It was therefore decided to simply rely on robust standard errors, after considering that potential alternatives, such as the subcluster WCB proposed by MacKinnon and Webb (2018), would not be applicable because of the absence of valid subgroups in our already relatively small clusters. In general, moreover, Canay et al. (2021, p. 356) point out that “practitioners should also avoid reporting wild bootstrap-based standard errors because t-tests based on such standard errors are not asymptotically valid in an asymptotic framework in which the number of clusters is fixed”.

In this context, the formulation of a hypothesis, the so-called '*sequential ignorability*' assumption, is necessary before identifying the causal mediation impacts (Imai, Keele, Tingley, & Yamamoto, 2011). The assumption is composed of two successive hypotheses:

1. The '*ignorability*' of the treatment assignment, namely its *statistical independence from outcomes of interest and mediators*, given the observed pre-treatment confounders. Because of the universality of the CT under analysis, and the consequent lack of a randomization process, this assumption is possibly not meaningful. Nevertheless, notwithstanding the detected baseline imbalance – elucidated in **sub-section 4.1** – treatment ignorability plausibly holds, in this case, by reason of the application of DiD under the *equal trends* assumption (Ho, Imai, King, & Stuart, 2007);
2. The *exogeneity of the mediators with respect to the final outcomes*. In light of the absence of any strong theoretical proposition – although likely, at least for what concerns agency – that climate adaptation influences collective-level variables, the possibility of reverse causality was discarded, concluding that this assumption would also be fulfilled.

When both parts of the ignorability assumption hold, the average causal direct effect and the mediation effect can be estimated through successively running **Equations (2)** and **(3)**:

$$Mediator_{it} = \alpha_0 + \alpha_1 T_{it} + \alpha_2 CT_{it} + \alpha_3 CT * T_{it} + \alpha_4^T Ind_covariate_{it} + \varepsilon_{it} \quad (2)$$

$$Y_{it} = \gamma_0 + \gamma_1 T_{it} + \gamma_2 CT_{it} + \gamma_3 CT * T_{it} + \gamma_4^T Ind_covariate_{it} + \gamma_5 Mediator_{it} + \varepsilon_{it} \quad (3)$$

whereby γ_3 represents the direct program effect, controlling for the mediator variables and for covariates; and $\alpha_3 * \gamma_5$ is the mediation effect, computed as the product of the CT impact on the mediator (α_3), and of the partial effect of the mediator on the final outcome (γ_5), controlling for the same confounding factors.

4. RESULTS

4.1 SUMMARY STATISTICS AND BASELINE BALANCE

In order to verify the comparability at baseline of the two groups under analysis, a statistical check through t-tests was performed on several individual- and household-level characteristics, and on the proxies of climate resilience and adaptation and of collective variables investigated by this paper (see **Table 98**).

No statistically significant differences were detected on most of the covariates included in the regressions (age group, gender, and leadership status), with the exception of education, which was higher, on average, in the treatment village. Other proxies, possibly informing a multidimensional poverty (Alkire et al., 2015) assessment of groups, were also taken into consideration while determining

the comparability of the clusters. Our baseline data suggests that the CT village had lower access to safe water sources, and was more frequently subject to food insecurity. On the other hand, control households were more likely to host a chronically ill person. No other significant discrepancies were found, as the two groups were statistically comparable on household size, sanitation, spending patterns, labour, incomes, savings and land ownership.

In terms of climate hazards, the two clusters were starting from a similar (severe) situation, with just around 7% of each village's respondents not having experienced a major crop failure during the previous year. Livestock loss rates were also very high for both, but the difference was not statistically significant. Nevertheless, control individuals were much more confident about their (perceived) resilience to climate shocks – at least in terms of material/financial means and social support networks – than their treatment counterparts. As a matter of fact, at baseline, the control group was comparatively more able to anticipate the consequences of environmental stresses, by employing more 'preventive' measures than the CT cluster. However, this was largely due to a more frequent use, by the counterfactual group, of 'adverse' preventive mechanisms, such as selling productive assets, or withdrawing children from school. In turn, treatment households were more reliant on ex-post 'absorptive' techniques, both beneficial (e.g., saving) and harmful (once again, selling productive assets or livestock). Lastly, no statistical difference was detected concerning the number of adopted agricultural coping mechanisms – considered a beneficial tool – either in prevention or as a reaction to a hazard.

Less balance was found in terms of collective-level variables. Treatment individuals were, for instance, less likely to be actively engaging in organizations (such as saving groups, water user committees, or other civil society institutions), but on average more involved in the community (60% against 47% of the control group) with higher rates of social inclusion. No significant discrepancy, on the other hand, was measured on overall social relations, or on the size of social networks. Cognitive social capital was more developed inside the control village, regarding interpersonal and institutional trust alike – but solidarity patterns were similar among groups. Interestingly, agency was significantly higher in the CT village, at least for what concerns perceived efficacy proxies, but statistically lower in terms of life satisfaction and individual demand for services. Finally, even though frequencies of getting together with others to raise issues of common concern – an indicator of collective action – were comparable, the control group invested less money in public goods than the treatment village, at baseline.

The implementation of a difference-in-differences technique is able, nevertheless, to address these balance issues, ensuring a correct and consistent estimation of program impacts, under the *equal trends* assumption (Gertler et al., 2016; Stock & Watson, 2020).

Table 98. Baseline balance check with t-tests, by treatment status

Variable	Control			Treatment			Difference in means	P-value
	N	Mean	Std. Error	N	Mean	Std. Error		
Individual and household characteristics [range]								
Age group [1-3]	172	2.023	0.787	101	2.000	0.787	0.023	0.813
Gender [1-2]	172	1.500	0.501	101	1.505	0.502	-0.005	0.937
Holding leadership/bureaucratic position [0-1]	172	0.058	0.235	101	0.069	0.255	-0.011	0.713
Educational level group [1-3]	172	1.977	0.764	101	2.317	0.615	-0.340	0.000***
Household size [1-24]	172	5.645	2.590	101	5.743	3.104	-0.097	0.781
Number of rooms in the HH [1-7]	170	3.376	1.161	101	3.238	0.981	0.139	0.314
Safety of the water consumed in the HH [0-1]	168	0.208	0.407	100	0.060	0.239	0.148	0.001***
Sanitation service used by the HH [1-6]	172	3.052	0.487	101	3.020	0.199	0.033	0.522
Number of spending categories money is spent on [1-14]	157	5.541	2.308	91	5.286	2.330	0.256	0.402
Any person chronically ill in the HH [0-1]	166	0.145	0.353	99	0.051	0.220	0.094	0.017**
Frequency of not having a varied diet (last 6 months) [1-6]	169	3.041	0.941	99	3.273	1.058	-0.231	0.064*
Avg. hours/week worked in agriculture [0-120]	148	30.851	24.956	89	33.157	30.678	-2.306	0.528
Avg. hours/week worked in non-agriculture [0-150]	97	11.515	23.194	62	10.613	22.981	0.903	0.810
Average weekly agricultural income [1-6]	168	2.423	1.404	96	2.521	1.429	-0.098	0.587
Average weekly non-agricultural income [1-5]	155	1.503	0.942	91	1.407	0.894	0.097	0.429
Total value of HH savings [1-7]	158	2.297	1.541	100	2.420	1.565	-0.123	0.536
Acres of land owned [0-30]	133	0.945	2.811	75	0.718	1.065	0.227	0.502
Climate resilience and adaptation								
No major (at least 50%) crop failure (last year) [0-1]	172	0.070	0.255	101	0.069	0.255	0.000	0.988
No major (at least 50%) livestock loss (last year) [0-1]	172	0.163	0.370	101	0.109	0.313	0.054	0.220
Resilience: necessary material/financial means [0-10]	143	4.664	1.971	88	4.170	1.895	0.494	0.061*
Resilience: necessary capacity/knowledge/skills [0-10]	121	4.355	2.980	78	3.705	2.380	0.650	0.106
Resilience: necessary social support network [0-10]	138	4.254	2.033	90	3.722	1.690	0.531	0.040**
No. prevention strategies (last year) [0-12]	137	3.102	3.061	77	2.208	2.489	0.894	0.029**
No. beneficial prevention strategies (last year) [0-6]	137	1.613	1.601	77	1.455	1.391	0.159	0.467
No. adverse prevention strategies (last year) [0-6]	137	1.489	1.659	77	0.753	1.329	0.736	0.001***
No. absorption strategies (last year) [0-12]	142	2.739	2.953	81	3.568	3.915	-0.828	0.075*
No. beneficial absorption strategies (last year) [0-6]	142	1.430	1.518	81	1.765	1.698	-0.336	0.129
No. adverse absorption strategies (last year) [0-6]	142	1.310	1.608	81	1.802	2.390	-0.493	0.067*
No. agricultural prevention strategies (last year) [0-5]	137	0.248	0.838	78	0.103	0.524	0.146	0.167
No. agricultural absorption strategies (last year) [0-5]	142	1.634	2.214	83	1.916	2.349	-0.282	0.368
Collective-level outcomes								
Membership in organizations' total score [0-6]	169	5.485	1.075	100	4.920	1.535	0.565	0.000***
Community participation of HH members [0-1]	169	0.473	0.501	101	0.604	0.492	-0.131	0.037**
Frequency of undergoing property crime (last year) [1-5]	171	1.409	0.749	99	1.384	0.752	0.026	0.787
Social inclusion: I feel accepted [1-4]	156	3.551	0.821	93	3.817	0.441	-0.266	0.004***
Overall rating: social relations [0-10]	147	4.469	2.175	97	4.227	1.874	0.243	0.369
Social support network's size [0-10]	172	1.453	0.999	101	1.376	1.199	0.077	0.567
Material support/risk-sharing network's size [0-5]	172	0.837	0.897	101	0.861	0.990	-0.024	0.836
Trust in others [0-1]	134	0.261	0.441	85	0.212	0.411	0.049	0.407
I trust my neighbour to take care of my home/field [1-4]	150	3.307	0.969	87	2.908	0.996	0.399	0.002***
Institutional trust: politicians represent my interests [1-4]	149	2.960	1.150	85	2.435	1.170	0.524	0.000***
Institutional trust: I trust the government [1-4]	144	3.083	1.119	91	2.615	1.298	0.468	0.003***
Solidarity: someone available to help me. in need [1-4]	158	3.487	0.746	94	3.426	0.726	0.062	0.521
Trust in NGOs: NGOs are here to help and support [1-4]	109	3.073	1.200	80	2.638	1.380	0.436	0.021**
Agency: my life is determined by my own actions [1-4]	146	3.404	1.041	94	3.872	0.335	-0.468	0.000***
Agency: I am capable of protecting my interests [1-4]	150	3.380	1.053	94	3.819	0.463	-0.439	0.000***
Agency: I can define and act on my goals [1-4]	154	3.351	1.032	94	3.819	0.414	-0.468	0.000***
Agency: I have the power to take important decisions [1-4]	147	3.293	1.068	91	3.813	0.492	-0.521	0.000***
Agency total index [0-4]	157	3.191	1.364	95	3.884	0.409	-0.693	0.000***
Overall rating: life satisfaction [0-10]	160	5.181	2.215	101	4.733	1.708	0.449	0.083*
Frequency of contacting duty bearers (last year) [0-7]	164	2.829	2.261	98	2.235	1.722	0.595	0.025**
Frequency of getting together to raise issue (last year) [0-7]	168	1.893	1.262	100	1.900	1.124	-0.007	0.962
Collective investment: contribution of money [0-1]	96	0.531	0.502	67	0.687	0.467	-0.155	0.047**

4.2 TOTAL CT EFFECTS

4.2.1 IMPACTS ON CLIMATE RESILIENCE AND ADAPTATION

Despite not having yielded significant impacts on major crop failure or livestock loss, during the first implementation year, the cash transfer proved to have already very positively affected recipients' perceived extent of being able to cope with shocks (**Table 99**), on all three considered dimensions (material/financial means, capacity/knowledge/skills, and social support network). Statistically significant (at 1%) rises of at least 1.7 points (out of 10) were in fact registered on all indicators.

Table 99. DiD: total CT impact estimates on crop/livestock loss and climate resilience

	(1)	(2)	(3)	(4)	(5)
			Perceived climate resilience		
	No major (at least 50%) crop failure (last year)	No major (at least 50%) livestock loss (last year)	Material/ financial means	Capacity/ knowledge/skills	Social support network
CT*T	-0.040	0.057	1.702***	1.708***	1.973***
CT	0.006	-0.029	-0.584**	-0.728*	-0.569**
T	0.039	0.433***	-2.042***	-0.915***	-0.430*
Constant	0.189**	0.351***	4.221***	4.713***	3.618***
Observations	572	572	478	455	492
R-squared	0.014	0.240	0.163	0.063	0.073

Notes: *, ** and *** respectively indicate statistical significance at the 10%, 5% and 1% levels. All regressions control for individual age group, gender, educational level group and leadership/bureaucratic position status.

At the same time, at midline the CT had spurred participants' capacity to employ preventive strategies against expected climate change repercussions (**Table 100**). The simultaneous statistically significant decrease in the usage of absorptive mechanisms could be seen as a positive outcome, derived from an enhanced potential to anticipate shocks, rather than only being able to react to them after their surge, or as they occur. Nevertheless, it should be pointed out that the recourse to both beneficial and detrimental preventive strategies had risen at midline, with the latter driving most of the overall positive effect on anticipatory techniques. While the employment of more nuanced tactics – such as planning to migrate – had increased, the same conclusion could be reached concerning deleterious activities like reducing expenditures and food consumption, or selling productive assets and/or livestock. This finding is especially surprising when considering that, on a theoretical level, the transfer should have allowed recipients to build and maintain the necessary savings and financial capital to deal with shocks, without having to rely on mal-adaptation strategies that could damage their human capital investment, in the long run. A first qualitative explanatory hint – gathered from a key-informant – could be represented by the increase in (expensive) preventive crop diversification patterns enabled in the

treatment village by the CT, which, by failing to already adequately compensate for the consequences of flood and drought episodes, may have ultimately led program participants to resort to harmful practices to anticipate future disasters. Supplementary qualitative evidence could contribute to clarify such surprising – albeit just preliminary – findings. Among beneficial practices, an increase in preventive agricultural strategies – albeit statistically insignificant, with the exception of crops diversification – was indeed recorded. At the same time, in line with the overall decrease in the employment of ex-post mechanisms, absorptive agricultural practices significantly reduced. Therefore, no clear sign of an enhancement in households' adaptive capacity could be retrieved, even though it may not necessarily be expected from a midline (just one year – out of two – into the program) analysis of findings such as the present one. For details on impacts on each individual preventive, absorptive, and agricultural strategy, respectively see **Table 107**, **Table 108** and **Table 109** in the **Appendix**.

Table 100. DiD: total CT impact estimates on climate adaptation

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	No. prevention (pre) strategies (last year)			No. absorption (post) strategies (last year)			No. agricultural strategies (last year)	
	Total	Beneficial	Adverse	Total	Beneficial	Adverse	Prevention	Absorption
CT*T	2.096***	0.674**	1.422***	-1.300**	-0.500	-0.800**	0.345	-1.065***
CT	-0.945**	-0.202	-0.743***	0.768	0.320	0.448	-0.165*	0.254
T	-0.213	0.423**	-0.636***	3.466***	1.708***	1.757***	1.487***	1.035***
Constant	1.757**	0.934**	0.823**	1.929**	1.273***	0.656	-0.100	1.265**
Observations	422	422	422	497	497	497	439	501
R-squared	0.083	0.090	0.091	0.188	0.188	0.152	0.325	0.040

Notes: *, ** and *** respectively indicate statistical significance at the 10%, 5% and 1% levels. All regressions control for individual age group, gender, educational level group and leadership/bureaucratic position status.

4.2.2 IMPACTS ON COLLECTIVE-LEVEL OUTCOMES

First, concerning *structural social capital*, mixed results were found. Whereas a strong (of roughly one point, on a scale from 1 to 10) and statistically significant improvement in overall social relations was detected – alongside an increase in the size of recipients' social support networks – the CT also seemed to have caused a very significant worsening in the individual feeling of inclusion inside the community (**Table 101**). Other observed impacts, like the growth in organizational membership, and the decline in community participation, were not significant from a statistical point of view.

Table 101. DiD: total CT impact estimates on structural social capital

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
						Social networks' sizes	
	Membership in organizations' total score	Community participation of HH members	Frequency of undergoing property crime (last year)	Social inclusion: I feel accepted	Overall rating: social relations	Social support	Material support/risk-sharing
CT*T	0.164	-0.020	-0.176	-0.381***	0.911**	0.383*	-0.088
CT	-0.522***	0.118*	-0.081	0.255***	-0.290	-0.110	-0.019
T	-0.265**	0.378***	0.499***	0.346***	1.413***	0.491***	0.739***
Constant	6.340***	0.335***	0.757***	3.465***	3.894***	1.143***	0.581**
Observations	565	565	561	547	527	572	572
R-squared	0.132	0.217	0.077	0.059	0.144	0.104	0.163

Notes: *, ** and *** respectively indicate statistical significance at the 10%, 5% and 1% levels. All regressions control for individual age group, gender, educational level group and leadership/bureaucratic position status.

Cognitive social capital was instead more clearly positively impacted by the program. In fact, interpersonal trust significantly increased both in terms of generic trust in others, and of confidence in fellow villagers in taking care of one's premises (**Table 102**).

Table 102. DiD: total CT impact estimates on cognitive social capital

	(1)	(2)	(3)	(4)	(5)	(6)
	Interpersonal trust		Institutional trust			
	Trust in others	I trust my neighbour to take care of my home/field	Politicians represent my interests	I trust the government	Solidarity: someone available to help me, in need	Trust in NGOs: NGOs are here to help and support
CT*T	0.185**	0.417**	0.513**	0.206	-0.025	0.855***
CT	-0.045	-0.390***	-0.499***	-0.469***	-0.070	-0.439**
T	-0.046	0.193*	0.225	0.102	0.299***	0.078
Constant	0.226*	3.273***	2.969***	2.852***	3.490***	3.268***
Observations	510	531	529	527	550	470
R-squared	0.023	0.062	0.065	0.051	0.049	0.081

Notes: *, ** and *** respectively indicate statistical significance at the 10%, 5% and 1% levels. All regressions control for individual age group, gender, educational level group and leadership/bureaucratic position status.

Trust in institutions also benefitted from the inception of the CT, even though not always in a statistically significant manner. The detected slight decrease in solidarity patterns was also not significant. Finally,

trust in NGOs increased very robustly, an insight which could possibly be attributed to the cash transfer inception.

On the other hand, overall CT effects on *agency* were unexpectedly detrimental (**Table 103**). As a matter of fact, treatment coefficients for all four considered aspects of one's perceived efficacy were negative, even though it should be taken into consideration that only one of them (related to the power to take important decisions) was statistically significant. Consequently, the effect on the computed overall agency index was negative, but insignificant. At the same time, positive and significant impacts on other agency dimensions, namely life satisfaction and individual demand for services (operationalized as the frequency of contacts with local duty bearers to complain about their services) were observed. Future qualitative analysis could shed additional light on these observed changes.

Table 103. DiD: total CT impact estimates on agency

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Agency: perceived efficacy						
	My life is determined by my own actions	I am capable of protecting my interests	I can define and act on my goals	I have the power to take important decisions	Agency total index	Overall rating: life satisfaction	Frequency of contacting duty bearers (last year)
CT*T	-0.193	-0.114	-0.183	-0.320**	-0.259	2.285***	0.806***
CT	0.458***	0.425***	0.434***	0.513***	0.652***	-0.569**	-0.610**
T	-0.040	-0.021	0.022	0.133	-0.023	0.275	-1.443***
Constant	3.260***	3.369***	3.152***	3.347***	2.865***	4.376***	1.829***
Observations	536	541	543	532	549	547	556
R-squared	0.053	0.060	0.059	0.055	0.065	0.150	0.173

Notes: *, ** and *** respectively indicate statistical significance at the 10%, 5% and 1% levels. All regressions control for individual age group, gender, educational level group and leadership/bureaucratic position status.

Finally, the CT yielded mixed impacts on *collective action* (**Table 104**). While the frequency of getting together with others to raise an issue of common concern – an indicator of collective demand for services – significantly increased, monetary investment into collective projects declined, even if in a not statistically proofed manner.

Table 104. DiD: total CT impact estimates on collective action

	(1)	(2)
	Frequency of getting together to raise issue (last year)	Collective investment: contribution of money
CT*T	0.544**	-0.110
CT	-0.003	0.127*
T	0.730***	0.009
Constant	1.357***	0.049
Observations	564	462
R-squared	0.249	0.049

Notes: *, ** and *** respectively indicate statistical significance at the 10%, 5% and 1% levels. All regressions control for individual age group, gender, educational level group and leadership/bureaucratic position status.

4.2.3 MULTIPLE HYPOTHESIS TESTING

We relied on several p-value correction mechanisms in order to control for issues derived from multiple hypothesis testing, as described by the **methodology chapter**. For the purpose of multiple-test procedure implementation, a thematic distinction (Benjamini & Hochberg, 1995) was made between climate and collective-level outcomes. Overall, as summarized by **Table 105**, when applying the conservative Bonferroni-Holm rule, the number of significant impact estimates dropped from 20 to 9. On the other hand, the Benjamini-Hochberg method – either individually or by variable domain – confirmed the statistical significance of almost all coefficients. **Tables 110-111** in the **Appendix** present the full lists of (adjusted) p-values by survey round.

Table 105. Number of p-values and adjusted p-values<0.1, by outcome group

Variable	no. outcomes	p-value	Adjusted p-values		
			holm	simes	simes_FW
Climate resilience and adaptation	13	9	5	9	9
Collective-level variables	22	11	4	10	10
Total	35	20	9	19	19

Legend: holm = Bonferroni-Holm method; simes = Benjamini-Hochberg method; simes_FW = Benjamini-Hochberg method, by outcome group (FW = family-wise).

4.3 INDIRECT CT EFFECTS: MEDIATION ANALYSIS

Table 106 presents the results of the performed Causal Mediation analyses, disentangling the contribution of program impacts on collective variables from the total CT effect on climate adaptation, both in terms of preventive and of absorptive coping mechanisms.

In order to build a reliable single mediator, representative of collective-level outcomes, a Principal Component Analysis (PCA; Wold, Esbensen, & Geladi, 1987) was performed, encapsulating indicators of structural (membership in organizations, overall social relations, social support network's size) and cognitive social capital (trust in others, solidarity patterns), agency (its total index) and collective action (collective demand for services). The obtained variable's first component¹¹⁴, explaining around 24% of the sample's variance and with an eigenvalue higher than 1 (Jackson, 1993), was kept as an index of collective dimensions. Subsequently, following the two-stage process outlined by Imai et al. (2010), a regression on the mediator was conducted before regressing the main outcomes of interest on the mediator, and ultimately computing the mediation effects.

Table 106. Causal Mediation Analysis on climate adaptation. Mediator: collective-level variables PCA index (SI assumption holds)

	No. prevention (pre) strategies (last year)			No. absorption (post) strategies (last year)				
	Regression on mediator: (1)	Regression on main outcome:		Regression on mediator: (5)	Regression on main outcome:			
		(2)	(3)	(4)	(6)	(7)	(8)	
Collective- level PCA index	Total no.	No. Beneficial	No. Adverse	Collective- level PCA index	Total no.	No. Beneficial	No. Adverse	
Collective-level PCA index		0.333***	0.200***	0.133*		0.203	0.154**	0.049
CT*T	0.909***	2.759***	0.911***	1.848***	0.754***	-1.302*	-0.532	-0.770*
CT	-0.293	-1.705***	-0.513**	-1.192***	-0.196	0.417	0.167	0.250
T	0.672***	-1.615***	-0.305	-1.311***	0.632***	2.323***	1.103***	1.220***
Constant	-0.777**	2.998***	1.599***	1.399***	-0.995**	3.538***	2.121***	1.417**
Observations	333	333	333	333	400	400	400	400
R-squared	0.296	0.128	0.083	0.163	0.232	0.106	0.109	0.081
Mediation effect		0.308**	0.185**	0.123		0.155	0.118*	0.037
Direct effect		2.749***	0.905***	1.842***		-1.315	-0.538	-0.777
Total effect		3.057***	1.090***	1.965***		-1.160	-0.421	-0.741
% of mediated effect		10.1%***	17.1%**	6.3%***		-12.4%	-22.5%	-4.7%

Notes: *, ** and *** respectively indicate statistical significance at the 10%, 5% and 1% levels. All regressions control for individual age group, gender, educational level group and leadership/bureaucratic position status.

Concerning *climate change prevention*, the analysis returned the finding that collective-level outcomes contributed to as much as 17% of the total program impact on the usage of beneficial coping

¹¹⁴ See the PCA's screeplot (Figure 43) in the Appendix.

mechanisms. At the same time, the collective-mediated effect on adverse prevention strategies was much lower (around 6% of the total impact) and, more importantly, was not statistically significant. Therefore, it could be concluded that social capital, agency, and collective action positively and greatly contributed to the adoption of favourable climate-anticipating tactics, whereas their role in spurring harmful prevention techniques was not significant, meaning that other factors – to be further investigated – must have driven the latter increase.

With regard to *climate change absorption*, the CT effect on collective-level outcomes proved to have partially counteracted the overall negative program impact on all total, beneficial and adverse strategies. Nevertheless, the mediation coefficient was only significant in the case of advantageous absorptive techniques, and amounting to 22.5% of the total effect. Consequently, it could be affirmed that collective and social outcomes contributed to (or, at least, diminished the magnitude of the overall reduction in) beneficial climate adaptation mechanisms, either in prevention (which should be preferred) or absorption of the consequences of climate change-derived shocks.

5. DISCUSSION

This study contributed to enlarge the scarce available evidence concerning cash transfer programs' impacts on climate adaptation, collective-level outcomes, and their interactions.

The main finding of the investigation was that, as claimed by related theoretical sources (Béné, 2011; Costella et al., 2023; Davies et al., 2013), CTs can indeed enhance climate adaptation, by spurring the adoption of 'beneficial' prevention mechanisms, rather than ex-post 'absorptive' ones (Lawlor et al., 2015; Schipper, 2020). The empirically observed simultaneous increase in 'adverse'/'mal-adaptation' (Schipper, 2020) strategies should be further investigated through qualitative evidence, but it might possibly be attributable to the detected negative program impacts on agency, the only collective-level outcome that was overall negatively affected by the CT, so far. The paper also confirmed that collective variables can benefit from cash transfer interventions, by individuating clearly positive and statistically significant program effects, especially on cognitive social capital proxies. Nevertheless, it should be pointed out that the presented findings derive from midline data, therefore only constituting preliminary insights into the repercussions of the analyzed program, to be complemented by future rounds of data collection.

Moreover, it was empirically proved that the collective dimension plays a fundamental role in improving climate adaptation, by fostering the adoption of beneficial preventive mechanisms, and by counteracting eventual reductions in the adoption of positive absorptive techniques. It was also determined that, in this case, social capital, agency, and collective action did not contribute – in a statistically significant manner, to the detected CT-led increases in the usage of adverse anticipatory strategies, such as selling productive assets and/or livestock. Further research is needed to understand

which other mediators or contingent factors and events could have driven the augmented recourse – that should have, at least on a theoretical level, been deterred by the CT – to such detrimental tools, bearing the potential to trap households into poverty (Helgeson et al., 2013; Lawlor et al., 2015).

The results of this analysis could inform the drafting of some implications for policymaking. In particular, it is advocated for a scaling up of Adaptive Social Protection (Davies & Leavy, 2007) as policymakers and practitioners cannot afford to further ignore the necessary and long-due ‘climate-proofing’ process of social protection programs (Béné, 2011). Similarly, implementing organizations should take the resilience-building potential of cash transfer (and UBI) programs into account, when designing them. In this sense, cash transfers represent an especially interesting and potentially efficient intervention type, given their periodicity, scalability and flexibility, amongst other advantageous characteristics (Bagolle et al., 2023; Kuriakose et al., 2013; Wood, 2011). Moreover, not only integrating DRR and CCA agendas, but also ‘collective/social’ perspectives, into program design and implementation is crucial to build long-term adaptive capacity to climate change (Béné, 2011; Davies et al., 2013; Ulrichs et al., 2019). Even if there was yet no indication of the activation of enhanced adaptive capacity – measured through changes in beneficial agricultural practices – in the context of this paper, investments in social networks may strengthen resilience to a variety of climate disasters (Agrawal et al., 2020; Bezabih, Beyene, & Borga, 2013).

Nevertheless, as already mentioned, the potential role of social protection – and of its benefits – should not be exaggerated (Coirolo et al., 2013; Tenzing, 2020). Social protection should only be intended as an accompanying tool to more structural climate mitigation and adaptation interventions, including livelihood enhancement and the creation of disaster risk management and climate policy institutions (Kuriakose et al., 2013). Still, social protection programs which took not only the social, but also the environmental justice aspect into account, could be considered as funding and potentially groundbreaking elements of the (just) transition towards a new ‘eco-social’ contract (UNRISD, 2021).

Before concluding, it is necessary to acknowledge the limitations of the study, with the main deriving from the impossibility to verify the validity of the (very strong) *equal trends* assumption (Gertler et al., 2016), given the lack, in our dataset, of pre-baseline measurements and of variables not affected – at least theoretically – by the inception of the CT program (Pace et al., 2022). Finally, practical reasons informed the choice of stringent (and not exhaustive) definitions of climate adaptation and collective-level outcomes.

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APPENDIX

Table 107. DiD: total CT impact estimates on climate prevention (detail by mechanism)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
	Beneficial preventive strategies (last year)						Adverse preventive strategies (last year)							
	Agricultural practices	Informal credit and/or assistance	Formal credit and/or assistance	Saving	Working more	Planning to migrate	Reducing expenditures	Reducing food consumption	Selling productive assets and/or livestock	Sending children to work	Withdrawing children from school	Sending children to live elsewhere	None	Other
CT*T	0.137*	0.038	0.087	0.100	0.053	0.259***	0.344***	0.163**	0.301***	0.163**	0.234***	0.216***	0.019	0.037
CT	-0.084**	0.045	0.045	-0.035	-0.027	-0.146**	-0.059	-0.076*	-0.179***	-0.130**	-0.164***	-0.135**	-0.064	-0.026
T	0.552***	-0.185***	-0.305***	0.340***	0.285***	-0.264***	0.121**	0.072	-0.068	-0.218***	-0.283***	-0.259***	-0.466***	-0.053***
Constant	-0.088	0.415***	0.373***	-0.071	0.156	0.149	0.167	0.183	0.028	0.067	0.177*	0.201*	0.810***	0.022
Observations	422	422	422	422	422	422	422	422	422	422	422	422	422	422
R-squared	0.406	0.036	0.089	0.176	0.122	0.081	0.188	0.080	0.046	0.068	0.099	0.072	0.316	0.028

Notes: *, ** and *** respectively indicate statistical significance at the 10%, 5% and 1% levels. All regressions control for individual age group, gender, educational level group and leadership/bureaucratic position status.

Table 108. DiD: total CT impact estimates on climate absorption (detail by mechanism)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
	Beneficial absorptive strategies (last year)						Adverse absorptive strategies (last year)							
	Agricultural practices	Informal credit and/or assistance	Formal credit and/or assistance	Saving	Working more	Planning to migrate	Reducing expenditures	Reducing food consumption	Selling productive assets and/or livestock	Sending children to work	Withdrawing children from school	Sending children to live elsewhere	None	Other
CT*T	-0.254***	-0.151**	-0.060	0.056	-0.038	-0.053	-0.122	-0.099	-0.294***	-0.088	-0.089	-0.108	-0.116	0.068
CT	0.045	0.003	0.026	0.100	-0.002	0.147**	-0.017	-0.011	0.167***	0.081	0.089	0.138**	0.113*	-0.040
T	0.343***	0.658***	0.398***	0.024	0.148**	0.137***	0.386***	0.407***	0.426***	0.173***	0.191***	0.174***	-0.470***	-0.153***
Constant	0.347**	-0.009	0.261**	0.318**	0.444***	-0.087	0.283**	0.182	0.297**	0.011	-0.054	-0.063	0.621***	0.072
Observations	497	497	497	497	497	497	497	497	497	497	497	497	497	497
R-squared	0.079	0.380	0.174	0.032	0.027	0.053	0.123	0.150	0.130	0.056	0.064	0.052	0.325	0.075

Notes: *, ** and *** respectively indicate statistical significance at the 10%, 5% and 1% levels. All regressions control for individual age group, gender, educational level group and leadership/bureaucratic position status.

Table 109. DiD: total CT impact estimates on agricultural climate adaptation (detail by mechanism)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
	Agricultural preventive strategies (last year)						Agricultural absorptive strategies (last year)					
	Changing planting date	Diversifying crops	Using Soil and Water Conservation techniques	Increasing application of pesticides/fertilizers	Planting trees	Other	Changing planting date	Diversifying crops	Using Soil and Water Conservation techniques	Increasing application of pesticides/fertilizers	Planting trees	Other
CT*T	0.103	0.200***	0.052	-0.068	0.058	-0.017	-0.202**	-0.226**	-0.223**	-0.301***	-0.115	-0.084
CT	-0.059*	-0.045*	0.008	-0.010	-0.060**	0.001	0.047	0.023	0.058	0.082	0.044	0.083
T	0.451***	0.287***	0.340***	0.294***	0.116***	0.035*	0.236***	0.219***	0.245***	0.298***	0.038	-0.243***
Constant	-0.040	0.038	0.002	-0.101	0.002	0.031	0.288**	0.350***	0.234*	0.109	0.283**	0.169**
Observations	439	439	439	439	439	439	501	501	501	501	501	501
R-squared	0.294	0.221	0.205	0.150	0.053	0.036	0.038	0.038	0.040	0.064	0.015	0.174

Notes: *, ** and *** respectively indicate statistical significance at the 10%, 5% and 1% levels. All regressions control for individual age group, gender, educational level group and leadership/bureaucratic position status.

Table 110. Multiple hypothesis testing (climate resilience and adaptation)

Variable	p-value	Adjusted p-values		
		holm	simes	simes_FW
<i>Resilience</i>				
No major crop failure	0.388	1.000	0.468	0.420
No major livestock loss	0.421	1.000	0.472	0.421
Perceived resilience: material/financial means	0.001***	0.001***	0.001***	0.001***
Perceived resilience: capacity/knowledge/skills	0.001***	0.012**	0.002***	0.002***
Perceived resilience: social support network	0.001***	0.001***	0.001***	0.001***
<i>Adaptation</i>				
No. prevention strategies (total)	0.001***	0.001***	0.001***	0.001***
No. prevention strategies (beneficial)	0.017**	0.373	0.043**	0.032**
No. prevention strategies (adverse)	0.001***	0.001***	0.001***	0.001***
No. absorption strategies (total)	0.044**	0.748	0.082*	0.064*
No. absorption strategies (beneficial)	0.109	1.000	0.181	0.142
No. absorption strategies (adverse)	0.034**	0.603	0.066*	0.055*
No. agricultural preventive strategies	0.127	1.000	0.201	0.149
No. agricultural absorptive strategies	0.010***	0.246	0.034**	0.021**

Legend: *, ** and *** respectively indicate statistical significance at the 10%, 5% and 1% levels. holm = Bonferroni-Holm method; simes = Benjamini-Hochberg method; simes_FW = Benjamini-Hochberg method, by outcome group (FW = family-wise).

Table 111. Multiple hypothesis testing (collective-level variables)

Variable	p-value	Adjusted p-values		
		holm	simes	simes_FW
<i>Structural social capital</i>				
Membership in organizations' total score	0.432	1.000	0.472	0.500
Community participation of HH members	0.772	1.000	0.795	0.809
Frequency of undergoing property crime	0.249	1.000	0.322	0.342
Social inclusion	0.001***	0.002***	0.001***	0.001***
Social relations (overall rating)	0.024**	0.477	0.053*	0.059*
Social support network's size	0.058*	0.920	0.101	0.115
Material support/risk-sharing network's size	0.560	1.000	0.594	0.616
<i>Cognitive social capital</i>				
Trust in others	0.020**	0.405	0.045**	0.053*
Trust in neighbours	0.014**	0.318	0.038**	0.044**
Politicians represent my interests	0.013**	0.307	0.038**	0.044**
Trust in government	0.321	1.000	0.401	0.415
Solidarity	0.838	1.000	0.838	0.838
Trust in NGOs	0.001***	0.004***	0.001***	0.001***
<i>Agency</i>				
My life is determined by my actions	0.163	1.000	0.238	0.276
I am capable of protecting my interests	0.420	1.000	0.472	0.500
I can define and act on my goals	0.181	1.000	0.254	0.285
I have the power to take important decisions	0.028**	0.530	0.058*	0.062*
<i>Agency total index</i>	0.162	1.000	0.238	0.276
Life satisfaction (overall rating)	0.001***	0.001***	0.001***	0.001***
Frequency of contacting duty bearers	0.003***	0.063*	0.01***	0.013**
<i>Collective action</i>				
Frequency of getting together to raise issues	0.013**	0.304	0.038**	0.044**
Collective investment	0.248	1.000	0.322	0.342

Legend: *, ** and *** respectively indicate statistical significance at the 10%, 5% and 1% levels. holm = Bonferroni-Holm method; simes = Benjamini-Hochberg method; simes_FW = Benjamini-Hochberg method, by outcome group (FW = family-wise).

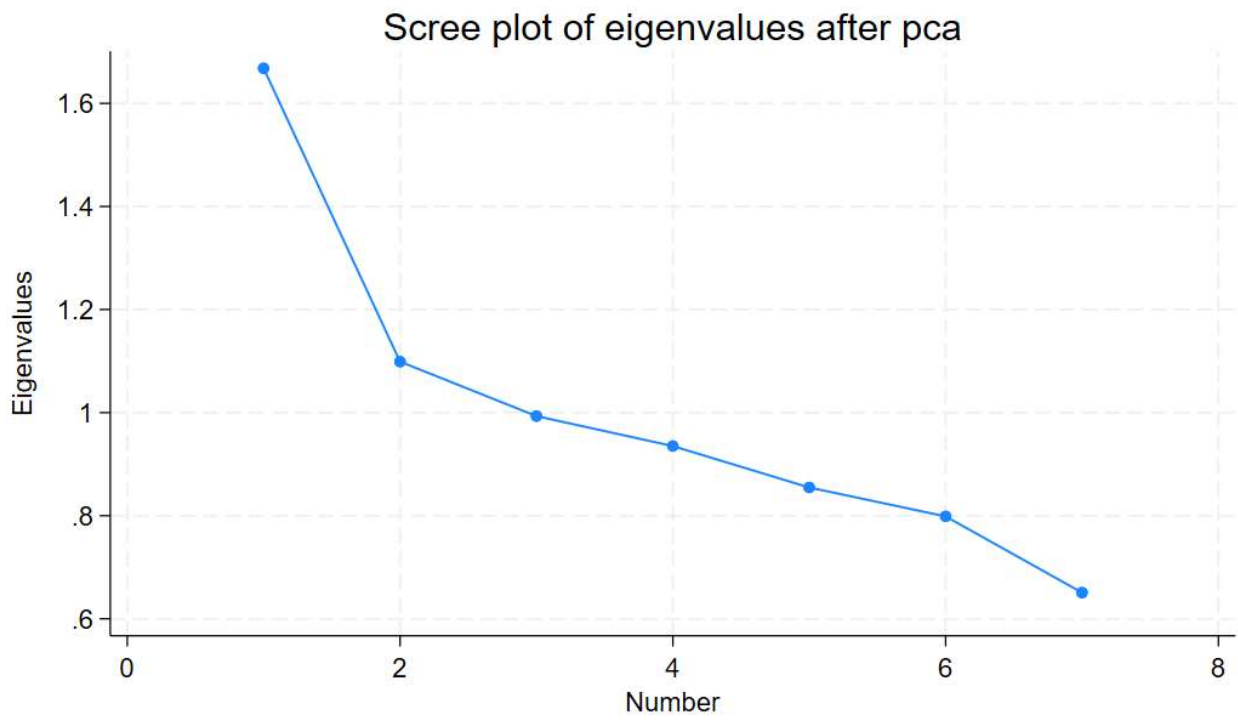


Figure 43. Screeplot of the performed Principal Component Analysis (PCA)

CHAPTER 9

ALWAYS BETTER TO RELY ON FRIENDS: A QAP OF SOCIAL SUPPORT AND RISK-SHARING NETWORKS IN A CASH TRANSFER-RECIPIENT UGANDAN VILLAGE

**ALWAYS BETTER TO RELY ON FRIENDS:
A QAP OF SOCIAL SUPPORT AND RISK-SHARING NETWORKS IN A CASH
TRANSFER-RECIPIENT UGANDAN VILLAGE^{115,116}**

ABSTRACT

In rural Southern contexts, the lack of government-provided or market-based solutions makes citizens heavily reliant on informal insurance schemes, such as friendship or kinship networks, for assistance in times of need. Social protection programs like cash transfers (CTs), widely and increasingly diffused in low-income settings, could either ‘crowd-out’ such informal networks, or foster recipients’ ability to participate in existing ones. However, the available empirical evidence around the effects of CTs on social networks (and social capital, more in general) is very limited. Developing further research on the topic is important, given that functioning village support networks can lead to enhanced economic and social outcomes, and could even drive (transformative) collective action for societal progress. This article examines the midline effects of universal unconditional cash transfers on recipients’ social and material support/risk-sharing networks in a rural Ugandan village prone to environmental shocks. Besides visually and metrically investigating CT-led changes in the considered network types, the study also assesses the existence and emergence of some structural interaction patterns in the networks under study. Main findings include noticeable evolutions from sparse to highly connected networks, the rise of preferential attachment, and strong graph correlations across edge type and data collection stage. Moreover, Quadratic Assignment Procedures (QAPs) confirm that a tie in the village’s risk-sharing network is strongly predicted by a social support connection (and vice versa), and that either edge can be forecasted through node attributes such as gender, trust and organizational membership. The obtained insights allowed to draw relevant policy implications for studies on (in)formal support network studies, and for social assistance programs’ design, implementation and evaluation.

Keywords: cash transfers, risk-sharing networks, social support, SNA, QAP

¹¹⁵ A slightly revised version of this chapter is currently under review for joint publication with my supervisors.

¹¹⁶ The individual contributions of each author are reported as follows. *Filippo Grisolia*: conceptualization, investigation, formal analysis, visualization, validation, writing – original draft, writing – review and editing, data curation; *Nathalie Holvoet*: conceptualization, funding acquisition, resources, investigation, formal analysis, validation, supervision, writing – review and editing; *Sara Dewachter*: conceptualization, funding acquisition, resources, investigation, formal analysis, validation, supervision, writing – review and editing. All authors read and approved the final manuscript.

1. INTRODUCTION

Global South economies are often characterized by pervasive poverty and considerable income variability, especially in rural areas (Henderson & Alam, 2022). In addition, in the absence – which typically characterizes Southern geographies – of adequate governmental social protection schemes and of market-based insurance solutions, the ability of households to sustain and manage risks is strongly hampered (Jacoby & Skoufias, 1997). As a consequence, rural Southern citizens heavily rely on informal insurance mechanisms (Fafchamps & Lund, 2003; Henderson & Alam, 2022), such as friendship and kinship networks (Petrikova & Chadha, 2013), for assistance in difficult times (Ben-Porath, 1980). For instance, informal transfers within networks of friends, neighbors or relatives become fundamental to afford unexpected costs whereby access to services is largely dependent on and determined by income (Strupat & Klohn, 2018). Moreover, the need to engage in risk-sharing networks is increasing (Fisher et al., 2017) together with the negative repercussions of climate change, which disproportionately affect the Global South (IPCC, 2022).

As such, social network structures have been gaining attention as intermediate factors in enabling (or hindering) the achievement of development goals (Popelier, 2018). In fact, membership in networks does not only return benefits, but also entails costs (Valencia Lomelí, 2008). Moreover, informal insurance schemes are imperfect and not always efficient (Strupat & Klohn, 2018). The individual engagement in such networks is then usually only explained by two principal reasons: altruism and reciprocity¹¹⁷ (Leider, Möbius, Rosenblat, & Do, 2009). In this sense, informal support networks could be crowded-out by social assistance instruments like cash transfers (CTs), increasingly popular as poverty reduction tools and widely diffused in the Global South (Bastagli et al., 2019; CALP Network, 2023). These programs, consisting in direct monetary disbursements to poor individuals or households could in fact reduce the need to resort to kinship networks for help, through their alternative provision of monetary security (de Milliano, Barrington, Angeles, & Gbedemah, 2021).

Nevertheless, the literature has been overlooking the impacts of CT programs on collective dimensions such as social networks (a major component of social capital; Grootaert & Van Bastelar, 2002) and relations (see **Chapter 1**), by generally only focusing on effects at the individual and household levels (Granlund & Hochfeld, 2020). Such research gap reflects a loss in the explanatory potential of cash transfer evaluation studies, neglecting the pervasive nature of such programs and their embeddedness in complex systems of social relations (Holzmann, Sherburne-Benz, & Tesliuc, 2003). On the one hand, some theoretical sources hypothesize that targeted CTs could generate negative consequences such as stigma and resentment among non-beneficiaries (MacAuslan & Riemenschneider, 2011) – alongside the already mentioned ‘crowding-out’ effect. On the other hand, positive (and sometimes

¹¹⁷ Leider et al. (2009) conduct allocation games whereby altruism is described as disinterested giving behaviour, and reciprocity denotes prosocial attitudes motivated by the prospect of future interaction.

transformative; Agrawal, Kaur, Shakya, & Norton, 2020; Devereux & Sabates-Wheeler, 2004) impacts are often assumed, with the improved income security guaranteed by CTs potentially even fostering recipients' ability to join and participate (more intensely) in informal networks (Pavanello, Watson, Onyango-Ouma, & Bukuluki, 2016; Rock et al., 2016). The few available empirical investigations also return optimistic insights, through qualitative analyses of CT effects on social networks (Daidone, Pellerano, Handa, & Davis, 2015; Merttens et al., 2016). To the best of our knowledge, however, **Chapter 5** represents the only Social Network Analysis (SNA; Wasserman & Faust, 1994) of cash transfer impacts produced so far.

In this context, this paper explores the midline impacts and influence of a universal unconditional CT program conducted in a rural climate change-affected Ugandan village on the structure of social support and material support/risk-sharing networks. Alongside plotting the evolution in network graphs and computing various network-level metrics, we also assessed the existence and emergence of interaction patterns such as the 'small world' phenomenon, preferential attachment, and assortative mixing (Jackson & Rogers, 2007). Finally, a Quadratic Assignment Procedure (QAP; Hubert & Schultz, 1976) was also followed, in order to determine the extent to which different actor attributes could predict network ties between individuals. Furthermore, QAP also allowed to ascertain whether a risk-sharing edge could be forecasted, on the basis of an existent social support relationship, and vice versa. Even though such analysis could return hints into the multiplexity (Ferriani, Fonti, & Corrado, 2013; Wasserman & Faust, 1994) of the observed networks, the latter does not represent the focus of this investigation.

The rest of the article is structured as follows: **Section 2** introduces the main concepts of interest to the paper, such as networks, social capital, and cash transfers. **Section 3** presents the methodology and the program context. **Section 4** discusses the results of the SNA techniques. Finally, **Section 5** concludes and identifies key limitations and implications for further research.

2. LITERATURE REVIEW

2.1 NETWORKS AND SOCIAL CAPITAL

Networks represent a fundamental element of social capital. The latter is, in fact, frequently defined in terms of groups, norms of reciprocity, cooperation and trust (Jones & Woolcock, 2007). Groups and networks relate to the *structural* dimension of social capital – one of the two main building blocks of the concept, as described by many different categorizations (Grootaert & Van Bastelar, 2002; Harpham, Grant, & Thomas, 2002; Putnam, 2000) – opposed to its *cognitive* dimension (e.g., trust and solidarity).

Several sources argue that, when communities are connected in networks of engagement and reciprocity, they are more likely to reduce inequalities and to display higher levels of tolerance and

solidarity (Putnam, 1995; Skovdal, Mwasiaji, Webale, & Tomkins, 2011). Furthermore, the number of links of a certain type among members of a group may be interpreted as a proxy of confidence in others, as *“the more we connect with other people, the more we trust them, and vice versa”* (Putnam, 1995, p. 665). In this sense, social networks are also often understood as structures of mutual support and dependence which can foster economic and social activities (Chilufya, 2020; Ferguson, 2015).

The role of local social networks in determining economic outcomes, including labour market participation (Bakshi, Mallick, & Ulubaşoğlu, 2019) and income inequality (Inekwe, Jin, & Valenzuela, 2020), has been receiving more and more attention in the last decades (Henderson & Alam, 2022). In particular, such discussions prove to be especially relevant for Global South contexts. As a matter of fact, where consumption smoothing and resilience to income shocks cannot be reached through market-based insurance schemes – largely absent in rural Southern areas – they must be achieved by way of informal insurance mechanisms (Fafchamps & Lund, 2003; Jacoby & Skoufias, 1997). These include diversification of income-generating activities, migration of household members, and, most importantly, risk-pooling through family and kinship networks (Bloch, Genicot, & Ray, 2008; Gunning, 2012; Hart, 1988; Henderson & Alam, 2022). In India’s Andhra Pradesh state, for instance, it was found that people living in more closely-knit communities (with stronger friendship and kinship networks) are better informally insured against individual shocks (Petrikova & Chadha, 2013). Moreover, it is argued that social capital-related ties bear a transformative potential for societal transformation, by facilitating collective action across identity, status and power differences. In turn, these efforts could simplify the pursuit of a common agenda for – and by – the poor and marginalized (Mansuri & Rao, 2013). To summarize, networks provide ‘profits’ in the form of material and relational exchanges, and are instrumental in accessing resources which might not be available, otherwise (Chilufya, 2020). As such, participation in networks can be framed as an investment strategy, besides being essential for one’s and one’s community’s wellbeing (Bourdieu, 1986).

2.2 CASH TRANSFERS AND SOCIAL NETWORKS

Social assistance programs like cash transfers are generally only evaluated against their impacts on poverty or human capital outcomes. Moreover, their effects tend to be exclusively measured at the individual and household levels (Granlund & Hochfeld, 2020), usually leaving CT-led repercussions on social relations and collective variables overlooked (see **Chapter 1**).

Notwithstanding this research gap, a few hypotheses have been put forward concerning how cash transfer programs could affect social networks. More optimistic sources argue that CTs empower networks, by raising the income security of recipients, and therefore improving their ability to participate in such structures (Pavanello et al., 2016; Rock et al., 2016; Valencia Lomelí, 2008). Additionally, transfers could strengthen program participants’ capacity to establish and maintain social

relations, in times of recurrent economic crises, taking into consideration that network membership does not just yield benefits, but also requires trust and entails certain costs (Valencia Lomelí, 2008). Other theoretical papers even claim that the related beneficial consequences on social capital and community cohesion could be associated with increased transformational resilience to a range of disasters at the community level (Agrawal et al., 2020). Nevertheless, it should also be pointed out that targeted monetary transfers may often generate issues of stigma, envy, jealousy, and resentment (Adato, Roopnaraine, Alvarado Álvarez, Böttel Peña, & Meléndez Castrillo, 2004; MacAuslan & Riemenschneider, 2011), and ultimately the detachment and isolation from community networks of non-recipients. Lastly, a ‘crowding-out’ phenomenon could be activated by governmental cash, by reducing the need to rely on informal support networks for help, and ultimately dampen positive effects on individual and household measures (de Milliano et al., 2021).

Despite the relevance of the topic, just a few empirical – mostly qualitative – assessments of CT impacts on networks have been produced, as already mentioned. A mixed-methods evaluation of the Ugandan SAGE program found that the project had contributed to re-enforce different informal support networks inside beneficiary communities (Merttens et al., 2016). Similar findings were reached by investigations around CTs implemented in Ethiopia, Ghana, Kenya, Lesotho, Malawi, Zambia and Zimbabwe (Attah et al., 2016; Chilufya, 2020; Daidone et al., 2015; Fisher et al., 2017; Ressler, 2008). The only available application of SNA to the impact evaluation of cash transfers, conducted by **Chapter 5** and already published on an academic journal, highlighted massive evolutions in a rural Ugandan village’s ‘call-to-action’ network. In fact, we found that CT-related actor had progressively monopolized recipients’ appeals for positive change, which were previously mostly targeting local politicians (Grisolia, Dewachter, & Holvoet, 2023). **Chapter 6** also measured significant (and persisting, after program end) CT-driven increases in the number of social support and financial support connections inside the village. Finally, as shown by **Chapter 1**, it is worth mentioning that, more generically, the scarce existing evidence regarding cash transfer impacts on structural social support also returns mostly positive insights, beyond the already briefly introduced (mis)targeting issues.

2.3 THE STRUCTURE AND FORMATION OF (SOCIAL SUPPORT AND RISK-SHARING) NETWORKS

For the purposes of this paper, a distinction should be made between network *structure* and network *formation* (Jackson, 2014; Jackson, Rogers, & Zenou, 2017). While the former reflects interaction patterns and often their influence on economic outcomes, the latter – more widely studied – refers to the study of the emergence of such configurations (Henderson & Alam, 2022). Mainly the first domain was addressed by the present study, even though some hints around network formation could also be provided. This task was conducted through the analysis of social support and material support/risk-sharing networks. Juxtaposing the inquiry of these two network types is relevant, given that these arrangements tend to co-exist and complement each other (Fafchamps, 2011). Additionally, as already

mentioned, in Southern contexts, individuals heavily rely on their family or friends for assistance in difficult times (Ben-Porath, 1980).

In order to carry such analysis out, a variety of techniques was applied to explore the features of the considered networks. Socially generated networks display a variety of characteristics, which are not present in random structures: amongst others, small average distances between pairs of actors, relatively large clustering coefficients¹¹⁸, and instances of homophily¹¹⁹, preferential attachment¹²⁰, and assortative mixing¹²¹ (Jackson & Rogers, 2007). A relatively large evidence base is available concerning the formation of networks, commonly returning insights that geographical proximity and wealth are among the main predictors of tie formation in both social support (S. K. Lee, Kim, & Piercy, 2019) and risk-sharing arrangements (De Weerd, 2004; Fafchamps & Gubert, 2007). On the contrary, little work was carried out with respect to networks' structure, typically focusing on homophily (Caudell, Rotolo, & Grima, 2015; Jackson, Rodriguez-Barraquer, & Tan, 2012; S. Lee, Chung, & Park, 2018), even though Henderson & Alam (2022) conducted a thorough analysis of both the structure and formation of risk-sharing networks in Nyakatoke, Tanzania. Finally, to the best of our knowledge, no source – except **Chapter 5** – has so far attempted to examine the influence of cash transfer programs on recipients' network structures.

3. DATA AND EMPIRICAL STRATEGY

3.1 SETTING AND DATA COLLECTION

This article assesses the halfway effects of a universal unconditional mobile CT program implemented by a non-profit organization, with inception date in September 2022 and expected closure in September 2024. Over the course of these two years, all the adult¹²² residents of a rural Western Ugandan village have received a monthly monetary transfer. The CT amount to which each adult villager is entitled was set at 30% of the average earnings of the local low-income family (Davala, Jhabvala, Standing, & Mehta, 2015). The atypical program design characteristics – most noticeably, universality and unconditionality – were consciously chosen by the implementing organization in order to advance the research on Universal Basic Income (UBI) pilots (Gentilini, Grosh, Rigolini, & Yemtsov, 2020). Currently, such project (conducted in several communities in Uganda and DRC) represents the only 'fully universal' – although at the village-level only – basic income experiment enacted in Sub-Saharan

¹¹⁸ Clustering coefficients measure the tendency of linked nodes to have common neighbours (Jackson & Rogers, 2007).

¹¹⁹ Homophily is the proclivity of individuals with similar characteristics to be connected together (McPherson, Smith-Lovin, & Cook, 2001).

¹²⁰ Preferential attachment occurs when highly connected nodes increase their number of ties faster than their less connected peers; in other words, the probability of receiving a link is proportional to the already existing number of partners (Jeong, Nédá, & Barabási, 2003).

¹²¹ (Positive) assortativity is shown when similarly connected actors tend to link to one another (Henderson & Alam, 2022).

¹²² Children are also indirect recipients of half of the amount destined to adults, transferred to their mothers or female caretakers.

Africa (together with GiveDirectly cash transfers), and one of the few existing worldwide (Stanford Basic Income Lab, n.d.).

The village was selected through a number of sociodemographic, economic, and geographical criteria. Most importantly, the choice was informed by the overall focus of the overarching research (climate resilience), and was therefore limited to areas severely affected by environmental stresses – in this particular case, drought and floods. All reachable adult inhabitants were surveyed in 2022 (baseline round, just before the start of the CT) and 2023¹²³ (roughly, one year into the two-year program). While contextual factors led to a baseline response rate of 73.19%, as many as 95.86% of recipients were successfully interviewed at midline. The same procedure was followed in a control village¹²⁴, chosen to resemble the treatment community on all of the mentioned features.

3.2 EMPIRICAL STRATEGY

Network survey data was gathered through the collection of egonetwork information. First, each respondent was asked about their *social support* network, by replying to the inquiry “*Can you think of anyone from inside or outside your village, to whom you talked about matters that are important to you, over the last year?*”, with the possibility to indicate the frequency of that interaction. Second, the *material support* or *risk-sharing* network of program recipients was also investigated, through the question “*Can you give a list of the people from inside or outside your village, on which you could personally rely on for help in cash, in-kind or labour/time, during the last year?*” (Henderson & Alam, 2022). Hereby, interviewees were given the option to specify which kind/s of assistance they had received from each of the mentioned peers, among the three types (money, time/labour, in-kind) listed by the query. Social Network Analysis (Wasserman & Faust, 1994) could then be performed: the resulting village networks, which are standalone, directed and non-binary (weighted), were plotted, and a few descriptive network-level metrics were calculated. Furthermore, a few in-depth analyses of networks’ features and their distribution were conducted, in order to collate their structure to the one of comparable randomly generated graphs. Finally, inferential network analysis in the shape of Quadratic Assignment Procedure (QAP) was applied, allowing to verify the extent of correlation between the two network types, at both data collection points. Furthermore, QAP regressions could determine whether individual characteristics were significant at predicting ties, or not.

¹²³ At least a further data collection effort is forecasted at endline, it is to say, immediately after the closure of the project, with the aim to validate and complement the midline findings presented by the following sections.

¹²⁴ An investigation of the control village was not deemed relevant for inclusion in this study, given that evolutions in networks of different communities are not easily comparable. Therefore, it is difficult to establish a counterfactual, interpretable in its evolution as what would have happened to the CT village in the absence of the program.

4. RESULTS

4.1 NETWORK EVOLUTION OVER TIME: PLOTS AND NETWORK-LEVEL METRICS

Program-led evolutions in the networks could then be highlighted by plotting the ties, and interpreted by analyzing eventual changes in network-level metrics (**Table 112**).

Table 112. Network-level metrics of the ‘outer¹²⁵’ networks, by survey round

Metrics	Social support network		Risk-sharing network	
	Baseline	Midline	Baseline	Midline
Node count	152 (112 C, 40 K)	209 (145 C, 64 K)	137 (110 C, 27 K)	192 (142 C, 50 K)
Tie count	138	306	87	206
Average in-degree	0.908	1.464	0.635	1.073
Density	0.006	0.007	0.005	0.006
In-degree centralization	0.034	0.114	0.025	0.063
Reciprocity	0.145	0.092	0.000	0.010
Transitivity/clustering coefficient	0.018	0.056	0.000	0.036
Connected components (‘weak rule ¹²⁶ ’)	30	5	51	15
Size of largest connected component (%)	94 (61.84)	197 (94.26)	28 (20.44)	158 (82.29)
Isolates	11	0	30	3
Mean edge attribute ¹²⁷	4.486	4.225	1.563	1.650
Number of ties including cash (%)			78 (89.66)	188 (91.26)
Number of ties including time/labour (%)			25 (28.74)	79 (38.35)
Number of ties including in-kind (%)			33 (37.93)	73 (35.44)

A very evident transformation in the village’s *social support network* was discovered, as graphically presented in **Figure 44**. A brief visual investigation returned, as a matter of fact, an already drastically modified situation, from the loosely and scarcely connected baseline structure, to a much tighter network, with a substantially higher number of ties and actors involved. Such increase in the node count was led by several mechanisms: besides the higher response rate at midline, contributing factors comprise the inclusion of previously not mentioned villagers (‘C’ codes), and the enhanced resort to social support from individuals living outside of the village (and therefore, not receiving the cash

¹²⁵ This section only plots the interviewed and mentioned nodes – and their connections – regardless of village membership: as such, the graphed networks are labelled as ‘outer’, and include individuals living outside of the village.

¹²⁶ In directed networks, a weakly connected component is the largest graph formed by nodes pair-wise linked in any direction (Molloy & Reed, 1995).

¹²⁷ The mean edge attribute is the average frequency of interactions (range 1-5, whereby 1 ‘just once’, 2 ‘every once in a while’, 3 ‘every month’, 4 ‘every week’, 5 ‘every day’) and the number of received types of assistance (range 1-3, with equal weight given to the three categories of money, time/labour, and in-kind), for the social support and risk-sharing networks, respectively. Both relate to the intensity and nature of the interaction over the course of the previous year.

transfer; ‘K’ codes¹²⁸). The changes outlined by the plots were supported and confirmed by the computation of network-level measures: whereas the increase in density – from 0.006 to 0.007 – was relatively negligible, the mean in-degree experienced a notable rise, from not even a connection per node (0.908) to the midline value of 1.464. At the same time, the presence and relevance of external actors seemed to increase. (In-degree¹²⁹) centralization and transitivity figures also grew significantly. At the same time, the increasing closeness of the network is witnessed by the decrease in the number of components, from 30 to as little to as 5 (including 94.26% of individuals), and in the complete lack of isolates at midline – on the contrary of the 11 unconnected nodes existing at baseline. Lastly, nevertheless, a small decrease in the mean edge attribute – in this case, the frequency of social support – was found, perhaps because of the increase in the network’s size. Summarizing, recipients’ connectivity in and outside the village rose, together with a rise in cohesion exemplified by higher centralization and a lower number of isolates.

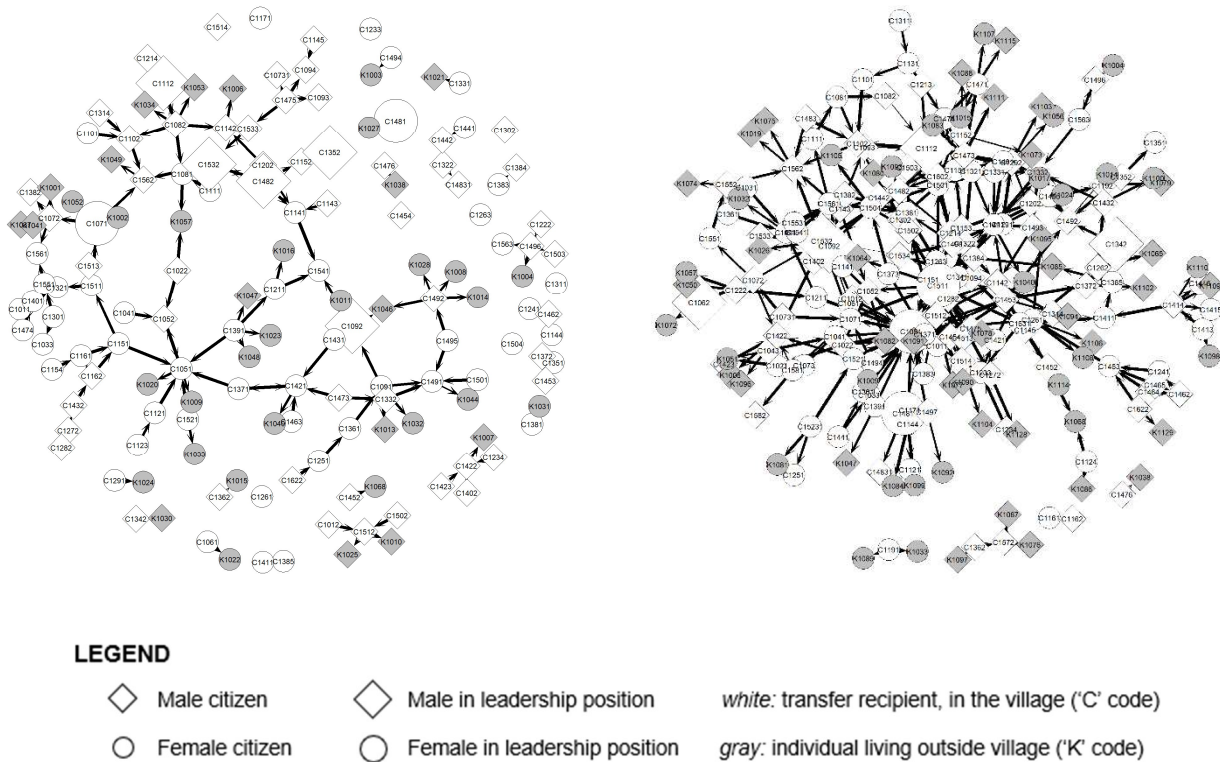


Figure 44. ‘Outer’ social support network at the baseline and midline stages, respectively

¹²⁸ Individuals outside of the treatment village were not interviewed, setting an upward limit to network-level metrics which should be taken into account, when discussing and comparing their magnitude over time.

¹²⁹ Other types of centralization, e.g., on the basis of closeness, betweenness, and eigenvector, were not considered because deemed less explanatory and meaningful, in describing the plotted edge types.

Passing on to the *material support/risk-sharing network*, the observed developments in the network structure were even more noticeable (**Figure 45**), already at midline. This type of graph, in fact, went from a scarcely connected (0.635 average in-degree), unreciprocal, and very dispersed (51 different components, with the largest one only amassing 20.44% of nodes) one, to a much more structured system. The midline web showed an almost doubled mean number of incoming ties, and the centralization index based on it increased by several folds. The number of connected components also substantially lowered to 15 – the largest of which now linking 158 of the 192 present nodes – with many less isolates (only 3 in total). Most notably, instances of reciprocity and transitivity in risk-sharing, completely absent at baseline, started to appear. All together, these findings possibly suggest that the CT program could strongly enable recipients to form an increasing number of (reciprocal and clustering) connections with peers, from inside and outside the village. Finally, on the contrary of the social support network, the mean attribute (symbolizing the type/s of assistance received), also slightly improved, hinting at a better ability of individuals to grant support of better quality and/or quantity. In this sense, nevertheless, the percentage of ties including a cash component – the most often shared one – was already very high (around 90%) at baseline, and did not substantially increase at midline.

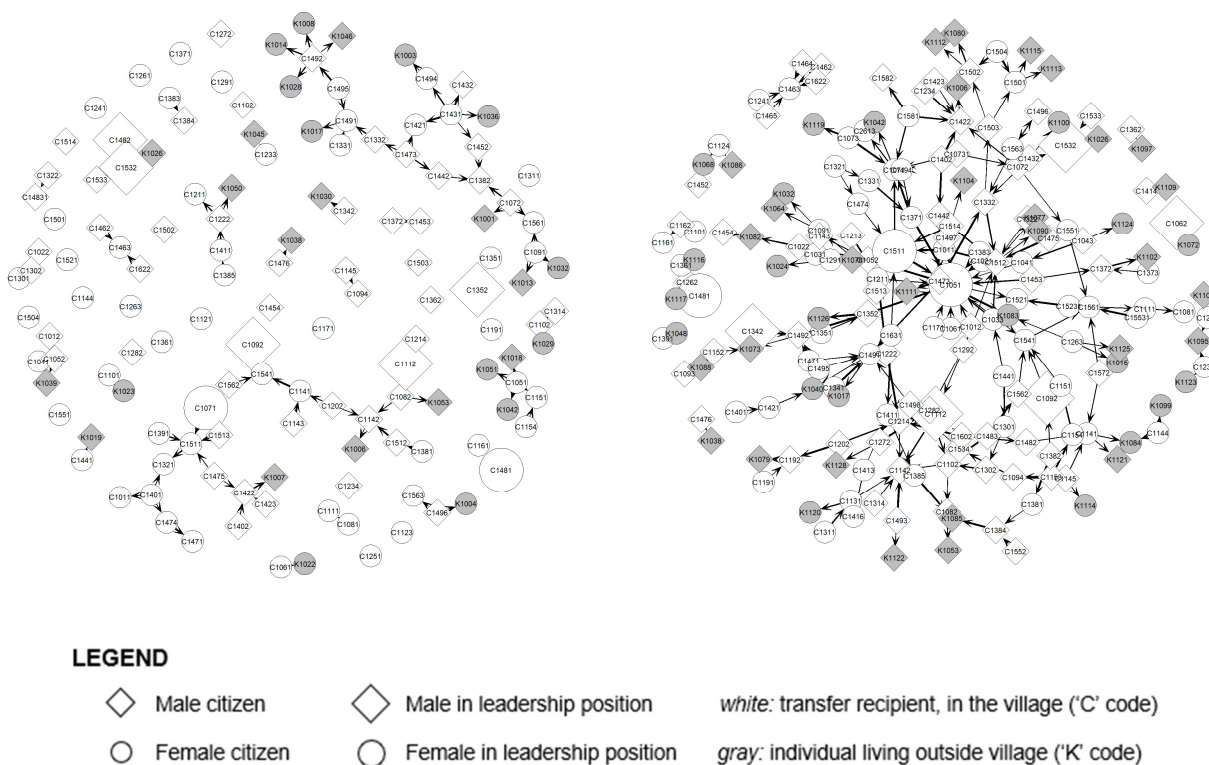


Figure 45. 'Outer' risk-sharing network at the baseline and midline stages, respectively

4.2 NETWORK STRUCTURE

In order to evaluate (changes in) the depicted networks' structure, we followed a procedure similar to the one implemented by Henderson et al. (2022) in their analysis of risk-sharing networks in Tanzania.

First, we examined the applicability of the ‘small world’ hypothesis to the village graphs. Second, we explored patterns of preferential attachment through the analysis of networks’ degree distributions. Finally, we investigated whether the considered networks exhibit assortative mixing or not, by resorting to the study of degree correlation.

4.2.1 THE ‘SMALL WORLD’ PHENOMENON

In many real-world networks, even not directly linked actors are often only a few ‘degrees of separation’ from each other. These graphs, large but sparsely connected, decentralized and highly clustered, are normally described as ‘small worlds’ (Watts, 1999).

According to a commonly adopted definition, a small-world network is a structure where (1) the number of nodes is large with respect to the average degree; (2) the largest component connects among each other a considerably large fraction of the network’s population; (3) the mean distance between nodes is small; and (4) the network displays a high level of clustering (Goyal, van der Leij, & Moraga-González, 2006).

To assess the extent to which the small-world hypothesis applies to the networks taken in consideration by this study, their characteristics¹³⁰ were juxtaposed (**Table 113**) to those of comparable – namely, with the same number of nodes and links – randomly generated networks¹³¹.

Concerning the first criterium, it should be pointed out that, notwithstanding the sizeable increase measured at midline for both edge types, the mean in-degree remained very small, around the values of one connection each, with respect to the node count. Nevertheless, whereas the average path length of both real-world networks was already substantially lower at baseline than the random counterparts, distinct changes could be observed over time with respect to the other two conditions. In particular, the relative sizes of the largest components – much lower than the random averages at baseline, especially in the case of the risk-sharing network – skyrocketed after the inception of the CT program, reaching values above 90%, and most importantly, higher than at random. A similar pattern was also noticed regarding the clustering coefficient, even though the social support network’s statistic already outperformed the random graphs at baseline.

¹³⁰ Given the limitations to network comparability given by the fact that ‘K’-code out-of-village actors were not interviewed, and could therefore not mention any individual belonging to their networks in return, connections between them and CT recipients were dropped from these ‘inner’ networks. The resulting networks, used for this analysis, are smaller and show different values in the computed network-level metrics, than the real ‘full’ graphs plotted and described in the previous section.

¹³¹ The figures reported in **Table 113** represent the averages of the relevant statistics across 10,000 simulated Erdős–Rényi networks with the same number of nodes and links as the respective actual networks.

Summarizing, it could be concluded that only at midline – as confirmed by the small world quotient¹³² – may both the observed social support and risk-sharing networks be reasonably described as ‘small-worlds’, given that their baseline versions do not satisfy all the requirements of the adopted definition. More specifically, the failure to comply with criterium (2) does not allow to ensure that any computed metric would be truly global (Henderson & Alam, 2022). In conclusion, it seems like the cash transfer, in the space of one year only, already significantly reshaped the recipient village’s networks, making them as well connected and transitive – yet sufficiently sparse – as necessary to be defined small worlds. This is important because such configuration spurs internal cooperation and facilitates knowledge and resource-sharing, within and beyond the limits of the village (Berardo & Scholz, 2010; Hileman & Lubell, 2018). In addition, small world networks bear high performance potential in terms of reach (i.e., the percentage of nodes in the giant component) and velocity (average distance), among others (Henderson & Alam, 2022).

Table 113. The small-world phenomenon in the village’s ‘inner’ networks

Metrics	Social support network				Risk-sharing network			
	Baseline		Midline		Baseline		Midline	
	Actual	Random	Actual	Random	Actual	Random	Actual	Random
Node count	91	91	142	142	74	74	142	142
Tie count	96	96	229	229	60	60	148	148
(1) Average in-degree	1.055	1.055	1.613	1.613	0.810	0.810	1.194	1.194
(2) % in giant component	74.73	82.96	97.18	95.58	33.78	63.94	91.94	88.03
(3) Average distance	2.258	4.118	3.816	7.217	1.224	2.687	2.459	5.689
(4) Clustering coefficient	0.032	0.023	0.075	0.022	0.000	0.021	0.056	0.019
Small world quotient	2.538		6.444		0.000		6.822	

4.2.2 DEGREE DISTRIBUTION AND PREFERENTIAL ATTACHMENT

Examinations of the full distribution of network characteristics are not only relevant because they bear the potential to yield a richer understanding of network structure – beyond mere analyses of central tendency measures, like the one carried out in the previous section to check the validity of the small-world hypotheses – but also because they can return insights into the network formation processes at work (Henderson & Alam, 2022; Jackson & Rogers, 2007).

¹³² The small world quotient is computed as the ratio of the actual network’s clustering coefficient, with respect to the random one, divided by the same proportion between average distances. The larger the quotient, the greater the network’s small world nature (Uzzi & Spiro, 2005).

Analyzing the distribution of a network's degree proves to be especially helpful in this task. In particular, real-world networks are typically characterized by 'fat tails', with more actors of very low and very high degrees than could be expected from a random structure (Jackson & Rogers, 2007; Pennock, Flake, Lawrence, Glover, & Giles, 2002). These configurations are a clear signal of preferential attachment, whereby the likelihood of receiving a new connection is directly proportional to a node's current degree (Barabási & Albert, 1999; Jeong, Néda, & Barabási, 2003). In order to assess the existence of preferential attachment mechanisms in the analyzed networks, their degree distribution was evaluated against the one of appropriate randomly generated ones¹³³. More specifically, each network's log complementary cumulative distribution function (CCDF) was plotted on their log in-degree, showing the repartition of network nodes by degree. In the case of the social support network (**Figure 46**), a clear change could be noticed between baseline and midline. The midline graph, in fact, displays a previously missing tendency, with more nodes of relatively high degrees than in the random situation.

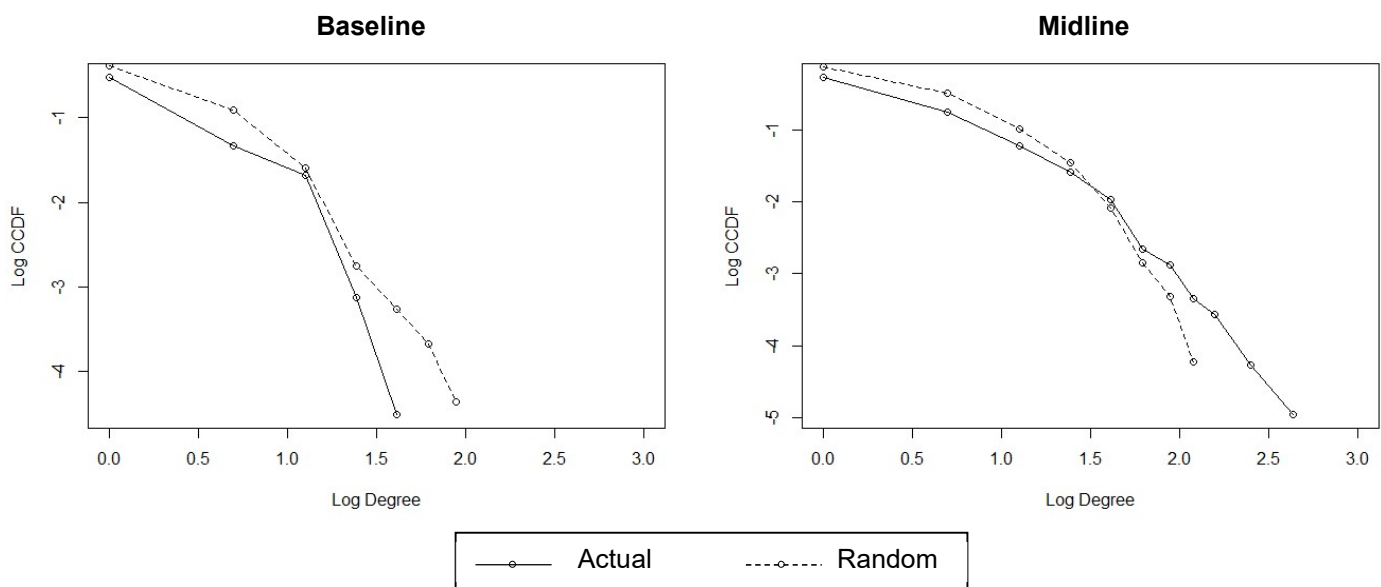


Figure 46. 'Inner' social support networks' degree distribution, versus fitted random networks

Similar evolution and deviations from the random network were also shown in the risk-sharing networks (**Figure 47**), albeit in a less evident manner. Put together, these findings are indicative of the rise of preferential attachment in the village's internal networks, which could anew have been spurred and led by the start of the CT project. Preferential attachment may also be desirable for a network's performance by enhancing its robustness, namely its sensitivity to the removal of nodes or links. As a matter of fact, structures displaying such characteristic tend to generate more low-degree nodes than

¹³³ Once again, the actual networks depicted are the internal or 'inner' versions of the graphs, and the random ones are Erdős-Rényi models with the same number of nodes and connections.

high-degree hubs, decreasing the susceptibility to collapse in the eventuality of the disappearance of central actors (Borgatti, 2003; Henderson & Alam, 2022).

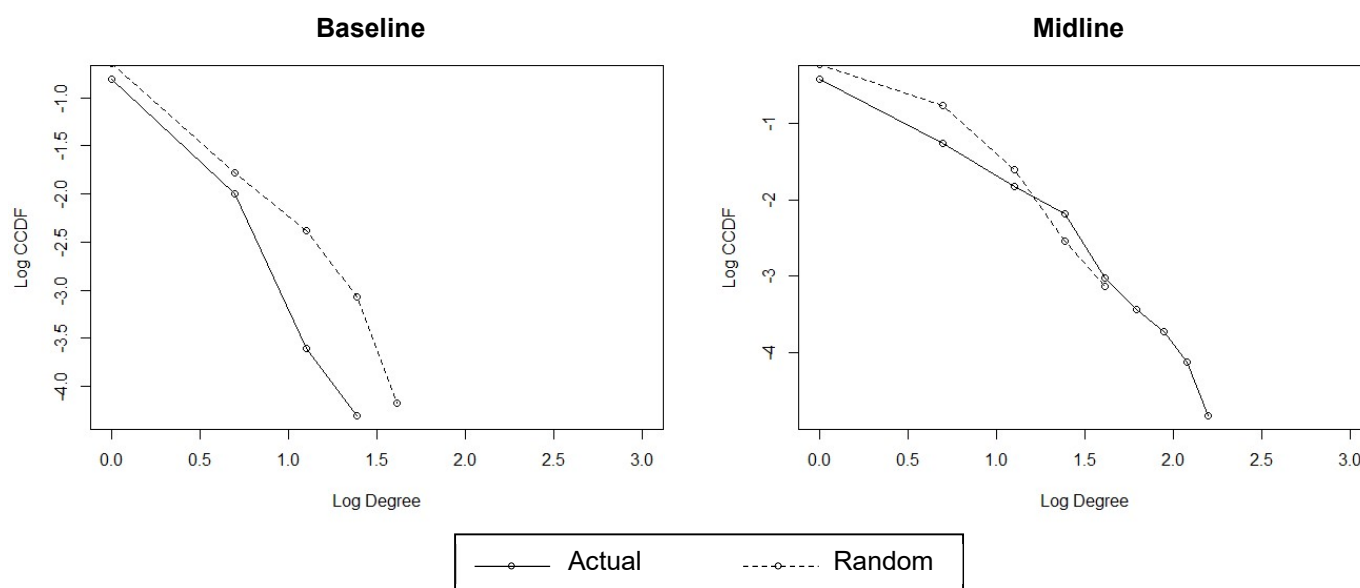


Figure 47. ‘Inner’ risk-sharing networks’ degree distribution, versus fitted random networks

4.2.3 DEGREE CORRELATION AND ASSORTATIVE MIXING

As already discovered by previous studies, real-world social networks tend to be assortative, meaning that well-connected people prefer to associate with other well-connected actors (Newman, 2003). To explore whether the inquired networks exhibit instances of assortative mixing or not, degree correlation heatmaps were plotted, whereby each entry corresponds to e_{ij} , it is to say the fraction of ties, inside the network¹³⁴, linking nodes with excess degrees¹³⁵ i and j . Turning to the interpretation, some small degree of assortativity could be visually detected in the village’s social support network (**Figure 48**) at midline, given the high values of correlation around the main diagonal. However, computing the midline graph’s assortativity coefficient ρ (Newman, 2003) returned a (slightly) negative figure – it is to say, disassortative – but in an upward trend with respect to the baseline value.

¹³⁴ In this case, the ‘outer’ networks, including connections towards ‘K’-code actors, were used for the analysis, given the lack of a need to compare network performance with that of randomly generated graphs. Nevertheless, the inclusion of not surveyed individuals (the ‘K’s) should be taken into account when interpreting the figures.

¹³⁵ A node’s excess degree is the node’s degree minus one. Given that the considered networks are directed, the excess degrees coincide with out-degrees (Henderson & Alam, 2022), which is better suited to investigate the likelihood of an actor forming another outbound connection. Note that the range of degrees differs across heatmaps – especially in the social support network, between baseline and midline – reflecting the already graphically and descriptively observed major changes in network structure and features over time.

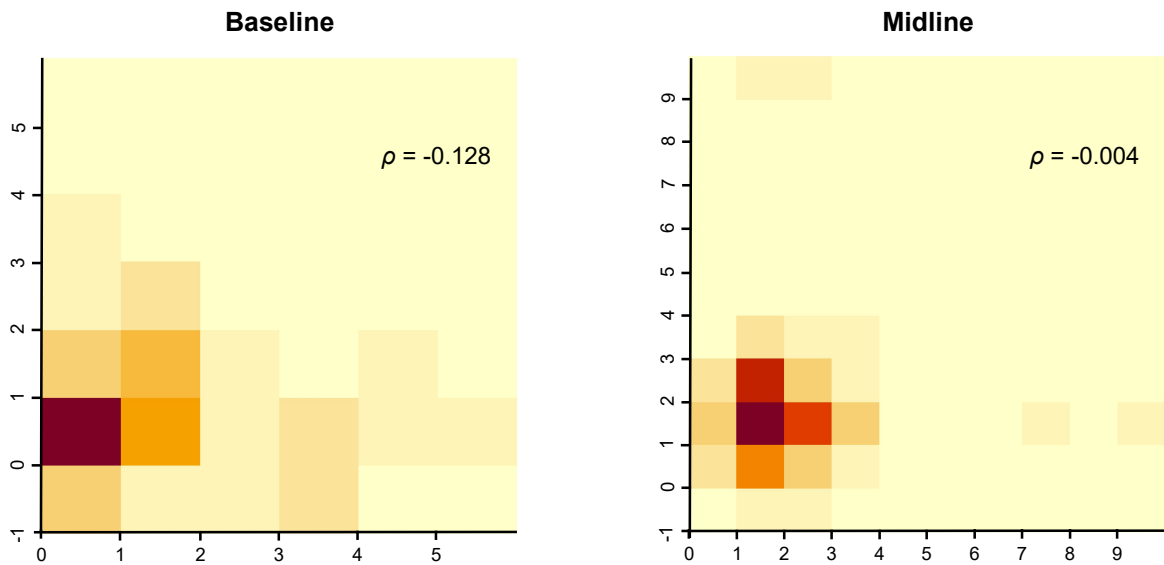


Figure 48. ‘Outer’ social support networks’ degree correlation matrixes

Such trend was also identifiable from the risk-sharing network matrixes (**Figure 49**). In this case, the emergency of assortativity at midline was more evident and larger in magnitude, as confirmed by the midline value of $\rho = 0.028$. As such, these evolutions could once again be partially attributed to the start of the monetary transfer in the village, even though the degrees of assortativity in the (midline) networks are perhaps best described as weak. However, low assortativity might actually be preferable, given that high levels of it, while favouring robustness (because of redundancies in high-degree clusters), come at the expense of reach and velocity, which are important for timely responses in case of need (Henderson & Alam, 2022).

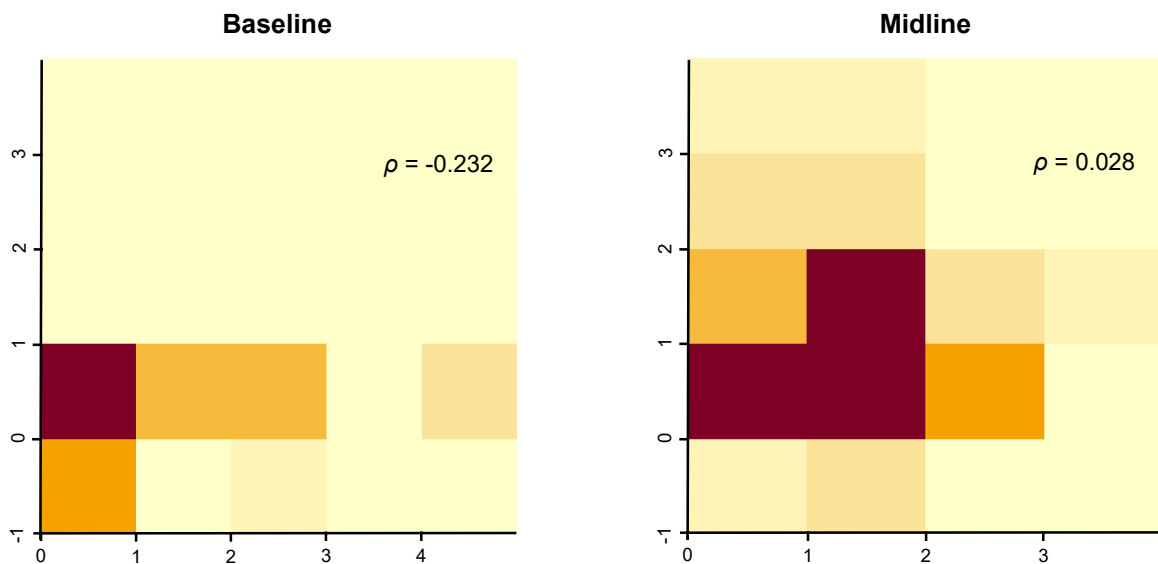


Figure 49. ‘Outer’ risk-sharing networks’ degree correlation matrixes

4.3 QAP

It was then investigated to what extent a particular relation between respondents could be predicted on the basis of the existence of another type of relation among those nodes – and of actor attributes – by resorting to Quadratic Assignment Procedures (Hubert & Schultz, 1976). First, the degree of correlation between the different actual networks under study was verified by computing the QAP correlation coefficients. In this case, given the technical requirements of QAP, the ‘inner’ networks, isolates included, were enlarged to encompass all of the nodes mentioned across edge type and survey round. As such, these, when not previously present in a specific graph, would therefore be added as isolates. Correlation coefficients among the resulting ‘complete’¹³⁶ inner’ networks are presented by **Table 114**¹³⁷.

Table 114. QAP correlations among the ‘complete inner’ networks

	Round	Social support network		Risk-sharing network	
		Baseline	Midline	Baseline	Midline
Social support network	Baseline	-	0.238***	0.459***	0.180***
Social support network	Midline	0.238***	-	0.183***	0.545***
Risk-sharing network	Baseline	0.459***	0.183***	-	0.166***
Risk-sharing network	Midline	0.180***	0.545***	0.166***	-

Notes: *, ** and *** respectively indicate statistical significance at the 10%, 5% and 1% levels. Calculations derived from 1,000 permutations based on directed and unweighted networks.

All correlation coefficients are positive and strongly significant from a statistical point of view, but vary in magnitude. As it could possibly be forecasted, the strongest associations were actually found across network types at the same round, returning the insight that the occurrence of a risk-sharing link would more firmly dependent on the current existence of a social support edge, than on an eventual previous risk-sharing connection between the considered nodes, and vice versa. Put together, nevertheless, these findings validate the hypothesis that any of the two considered relation types would predict the existence of a connection of the other kind among the same actors.

4.3.1 ESTIMATION RESULTS OF THE QAP REGRESSION MODELS

Next, QAP regressions could shed additional light on the statistical interdependence among the analyzed networks, and on the influence of node attributes in determining whether a connection would take place, or not. More specifically, the directed nature of the gathered data allowed to distinguish

¹³⁶ Network demarcation is not a simple epistemological task in longitudinal analysis, given that SNA is particularly sensitive to data omission or incompleteness due to non-response (Popelier, 2018). However, changes in network composition naturally occur in real-life settings, over time (Sarkar, 2018). In this case, furthermore, non-responses were caused by a variety of reasons, including temporary absence, refusal, and incapacity due to health issues.

¹³⁷ **Table 118** in the **Appendix** displays instead the correlation coefficients for the ‘complete outer’ networks, including (connections to) all the ‘K’-code nodes, too. The obtained values do not deviate substantially from those of the internal graph, and are also strongly statistically significant.

between sender/ego and receiver/alter effects – respectively reflecting the likelihood of an actor initiating a social interaction, and its popularity, based on a specific characteristic of theirs (Berardo & Scholz, 2010). Summed together, these may indicate homophily, i.e., the tendency/preference of nodes to associate with peers similar to them, sometimes described as mutual social influence (McPherson, Smith-Lovin, & Cook, 2001). Results were robustly checked by applying both Logistic Regression Quadratic Assignment Procedure (LRQAP) and Multiple Regression Quadratic Assignment Procedure (MRQAP). Nevertheless, the focus predominantly was on the former, given its capacity to generate odd ratios, which contribute to facilitate the interpretation of effects' sizes.

The existence or emergence of relations is influenced by internal network formation mechanisms (e.g., reciprocity, preferential attachment, brokerage, etc.), external relational (it is to say, links in other networks) and dyadic factors (such as geographical proximity) and node attributes (Lusher, Koskinen, & Robins, 2012). **Table 115** outlines the operationalization of dependent and independent variables in the context of this study's QAP regression analyses. The inclusion of each was contingent on its suitability for the specific analysis. Furthermore, the choice to insert either sender/ego, receiver/alter and/or homophily coefficients – for every included variable – in the explanatory model was led by their relevance and appropriateness. Concerning socio-economic and demographic features, for instance, all three effect types were taken into account for each of the considered characteristics – with the exception of perceived resilience to climate change – drawing from social resource theory (Lin, 2001). As a matter of fact, it could be hypothesized that nodes endowed with more social, financial or political resources represent more attractive partners for establishing social or material support relations. At the same time, the ownership of such assets could facilitate an actor's proactive engagement in social networks. Homophily effects, in turn, combine these phenomena together.

Table 115. Operationalization of QAP regressions

Dependent variables	
<i>Dyadic</i>	Midline/baseline social support network (SSU _{T1} / SSU _{T0})
	Midline/baseline risk-sharing or material support network (MSU _{T1} / MSU _{T0})
Independent variables	
<i>Monadic</i>	Socio-economic and demographic characteristics
	Collective dimension ¹³⁸
<i>Exogenous dyadic</i>	(Baseline social support network SSU _{T0})
	(Baseline risk-sharing or material support network MSU _{T0})
	Geographical proximity ¹³⁹

¹³⁸ Encompassing indicators of social capital, agency and collective action (for additional information, see **Chapter 1**). Its inclusion is relevant because of the interrelations between social capital and social networks (Jones & Woolcock, 2007).

¹³⁹ Described as village membership, thus only meaningful in 'outer' networks' QAP.

The estimation results of the comprehensive models for the midline risk-sharing and social support networks can be found in **Table 116** and **Table 117**, respectively. All the models were significant at the 1% level, demonstrating that none of the observed networks are random, and validating the insights obtained through the initial QAP correlation analysis.

Table 116 showed that the odds of finding a risk-sharing connection at midline increased by a factor of 4.30 in presence of the same kind of link at baseline, but most importantly, by a factor of 273.61 in the event of a social support relationship at midline itself. Nevertheless, just a few of the incorporated node attributes proved to be a significant predictor for the rise of a risk-sharing tie after the inception of the CT program. The model detected, for example, instances of gender homophily and of a receiving effect of the age group – namely, that older people would be more prone to be trusted as a risk-coping partner. Perhaps not coincidentally, then, a robust sender impact of trust in others was also measured by the model. The prediction power of the existence of social support on risk-sharing was also applicable – and showed a similar magnitude – in the opposite case, as exhibited by **Table 117**. In fact, the odds of establishing a social support connection at midline increased by 273.25 folds, when the same actors also shared a material support bond at the same time. This model, nevertheless, displayed a wider number of statistically significant coefficients: not only did gender and age group determine the propensity to be involved in a link, but a positive influence and homophily pattern in multidimensional poverty status was also detected. Lastly, and unsurprisingly, organizational membership had a predicting role in the likelihood of outbounding ties. On the other hand, no significant influence of any collective proxy was measured by the model.

Baseline-only models for each network type showed similar patterns (see **Table 119** and **Table 120** in the **Appendix**). Finally, ‘complete outer’ network¹⁴⁰ regressions were also run, and were all statistically significant (**Tables 121-124** in the **Appendix**), confirming the interdependence of the two edge typologies, and displaying comparable trends. Besides proving the existence of village homophily – which was not applicable to ‘internal’ graphs, they also displayed homophily of gender (in social support nets).

¹⁴⁰ The only node attribute effects which could be inquired, in the ‘outer’ networks’ QAP, were village membership, gender, and leadership position impacts, because of the limitations imposed by the impossibility to survey external actors (K-codes).

Table 116. LRQAP and MRQAP results of ‘complete inner’ midline risk-sharing networks

		LRQAP (MSU _{T1})			MRQAP (MSU _{T1})			
Independent variables	Effect	Coef.	Odds ratio	p-value	Coef. (unstd.)	Coef. (stand.)	p-value 2-tailed	
		Relational						
	Intercept	-5.763	0.003		0.004			
	MSU _{T0}	1.459**	4.303	0.012	0.130***	0.080	0.001	
	SSU _{T1}	5.612***	273.608	0.001	0.431***	0.535	0.001	
Socio-economic and demographic	Gender	S	-0.185	0.831	0.799	-0.001	-0.004	0.505
		R	0.119	1.126	0.440	0.000	0.000	0.961
		H	0.402**	1.494	0.049	0.001	0.008	0.163
	Leadership/ bureaucratic position	S	0.437	1.549	0.213	0.003	0.008	0.462
		R	0.183	1.200	0.272	0.002	0.006	0.603
		H	0.751	2.119	0.162	0.005	0.017	0.223
	Age group	S	-0.165	0.848	0.830	-0.000	0.002	0.755
		R	0.728**	2.070	0.013	0.003***	0.027	0.001
		H	0.085	1.089	0.366	-0.001	-0.007	0.236
	Educational level group	S	0.007	1.007	0.488	0.000	0.003	0.640
		R	0.055	1.057	0.405	0.000	0.003	0.722
		H	0.194	1.214	0.187	0.000	0.005	0.409
	Multidimensional poverty	S	-0.043	0.958	0.543	-0.001	-0.003	0.712
		R	0.081	1.084	0.395	-0.000	-0.001	0.873
		H	0.126	1.134	0.326	-0.000	-0.001	0.870
	Perceived resilience to climate change	S	0.029	1.029	0.274	0.000	0.003	0.614
		R	0.082	1.085	0.199	0.000	0.010	0.152
	Collective dimension	Organizational membership score	S	-0.087	0.917	0.899	-0.000	-0.006
R			-0.069	0.933	0.683	-0.000	-0.006	0.342
Interpersonal trust		S	0.366**	1.442	0.050	0.002*	0.010	0.097
		R	0.069	1.072	0.400	0.001	0.006	0.361
		H	0.163	1.177	0.271	0.001	0.006	0.325
Institutional trust		S	-0.104	0.902	0.873	-0.001	-0.007	0.244
		R	0.081	1.085	0.306	0.000	0.005	0.496
Solidarity		S	-0.073	0.930	0.631	-0.000	-0.002	0.735
		R	-0.071	0.932	0.589	-0.000	-0.000	0.997
Agency index		S	-0.165	0.848	0.970	-0.001	-0.008	0.137
		R	0.012	1.012	0.558	-0.000	-0.002	0.807
Community participation		S	0.356	1.428	0.223	0.001	0.003	0.636
		R	-0.540	0.583	0.795	-0.004	-0.012	0.103
Investment of money in collective projects		S	-0.207	0.813	0.694	-0.001	-0.002	0.697
	R	-0.148	0.863	0.614	-0.001	-0.002	0.763	
Regression fit	R ²	0.485			0.313	Adj. R ²	0.312	
	Likelihood test statistic	-426.501						
	Significance	0.001***			0.001***			
	No. observations	19,182			19,182			
	Permutations	1000			1000			
	Random seed	-1157818554			398			

Notes: *, ** and *** respectively indicate statistical significance at the 10%, 5% and 1% levels. A distinction is made between sender/ego (S), receiver/alter (R) and homophily (H) effects.

Table 117. LRQAP and MRQAP results of 'complete inner' midline social support networks

		LRQAP (SSU _{T1})			MRQAP (SSU _{T1})			
	Independent variables	Effect	Coef.	Odds ratio	p-value	Coef. (unstd.)	Coef. (stand.)	p-value 2-tailed
Relational	Intercept		-16.471	0.000		-0.034		
	SSU _{T0}		3.480***	32.454	0.001	0.244***	0.152	0.001
	MSU _{T1}		5.610***	273.253	0.001	0.644***	0.518	0.001
Socio-economic and demographic	Gender	S	0.125	1.133	0.256	0.002	0.010	0.111
		R	0.634*	1.886	0.073	0.005**	0.024	0.024
		H	0.592***	1.807	0.001	0.004***	0.020	0.002
	Leadership/ bureaucratic position	S	-0.522	0.593	0.396	-0.007	-0.015	0.220
		R	-0.343	0.709	0.362	0.004	0.009	0.499
		H	-1.218	0.296	0.411	-0.012*	-0.036	0.051
	Age group	S	-0.330	0.719	0.995	-0.001	-0.009	0.161
		R	0.630**	1.877	0.018	0.005***	0.034	0.002
		H	0.595***	1.813	0.004	0.003**	0.015	0.017
	Educational level group	S	-0.237	0.789	0.917	-0.001	-0.008	0.267
		R	0.443	1.558	0.121	0.004**	0.027	0.019
		H	-0.064	0.938	0.599	-0.000	-0.002	0.732
	Multidimensional poverty	S	-0.013	0.987	0.492	0.003*	0.013	0.087
		R	0.766*	2.152	0.065	0.008***	0.033	0.004
		H	0.492**	1.635	0.014	0.005**	0.023	0.005
Perceived resilience to climate change	S	0.066**	1.068	0.044	0.001*	0.010	0.085	
	R	-0.042	0.959	0.702	-0.000	-0.005	0.616	
Collective dimension	Organizational membership score	S	0.107**	1.113	0.047	0.001*	0.010	0.067
		R	-0.058	0.943	0.669	-0.001	-0.010	0.232
	Interpersonal trust	S	-0.133	0.875	0.716	-0.001	-0.006	0.339
		R	0.049	1.050	0.420	0.002	0.008	0.361
		H	0.209	1.232	0.138	0.001	0.006	0.364
	Institutional trust	S	0.083	1.086	0.109	0.001	0.009	0.130
		R	-0.115	0.891	0.741	-0.001	-0.011	0.267
	Solidarity	S	0.006	1.006	0.504	-0.000	-0.000	0.981
		R	0.349	1.418	0.244	0.002	0.008	0.336
	Agency index	S	0.104	1.109	0.130	0.001	0.007	0.230
		R	0.003	1.003	0.594	-0.002*	-0.016	0.073
	Community participation	S	0.152	1.164	0.362	0.002	0.004	0.466
		R	-0.236	0.790	0.707	0.000	0.000	0.966
	Investment of money in collective projects	S	0.458	1.582	0.156	0.002	0.005	0.459
		R	0.304	1.355	0.413	0.003	0.007	0.462
Regression fit	R ²		0.408			0.334	Adj. R ²	0.333
	Likelihood test statistic		-703.315					
	Significance		0.001***			0.001***		
	No. observations		19,182			19,182		
	Permutations		1000			1000		
	Random seed		1773351138			158		

Notes: *, ** and *** respectively indicate statistical significance at the 10%, 5% and 1% levels. A distinction is made between sender/ego (S), receiver/alter (R) and homophily (H) effects.

5. DISCUSSION

This paper contributed to expand and complement the scarce available empirical proofs around CT (and UBI) impacts on social networks in recipient communities. Furthermore, it proved that SNA is a useful and appropriate method for the assessment of program effects on social capital-related outcomes, as hypothesized by **Chapter 1**.

The main finding of the study was that very noticeable evolutions in structure were observed in both plotted network types after the inception of the followed CT project. The recipient village's social support and material support/risk-sharing networks rapidly shifted, as a matter of fact, from sparse and weakly linked to tight, transitive, and well-connected webs, which could be described as 'small worlds' (Watts, 1999) at midline. Moreover, hints of the emergence of previously absent preferential attachment and, in a less evident way, assortative mixing phenomena, were detected one year after program start, through analyses of networks' degree distribution and correlation. Lastly, the performed QAP found strong correlations between networks across data collection round and network type – both for 'outer' and 'inner' graphs. QAPs also proved that the rise of a risk-sharing tie was strongly predicted by an existing social support connection (and vice versa), besides by node attributes such as gender, trust, and organizational membership. This study further argues that such transformations are to be attributed and reconducted to the ongoing cash transfer program, returning a partial confirmation that CTs can actually positively impact social networks' structure, and possibly even their latent formation patterns.

Network interaction mechanisms such as the disclosed ones are optimal for network performance (Henderson & Alam, 2022), potentially leading to enhanced (or even transformed; Devereux & Sabates-Wheeler, 2004) economic outcomes, information exchange, and collective action (Berardo & Scholz, 2010; Chilufya, 2020; Hileman & Lubell, 2018; Holvoet, Dewachter, & Molenaers, 2016; Mansuri & Rao, 2013). In fact, desirable network structure measures such as components' number and size, and average distance, influence graphs' reach and velocity (Van den Broeck & Dercon, 2011), and are critical in determining its robustness to external perturbations and collapse (Borgatti, 2003; Henderson & Alam, 2022). Verifying local networks' stability is even more fundamental for areas prone to climate change-induced disasters – which need timely responses in the event of shocks –, such as the village of interest to this study (Agrawal et al., 2020).

As already mentioned earlier, policy implications of the analysis include an improved understanding of the repercussions of formal insurance schemes on informal arrangements, and the latter's eventual 'crowding-out' (Henderson & Alam, 2022; Jensen, 2004). Additionally, it was confirmed that positive CT impacts on social support networks are closely intertwined with and followed by beneficial effects on risk-sharing webs, in rural Southern contexts. It is therefore claimed and recommended that the

design, implementation, and evaluation phases of cash transfers should devote more attention to collective-level variables (Devereux & McGregor, 2014; Grisolia et al., 2023). Lastly, the outlined CT benefits could, when these were geographically upscaled, ultimately strengthen their overarching domains of social capital, inclusion and cohesion (Babajanian, 2012; Drucza, 2016).

The reliability of these conclusions is unlikely to be affected by external validity, given the high internal validity of the study (Henderson & Alam, 2022). At the same time, if social networks changed so spectacularly in the space of a single year, as a result of the inception of a CT program, some reflections on the (perceived) value of friendship, kinship, and connections in general would naturally and necessarily arise. In this sense, more qualitative insights could help triangulating the quantitatively and visually detected evolutions in the village networks, and increasing the confidence in their causal attribution to the cash transfers. More specifically, qualitative data could help shedding additional light on the observed changes, and on the causal pathways leading such evolutions in village networks, reminding that social capital research is prone to a mixed-methods approach (Jones & Woolcock, 2007). Qualitative insights could also be gathered on the impacts of the followed CT on other informal economic and social associations within the recipient village. On a more quantitative side, future research efforts could explore in detail other network structure variables (e.g., centralization) and mechanisms (such as homophily). Prospected analyses may also account for the strength of the plotted links, which was, for the time being, only employed as a visual explanatory tool – and its averages used as a network-level metric. The intersections between certain node attributes – hereby assessed and included separately, in QAP models – might also represent an important interpretive factor (Dewachter, Holvoet, & Van Aelst, 2018; Popelier, 2021). Finally, more reliable indications about the network formation patterns at work in the setting of interest are not allowed by QAP (Popelier, 2021) and could be derived, instead, from the application of temporal Exponential Random Graph Models (ERGM) or Stochastic Actor Oriented Models (SAOM) like RSiena (Block, Stadtfeld, & Snijders, 2019; Cranmer, Leifeld, McClurg, & Rolfe, 2017; Leifeld & Cranmer, 2019).

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APPENDIX

Table 118. QAP correlations among the 'complete outer' networks

	Round	Social support network		Risk-sharing network	
		Baseline	Midline	Baseline	Midline
Social support network	Baseline	-	0.217***	0.455***	0.170***
Social support network	Midline	0.217***	-	0.176***	0.552***
Risk-sharing network	Baseline	0.455***	0.176***	-	0.155***
Risk-sharing network	Midline	0.170***	0.552***	0.155***	-

Notes: *, ** and *** respectively indicate statistical significance at the 10%, 5% and 1% levels. Calculations derived from 1,000 permutations based on directed and unweighted networks.

Table 119. LRQAP and MRQAP results of ‘complete inner’ baseline risk-sharing networks

Independent variables		Effect	LRQAP (MSU _{T0})			MRQAP (MSU _{T0})		
			Coef.	Odds ratio	p-value	Coef. (unstd.)	Coef. (stand.)	p-value 2-tailed
Relational	Intercept		-12.381	0.000		0.003		
	SSU _{T0}		5.473***	238.088	0.001	0.313***	0.409	0.001
Socio-economic and demographic	Gender	S	-0.130	0.878	0.585	-0.001	-0.006	0.534
		R	-0.700	0.497	0.924	-0.002	-0.011	0.313
		H	0.120	1.128	0.385	-0.000	-0.000	0.972
	Leadership/ bureaucratic position	S	0.189	1.208	0.231	0.002	0.008	0.545
		R	-0.124	0.883	0.205	0.001	0.003	0.808
		H	0.959	2.610	0.155	0.004	0.022	0.232
	Age group	S	-0.615	0.540	0.958	-0.001	-0.014	0.217
		R	0.783**	2.188	0.026	0.002*	0.023	0.057
		H	0.277	1.319	0.293	-0.001	-0.006	0.521
	Educational level group	S	0.390	1.476	0.161	0.002	0.016	0.164
		R	-0.126	0.358	0.994	-0.002*	-0.023	0.063
		H	-0.607	0.545	0.931	-0.003**	-0.019	0.040
	Multidimensional poverty	S	0.140	1.151	0.352	0.000	0.003	0.800
		R	-0.494	0.610	0.795	-0.001	-0.008	0.476
		H	0.617*	1.852	0.080	0.002	0.012	0.225
Perceived resilience to climate change	S	-0.074	0.929	0.738	-0.000	-0.009	0.383	
	R	0.186**	1.205	0.047	0.001*	0.020	0.084	
Collective dimension	Organizational membership score	S	-0.210	0.810	0.920	-0.001	-0.018	0.113
		R	-0.077	0.926	0.704	0.000	0.000	0.992
	Interpersonal trust	S	0.208	1.231	0.269	-0.001	-0.005	0.683
		R	-0.281	0.755	0.446	-0.002	-0.014	0.304
		H	-0.350	0.705	0.536	-0.003*	-0.023	0.094
	Institutional trust	S	0.070	1.072	0.394	-0.000	-0.005	0.673
		R	0.260	1.296	0.151	0.001	0.012	0.396
	Solidarity	S	0.197	1.217	0.215	0.001	0.009	0.412
		R	0.203	1.225	0.245	0.001	0.010	0.364
	Agency index	S	0.285	1.330	0.158	0.000	0.002	0.864
		R	0.086	1.090	0.395	-0.000	-0.001	0.919
	Community participation	S	0.152	1.164	0.440	0.002	0.014	0.477
		R	-0.263	0.768	0.617	0.000	0.001	0.970
	Investment of money in collective projects	S	-0.190	0.827	0.589	-0.001	-0.007	0.693
		R	-0.248	0.781	0.583	-0.001	-0.006	0.751
Regression fit	R ²		0.410			0.173	Adj. R ²	0.170
	Likelihood test statistic		-173.899					
	Significance		0.001***			0.001***		
	No. observations		10,302			10,302		
	Permutations		1000			1000		
	Random seed		-1991172305			156		

Notes: *, ** and *** respectively indicate statistical significance at the 10%, 5% and 1% levels. A distinction is made between sender/ego (S), receiver/alter (R) and homophily (H) effects.

Table 120. LRQAP and MRQAP results of 'complete inner' baseline social support networks

		LRQAP (SSU _{T0})			MRQAP (SSU _{T0})			
Independent variables		Effect	Coef.	Odds ratio	p-value	Coef. (unstd.)	Coef. (stand.)	p-value 2-tailed
Relational	Intercept		-19.873	0.000		-0.055		
	MSU _{T0}		5.378***	216.628	0.001	0.534***	0.408	0.001
Socio-economic and demographic	Gender	S	0.055	1.057	0.413	0.001	0.003	0.728
		R	0.579*	1.784	0.064	0.003	0.017	0.129
		H	1.061***	2.889	0.001	0.006***	0.034	0.001
	Leadership/ bureaucratic position	S	1.641**	5.163	0.017	0.018**	0.052	0.020
		R	0.132	1.141	0.169	0.008	0.024	0.174
		H	0.838	2.313	0.105	0.014*	0.052	0.051
	Age group	S	0.035	1.036	0.431	0.001	0.005	0.564
		R	0.579**	1.783	0.012	0.004***	0.032	0.005
		H	0.275	1.317	0.202	0.002	0.010	0.284
	Educational level group	S	0.030	1.031	0.450	0.000	0.003	0.702
		R	0.603**	1.828	0.024	0.004***	0.032	0.002
		H	0.159	1.173	0.296	0.006***	0.034	0.001
	Multidimensional poverty	S	-0.359	0.698	0.878	-0.002	-0.011	0.198
		R	-0.253	0.777	0.744	-0.002	-0.010	0.349
		H	-0.101	0.904	0.618	-0.001	-0.004	0.717
	Perceived resilience to climate change	S	-0.133	0.876	0.955	-0.001*	-0.016	0.062
		R	0.071	1.074	0.167	0.001	0.015	0.161
	Collective dimension	Organizational membership score	S	0.193*	1.213	0.074	0.001*	0.015
R			0.072	1.075	0.307	-0.000	-0.001	0.954
Interpersonal trust		S	0.476	1.609	0.104	0.011***	0.048	0.001
		R	1.386***	3.998	0.001	0.016***	0.069	0.001
		H	1.054***	2.869	0.003	0.013***	0.069	0.001
Institutional trust		S	-0.002	0.998	0.545	-0.000	-0.002	0.883
		R	0.089	1.093	0.333	0.001	0.009	0.499
Solidarity		S	0.054	1.056	0.413	0.000	0.004	0.612
		R	0.021	1.021	0.534	-0.000	-0.001	0.891
Agency index		S	0.162	1.176	0.198	0.000	0.006	0.504
		R	0.076	1.079	0.343	0.000	0.005	0.665
Community participation		S	-0.187	0.830	0.649	-0.001	-0.006	0.709
		R	0.308	1.361	0.363	0.003	0.018	0.385
Investment of money in collective projects		S	0.418	1.519	0.230	0.002	0.012	0.406
	R	-0.424	0.654	0.688	-0.004	-0.020	0.267	
Regression fit	R ²		0.281			0.176	Adj. R ²	0.173
	Likelihood test statistic		-333.286					
	Significance		0.001***			0.001***		
	No. observations		10,302			10,302		
	Permutations		1000			1000		
	Random seed		-1718939684			185		

Notes: *, ** and *** respectively indicate statistical significance at the 10%, 5% and 1% levels. A distinction is made between sender/ego (S), receiver/alter (R) and homophily (H) effects.

Table 121. LRQAP and MRQAP results of ‘complete outer’ midline risk-sharing networks

Independent variables		Effect	LRQAP (MSU _{T1})			MRQAP (MSU _{T1})		
			Coef.	Odds ratio	p-value	Coef. (unstd.)	Coef. (stand.)	p-value 2-tailed
Relational	Intercept		-7.608	0.000		-0.003		
	MSU _{T0}		1.253***	3.499	0.006	0.092***	0.060	0.001
	SSU _{T1}		6.487***	656.337	0.001	0.449***	0.545	0.001
	Same village	H	0.308**	1.360	0.044	0.001	0.005	0.163
Socio-economic and demographic	Gender	S	-0.039	0.962	0.611	-0.000	-0.001	0.582
		R	-0.149	0.861	0.700	-0.000	-0.003	0.470
		H	0.374**	1.454	0.026	0.001*	0.006	0.063
	Leadership/ bureaucratic position	S	0.723	2.060	0.149	0.004	0.013	0.150
		R	0.595	1.812	0.155	0.004	0.014	0.150
		H	0.630	1.877	0.150	0.004	0.018	0.167
Regression fit	R ²		0.480			0.313	Adj. R ²	0.313
	Likelihood test statistic		-719.793					
	Significance		0.001***			0.001***		
	No. observations		64,262			64,262		
	Permutations		1000			2000		
	Random seed		668794722			423		

Notes: *, ** and *** respectively indicate statistical significance at the 10%, 5% and 1% levels. A distinction is made between sender/ego (S), receiver/alter (R) and homophily (H) effects.

Table 122. LRQAP and MRQAP results of ‘complete outer’ midline social support networks

Independent variables		Effect	LRQAP (SSU _{T1})			MRQAP (SSU _{T1})		
			Coef.	Odds ratio	p-value	Coef. (unstd.)	Coef. (stand.)	p-value 2-tailed
Relational	Intercept		-6.286	0.002		0.005		
	SSU _{T0}		3.915***	50.124	0.001	0.187***	0.126	0.001
	MSU _{T1}		6.465***	642.554	0.001	0.647***	0.533	0.001
	Same village	H	0.841***	2.319	0.001	0.002***	0.018	0.001
Socio-economic and demographic	Gender	S	-0.023	0.977	0.561	0.000	0.001	0.755
		R	0.231	1.260	0.249	0.001	0.007	0.172
		H	0.578***	1.782	0.001	0.002***	0.012	0.001
	Leadership/ bureaucratic position	S	-0.134	0.875	0.220	-0.002	-0.006	0.303
		R	0.528	1.696	0.182	0.006	0.015	0.143
		H	-1.092	0.336	0.222	-0.007	-0.023	0.113
Regression fit	R ²		0.399			0.326	Adj. R ²	0.326
	Likelihood test statistic		-1157.517					
	Significance		0.001***			0.001***		
	No. observations		64,262			64,262		
	Permutations		1000			2000		
	Random seed		202846880			689		

Notes: *, ** and *** respectively indicate statistical significance at the 10%, 5% and 1% levels. A distinction is made between sender/ego (S), receiver/alter (R) and homophily (H) effects.

Table 123. LRQAP and MRQAP results of 'complete outer' baseline risk-sharing networks

		LRQAP (MSU _{T0})			MRQAP (MSU _{T0})			
Independent variables		Effect	Coef.	Odds ratio	p-value	Coef. (unstd.)	Coef. (stand.)	p-value 2-tailed
Relational	Intercept		-3.412	0.033		0.002		
	SSU _{T0}		6.754***	857.093	0.001	0.357***	0.450	0.001
	Same village	H	0.389*	1.476	0.075	0.000	0.005	0.126
Socio-economic and demographic	Gender	S	-0.188	0.829	0.697	-0.000	-0.003	0.466
		R	-0.019	0.981	0.537	-0.000	-0.001	0.822
		H	0.014	1.015	0.458	0.000	0.000	0.936
	Leadership/ bureaucratic position	S	-3.168	0.042	0.874	0.000	0.001	0.753
		R	-3.712	0.024	0.902	-0.001	-0.005	0.223
		H	-4.016	0.018	0.941	-0.002	-0.011	0.133
Regression fit	R ²		0.391			0.203	Adj. R ²	0.203
	Likelihood test statistic		-398.867					
	Significance		0.001***			0.001***		
	No. observations		64,262			64,262		
	Permutations		1000			2000		
	Random seed		-2044232655			426		

Notes: *, ** and *** respectively indicate statistical significance at the 10%, 5% and 1% levels. A distinction is made between sender/ego (S), receiver/alter (R) and homophily (H) effects.

Table 124. LRQAP and MRQAP results of 'complete outer' baseline social support networks

		LRQAP (SSU _{T0})			MRQAP (SSU _{T0})			
Independent variables		Effect	Coef.	Odds ratio	p-value	Coef. (unstd.)	Coef. (stand.)	p-value 2-tailed
Relational	Intercept		-3.437	0.032		0.002		
	MSU _{T0}		6.748***	852.452	0.001	0.568***	0.450	0.001
	Same village	H	0.668***	1.951	0.003	0.001***	0.011	0.002
Socio-economic and demographic	Gender	S	-0.022	0.978	0.561	0.000	0.002	0.540
		R	0.352*	1.422	0.096	0.001	0.006	0.114
		H	1.055***	2.872	0.001	0.002***	0.018	0.001
	Leadership/ bureaucratic position	S	-3.984	0.019	0.958	-0.001	-0.005	0.239
		R	-3.703	0.025	0.935	-0.000	-0.001	0.844
		H	-4.796	0.008	0.972	-0.004	-0.019	0.112
Regression fit	R ²		0.284			0.204	Adj. R ²	0.204
	Likelihood test statistic		-701.402					
	Significance		0.001***			0.001***		
	No. observations		64,262			64,262		
	Permutations		1000			2000		
	Random seed		-1873320585			382		

Notes: *, ** and *** respectively indicate statistical significance at the 10%, 5% and 1% levels. A distinction is made between sender/ego (S), receiver/alter (R) and homophily (H) effects.

CONCLUSIONS AND IMPLICATIONS FOR POLICY AND RESEARCH

This concluding chapter first provides a brief overview of the findings that emerged from our¹⁴¹ literature reviews and our empirical studies on universal unconditional cash transfer programs in Western Uganda. Subsequently, we highlight the key contributions of our investigation to the research streams of interest, before reflecting upon their implications for policymaking. Finally, we indicate some suggestions for further and future research on these themes.

1. OVERVIEW OF THE RESEARCH FINDINGS

In **Chapter 1** we summarized the existing empirical evidence on cash transfer impacts on collective-level outcomes – operationalized as social capital, agency and collective action –, namely one of the main topics of interest to this doctoral dissertation. The literature review clearly highlighted how CTs tend to generate beneficial repercussions on recipients' bonding social capital (including social networks and membership in organizations). On the contrary, the impacts of cash transfers on proxies of bridging social capital were more mixed, typically because of targeting errors or mistargeting practices. The evidence bases on cognitive social capital, agency, and collective action variables were also predominantly positive, but very limited in size. Overall, the available pieces of research suggested that the program design and regional context are fundamental in understanding the diversity of findings – in addition to being crucial to inform appropriate CT implementation practices. Generally speaking, however, the chapter acknowledged that the (especially quantitative) empirical knowledge on these topics is scarce, notwithstanding the rising interest in the subject.

Chapter 2 reviewed the available empirical literature on the other main pillar of this investigation, it is to say the sustainability of cash transfer effects. The main finding of the study was the dismissal of the theoretical assumption that CTs would only represent a short-term solution to poverty and vulnerability. In fact, the review showed that cash transfers tend to yield sustained (and 'transformative') beneficial effects on a wide variety of outcome domains. The length of the elapsed timeframe since end of exposure to a CT was, nevertheless, a key factor in explaining the diversity in observed insights. The other fundamental conclusion of the chapter was that 'graduation' programs do not necessarily generate comparatively more positive or better sustained impacts than regular cash transfers – not even on the variables that they are explicitly designed to foster, including savings, investment, assets, incomes, and expenditures. In general, however, it should be noticed that, for most outcome areas, the evidence base is once again rather limited.

Chapter 5, the first empirical article of this dissertation, explored the impacts (and their evolution, over time) of universal unconditional cash transfers on citizenship. First, the paper's matching procedure found positive and sustained program effects on NGO legitimacy, whereas no consistently negative and

¹⁴¹ This chapter was single-authored by Filippo Grisolia. However, the PhD candidate would hereby like to thank his supervisors for the precious feedback – especially in terms of tentative content and structure – which they provided with in the early drafting stages of the chapter.

statistically significant coefficient was computed on state legitimacy. Second, the study found mixed CT impacts on the community's individual and collective political efficacy levels. The most interesting finding of the investigation was, however, the SNA-derived insight that a CT-linked actor progressively substituted local duty bearers in the village's 'call to action' network. In summary, the study concluded that expanded NGO legitimacy could come at the expense of state-citizen interactions (i.e., a proxy of linking social capital) and, as a consequence, of the social contract as a whole.

In **Chapter 6**, we examined the sustainability of eventually observed cash transfer effects on collective-level variables. The majority of the inquired outcomes were in fact positively affected by the program, and some of the measured impacts – noticeably those on social networks, life satisfaction, and collective demand for services – did persist up to two years after the cessation of the transfer. As theoretically expected, impacts on a few dimensions actually only became manifest in the long run. Interestingly, then, program recipients showed less and less willingness over time to exchange a universal transfer (the design they were exposed to) with any other targeted CT. Putting these findings together, the chapter ultimately claimed that collective action in the village could have been activated through the necessary and concurrent beneficial program repercussions on both social capital and agency.

Chapter 7 presented a sustainability analysis of cash transfer effects on productive outcomes, distinguishing between employment proxies and variables related to the category of savings, investment and production. Our computations showed that the analyzed CT program generated positive effects on first-, second-, and third-order related outcomes. Coherently, we maintained that the transfer, despite being an income-only program, had activated some of the so-called 'growth-mediating' factors, allowing recipients to solve their liquidity constraints and ultimately to improve their labour patterns. The most interesting finding of the chapter was that CT beneficiaries were able, in the long term, to earn more than their control counterparts, without working longer hours. As such, the study contributes to dismiss the typical assumption that social assistance programs (or UBI) would disincentivize work. The article also highlighted how program participants seemed better capable than the counterfactual of managing and coping with the negative repercussions of the COVID-19 pandemic, possibly because of the detected diversification of livelihood strategies allowed by the transfers.

Chapter 8 contributed to enlarge the scarce available evidence regarding CT impacts on climate adaptation, collective-level outcomes, and their interactions. The principal insight derived by the investigation was that cash transfers could indeed enhance climate adaptation, by spurring the adoption of 'beneficial' preventive mechanisms, rather than ex-post 'absorptive' coping strategies. Nevertheless, it was also pointed out that a simultaneous increase in the recourse to 'mal-adaptation' activities should be further investigated through qualitative evidence, even though it could also be attributable to the midline – and therefore, provisional – nature of the study effects. The paper also

confirmed that CTs can benefit the collective dimension, with positive program impacts observed on both structural and cognitive social capital, although agency seemed to have still not been fostered by the transfer. Finally, it was also empirically demonstrated that collective-level outcomes can play a key mediating role in spurring the overall CT effects on climate adaptation.

Finally, in **Chapter 9** we extensively applied Social Network Analysis to assess the existence and magnitude of CT-led impacts on recipients' social support and material support/risk-sharing networks. Very noticeable evolutions in structure were observed in both network types, from sparse and weakly linked to tight, transitive, and well-connected webs – potentially describable as 'small worlds'. The analysis also highlighted the emergence, after CT inception, of hints of preferential attachment and assortative mixing, both crucial for networks' performance, especially in (environmentally-)vulnerable contexts. Lastly, the performed QAP found strong correlations between edge types, and proved that the rise of a risk-sharing tie was strongly supported by an existing social support connection (and vice versa), besides by a few node attributes. As a result, we claimed that CTs can positively impact the structure of social networks, and potentially even their latent formation patterns.

2. KEY CONTRIBUTIONS TO THE LITERATURE

This doctoral thesis has contributed to the literature on the effectiveness of cash transfer programs both in terms of content and of methodology. In what follows, we elaborate further on the key contributions which have emerged from this study.

First and foremost, this investigation has explored in-depth themes that had been overlooked and underresearched by the available theoretical and empirical evidence. Most noticeably, the conducted literature reviews and empirical analyses have provided insights which could play a key role in closing the identified research gaps around the *collective-level effects of CTs* (MacAuslan & Riemenschneider, 2011; Pavanello, Watson, Onyango-Ouma, & Bukuluki, 2016), and the overall *sustainability of cash transfer impacts* (EPAR, 2017; Molina Millán, Barham, Macours, Maluccio, & Stampini, 2019; Owusu-Addo et al., 2023). However, this thesis could also return valuable findings from the examination of – also understudied – adjacent topics, including citizenship, labour, and climate change adaptation, which all concur to advancing the research on the transformative potential of cash transfers, social protection and UBI. Noticeable study conclusions comprise, then, a partial dismissal that social assistance (or UBI) would disincentivize work (Baird, McKenzie, & Özler, 2018; Bastagli et al., 2019; Francisco, Otto, & Van Lancker, 2024), and a confirmation of the potential of cash transfers for fostering resilience to climate change in vulnerable communities (Costella et al., 2023; ILO, 2023; Kuriakose et al., 2013).

Second, this doctoral dissertation has demonstrated the utility and feasibility of *Social Network Analysis* as a complementary investigation method in the realm of (social) policy evaluation. In particular, it was

proved that SNA represents an appropriate and insightful tool for the assessment of CT program effects on social capital-related outcomes (as hypothesized by **Chapter 1**), given the time- and context-specific nature of social capital (Jones & Woolcock, 2007; Wasserman & Faust, 1994). Incorporating SNA into (social) policy evaluation could also yield societal and added values to (non-)academic discourses on these topics, by returning more comprehensive findings on program effectiveness, and ultimately by allowing policymakers to design better evidence-based and beneficial interventions (Banerjee, Chandrasekhar, Duflo, & Jackson, 2014; Borgatti, Everett, & Johnson, 2013). At the same time, our study also notably was one of the first to apply *Causal Mediation Analysis* to the evaluation of cash transfer impacts (Charters, Kaufman, & Nandi, 2023; Imai, Keele, & Tingley, 2010; Pace, Sebastian, Daidone, Prifti, & Davis, 2022), enabling us to verify that the collective dimension represents an important mediator of CT effects on adaptation to climate change.

3. POLICY IMPLICATIONS

The conclusions drawn by this work are not only relevant from a theoretical standpoint, but could also contribute to better-informed and evidence-based policymaking and CT design and implementation practices.

First, we claim that, on the basis of the observed beneficial program effects at the collective level, implementing organizations and stakeholders should increasingly recognize the importance of taking collective and social aspects of cash transfers into account, when (innovatively) designing, implementing, and evaluating their projects (Devereux & Sabates-Wheeler, 2004; Holzmann, Sherburne-Benz, & Tesliuc, 2003). In this sense, one of the main takeaways of this study is that (quasi-)universality could contribute to tackling undesirable implications of CT targeting and mistargeting practices (Drucza, 2016, 2019; Kidd, Nycander, Tran, & Cretney, 2020), including social tensions and feelings of resentment, stigma, and jealousy (Babajanian & Hagen-Zanker, 2012; Ellis, 2012; Kardan, MacAuslan, & Marimo, 2010). As such, we advance our advocacy for the *worldwide promotion and progress of universal social protection* (ILO, 2021; Kidd et al., 2020; UNRISD, 2006), of Universal Basic Income (Brown, Ravallion, & van de Walle, 2020; De Wispelaere & Martinelli, 2017; Gentilini, Grosh, Rigolini, & Yemtsov, 2020), and, more in general, of SDG 1.3 (ILO, n.d.). Furthermore, our study confirmed the hypothesis that innovative and purposefully design program characteristics (Roelen & Devereux, 2019; Roelen et al., 2017; Rohregger, 2010) can simultaneously stimulate social capital and agency patterns (Bodin & Crona, 2008, 2009; Krishna, 2002), and finally enhance recipient communities' ability to act collectively (Burchi, von Schiller, & Strupat, 2020; Ellis, 2012; Razavi, Behrendt, Bierbaum, Orton, & Tessier, 2020). As already argued in **Chapters 6** and **9**, such collective action phenomena bear potential for societal transformation, in the Global South and beyond (Berardo & Scholz, 2010; Chilufya, 2020; Mansuri & Rao, 2013). As a result, when upscaling collective benefit-fostering programs on a larger scale, their positive impacts could reach the aggregate macro-level, and

turn into enhancements in social inclusion, improvements in social cohesion and, lastly, strengthen a country's overall social contract (Babajanian, 2012; Bastagli et al., 2016; Drucza, 2016). On the other hand, there is little reliable evidence on the 'general equilibrium' effects of a nationwide UBI (Chrisp, 2023; Heikkinen, 2024) – it is to say, its eventual repercussions on labour supply and demand, consumption levels, prices and inflation (among others). In fact, despite basic income proponents often being highly optimistic of its ability to solve today's 'polycrisis' (Lawrence et al., 2024) by causing a major paradigm shift (to the extent of triggering a reorientation towards 'degrowth'; Heikkinen, 2018; Langridge, 2024), virtually no UBI experiment (and/or non-static macrosimulation; Marx, 2024) has been carried out beyond the micro level. In this sense, **Chapter 7's** findings – and more in general, the observations derived from this dissertation, which is restricted to two small villages – on the labour impacts of universal cash transfers are certainly limited in applicability and external validity, and caution should be warranted when promoting the upscaling of such programs – even though it should also be pointed out that conclusive evidence could only be extracted from a national real-life pilot (Gentilini et al., 2020). On a more nuanced note, social protection-related and governmental actors should recognize *cash transfers' potential to heavily affect citizenship* (Adato, Morales Barahona, & Roopnaraine, 2016; Corbridge, Williams, Srivastava, & Véron, 2005; Leisering & Barrientos, 2013): as we empirically showed, in fact, *non-governmental CTs could undermine state legitimacy* (Cammatt & MacLean, 2014; Loewe & Zintl, 2021), especially in contexts characterized by limited governmental capacities (Brass, 2016; Farrington, Sharp, & Sjoblom, 2007; Oduro, 2015). Policy implications of our analysis also include an *improved understanding of CT repercussions on informal insurance arrangements*, and of their eventual 'crowding-out' (Henderson & Alam, 2022; Jensen, 2004), which is especially crucial in rural Southern geographies, whereby the absence of governmental or market-based schemes makes citizens heavily reliant on family and kinship networks, for social support in times of crisis (Fafchamps & Lund, 2003; Petrikova & Chadha, 2013). Ultimately, *making social outcomes a focus of debates on social protection* – namely, bringing social protection closer back to its social contract roots (Devereux, 2013; Devereux & McGregor, 2014) – could return substantial benefits, and more complete and comprehensive overviews of CTs' performance (Rock et al., 2016) and *transformative potential* (Granlund & Hochfeld, 2020; Molyneux, Jones, & Samuels, 2016; Ressler, 2008).

Second, the extent to which cash transfers could generate transformative repercussions (Devereux & Sabates-Wheeler, 2004) in recipient communities is actually also largely explained by the degree to which their effects persist after ceasing to receive the CTs – it is to say, their *sustainability* (OECD, 2021). In light of this study's findings, then, it is claimed that implementing organizations should *reconsider (even) cash(-only) transfers' ability to provide their recipients with long-lasting benefits on a variety of outcomes* (Devereux & Sabates-Wheeler, 2015; Hashemi & Umaira, 2011). Our analyses (and literature

reviews) have in fact demonstrated that appropriately designed, characterized, advertised, and communicated transfers can generate prolonged – and, therefore, transformative – impacts (Barrera-Osorio, Linden, & Saavedra, 2019; Macours, Schady, & Vakis, 2012; Neidhöfer & Niño-Zarazúa, 2019; Stoeffler, Mills, & Premand, 2020).

Third, our investigations have confirmed that the latter *sustained effects are not comparatively more or better yielded by the increasingly popular ‘graduation’ transfers* (Daidone, Pellerano, Handa, & Davis, 2015; Hashemi & Umaira, 2011) with respect to more conventional cash transfers programs. Graduation transfers were *not even outperforming regular CTs on productive-level outcomes*, which they would be explicitly designed to foster (Sabates-Wheeler, Sabates, & Devereux, 2018). A crucial finding of this study was, as a matter of fact, the insight that the cash transfers of interest – as otherwise typically assumed by most theoretical sources (Baird et al., 2018; Barrientos, 2012) – *did not disincentivize work*. On the contrary, the Busibi transfer seemed to have enabled – possibly through a *diversification of livelihood activities in the beneficiary village* (Barrientos, 2012; Barrientos & Villa, 2013) – recipients to earn more than their control counterparts, without working longer hours. Such observed impacts become even more impressive when considering the COVID-19 pandemic which was still ongoing at the time of the last data collection stage in the village, hinting at a retained (transformative) *enhancement in program participants’ resilience, which would even endure unprecedented economic and social crises* (Brown et al., 2020; Ravallion, 2020). Of course, it should still be reminded that *CT consequences substantially vary on the basis of contextual and individual features*, like – as directly witnessed in our case – gender (Covarrubias, Davis, & Winters, 2012; de Mel, McKenzie, & Woodruff, 2012; FAO, 2011; Peterman, Behrman, & Quisumbing, 2010).

Fourth, the midway insights from the Tweyambe cash transfer suggest that *the program could foster villagers’ climate change adaptation patterns, and decrease their reliance on ‘mal-adaptation’ strategies* (Schipper, 2020) – even though there still were no hints at the activation of enhanced adaptive capacities (Bezabih, Beyene, & Borga, 2013). We therefore advocate for a ‘climate-proofing’ (Béné, 2011) of cash transfers, and for a general *scaling up of ‘Adaptive Social Protection’* (Davies & Leavy, 2007), which cannot be further ignored by policymakers and practitioners, considering the magnitude of the climate emergence, not only in the Global South (IPCC, 2022a, 2022b). Implementing organizations should then take the resilience-building potential of cash transfers (and UBI) into account (Agrawal, Kaur, Shakya, & Norton, 2020; Langridge, Buchs, & Howard, 2023), when designing their programs, especially in areas severely affected by the negative consequences of climate change. In this regard, *CTs represent especially interesting and potentially efficient social assistance tools*, given their periodicity, flexibility, and scalability – all characteristics which make them well-suited to tackle climate shocks (Bagolle, Costella, & Goyeneche, 2023; Wood, 2011). Nevertheless, it should be reiterated that the climate change-tackling role of social protection should not be overestimated (Coirolo, Commins,

Haque, & Pierce, 2013; Tenzing, 2020), and that *social policy should only be intended as a complementary instrument to more structural climate mitigation and adaptation agendas* (Kuriakose et al., 2013). Still, purposefully designed social protection programs, which took both the social and environmental dimensions highly into account, could be deemed as fundamental elements in just transition plans, and in the increasingly recognized – both in the academic and policymaking worlds – need for a new ‘eco-social’ contract, that would prioritize such social justice goals, over indefinite economic growth (UNRISD, 2021).

4. OPPORTUNITIES FOR FUTURE RESEARCH

This final section examines potential directions for future research which could contribute to address some of the limitations of this PhD research, and/or build on its innovative findings and methodological features.

First, it should be pointed out that, generally speaking, *the available empirical evidence on the main topics of interest to this dissertation* – notably, the collective-level effects of cash transfers, and the sustainability of CT impacts altogether – *is still relatively limited* (See **Chapter 1** and **Chapter 2**). While more abundant, the number of existing studies on the other outcomes inspected by this work is also insufficient, with respect to their importance, given that all the researched topics closely relate to the increasingly salient, and overarching research theme, of transformativity. In this regard, this PhD dissertation has provided a positive response to its main research question, confirming that cash transfers can indeed generate transformative effects on recipient communities. However, additional theoretical and empirical work should be addressed at analysing the *transformative potential of cash transfers* (but also of UBI, and of social protection more in general) in all its declinations – including, but not limited to, its social/collective, labour-related, political, and environmental dimensions (De Herdt et al., 2024; Devereux & Sabates-Wheeler, 2004). The (persisting) related scarcity constitutes a breach in the research to be bridged by future investigations, especially in light of the growing use of cash transfers (Bastagli et al., 2019) and of the *increasing relevance of debates on the role of social protection* (Ulriksen & Plagerson, 2014), fuelled by intertwining patterns of automation, job precarity, climate change, conflict, and distrust in institutions (CALP Network, 2023; Gentilini, Almenfi, Orton, & Dale, 2022; Idris, 2017). Supplementary proofs could also contribute to *enhance the external validity of eventually formulated conclusions*, and increasingly convince policymakers of their applicability beyond study context (Baldwin, 2018; Patino & Ferreira, 2018).

Concerning the study of collective-level CT effects, for instance, it is put forward that *future analyses could benefit from broadening the range of utilized methodologies* (including SNA), and applying mixed-methods approaches (Jones & Woolcock, 2007). Moreover, prospective (particularly qualitative)

inquires on these themes could profit from *resorting to more standardized proxies* (Haushofer & Shapiro, 2016), which could in turn yield more replicable conclusions.

In the case of experiments on the sustainability of CT impacts, upcoming researches could devote attention to extracting a better understanding of the mechanisms driving persisting positive effects (i.e., their *constraining/enabling factors*; Devereux & Ulrichs, 2015), and the role of the so-called ‘long-term’ or ‘third-order’ variables (Bastagli et al., 2016; Molina Millán et al., 2019), of different CT designs (Ham & Michelson, 2018; Kondylis & Loeser, 2021) and of recipient features (Attanasio, Sosa, Medina, Meghir, & Posso-Suárez, 2021; de Mel et al., 2012; Oliveira & Chagas, 2020). In addition, qualitative analyses could attempt at better figuring out the *interrelations between different outcomes in determining program effect sustainability* (de Mel et al., 2012; Molina Millán, Macours, Maluccio, & Tejerina, 2020). Lastly, and most importantly, M&E professionals and scholars should, when practically feasible, *extend the timeframe of program evaluation for at least two years after the cessation of support* (Sabates-Wheeler et al., 2018), in order to produce sensible additional evidence on the sustainability of the impacts of (even) cash(-only) interventions.

Second, in terms of methodology, future investigations could benefit from the *gathering of baseline data* (Gertler, Martinez, Premand, Rawlings, & Vermeersch, 2016; Pratt, McGuigan, & Katzev, 2000), which was unfortunately not possible in the context of Busibi’s CT. Additionally, whereas this dissertation extensively and profitably applied SNA to the evaluation of cash transfer effects, further investigation efforts could have the purpose to generate an *increased understanding of the nature and emergence of tie formation mechanisms* (Jackson, 2014; Jackson, Rogers, & Zenou, 2017) as a result of the inception of a CT program – an aspect of which we barely scratched the surface through the resort to ERGMs, QAP, and RSiena. *Qualitative evidence* could also majorly contribute to explain the mediators, contingent events and factors, and causal pathways which led to the observed and CT-attributed changes, on any outcome of interest.

Finally, this PhD study calls for *additional research on the impacts of ‘truly’ universal cash transfers* – just like the two CT interventions analyzed by this dissertation, even though their universality was only attained at the village level (Jacques & Noël, 2021; Roberts, 2012). Producing further empirical evidence from universal programs is crucial, especially because of the *recurrent (and overlapping) economic and social crises* which characterize our time – and the *unsurprisingly growing relevance of debates on UBI and universal social protection agendas* in general (Afscharian, Muliavka, Ostrowski, & Siegel, 2022; Devereux & McGregor, 2014; ILO, n.d.). In these times of uncertainty and precarity, it is therefore paramount to take innovative approaches to social protection, and new solutions for our economies and labour markets – in the Global South and North alike (Horner, 2020) –, seriously into account.

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SAMENVATTING (SUMMARY IN DUTCH)

Cash transfers (CTs) zijn instrumenten van sociale zekerheid die de laatste jaren steeds meer gebruikt worden om armoede, kwetsbaarheid en ongelijkheid te verminderen in het globale Zuiden. Steeds meer empirisch onderzoek focust daarom op de effecten van CTs op een breed scala aan uitkomsten. Huidig onderzoek suggereert dat de voordelen van cash transfers vaak verder gaan dan alleen tijdelijke armoedebestrijding. Niettemin zijn er verschillende domeinen van CT impact die nog steeds onvoldoende zijn onderzocht, waardoor een aantal van deze onderzoekshiaten de belangrijkste doelstellingen van dit proefschrift vormen. Ten eerste richten de tot nu toe gepubliceerde empirische studies zich meestal op de effecten van cash transfers op individueel en huishoudniveau, waarbij de collectieve (of gemeenschaps-) dimensie buiten beschouwing wordt gelaten. Maar omdat CTs alomtegenwoordige interventies zijn in het leven van de ontvangers, kunnen ze de begunstigde gemeenschappen diepgaand vormen en beïnvloeden, en talrijke effecten op collectief niveau hebben. Een tweede fundamentele tekortkoming in de empirische literatuur is het feit dat de duurzaamheid van CT-effecten meestal niet in kaart wordt gebracht, namelijk de mate waarin ze op de lange termijn, na afloop van het programma, blijven bestaan. Het produceren van aanvullend gerelateerd bewijs is niet alleen op zichzelf belangrijk, maar vooral vanwege de verbanden met de steeds relevantere debatten over het 'transformatieve' potentieel van cash transfers (en sociale beschermingsprogramma's, meer in het algemeen), in tijden van sociale en economische crises (bijv. conflict, automatisering en klimaatverandering). In deze context volgen we het traject van twee universele onvoorwaardelijke - als zodanig Universal Basic Income (UBI) trials - cash transfer initiatieven in ruraal West-Oeganda, waarbij we hun impact evalueren op uitkomsten op collectief niveau (geoperationaliseerd als sociaal kapitaal, agency en collectieve actie), en hun algehele duurzaamheid, met name op domeinen (waaronder burgerschap, arbeid, en weerbaarheid tegen klimaatverandering) die nauw verweven zijn met discussies over de transformerende rol van sociale bescherming. Voor dit doel kiezen we een grotendeels kwantitatieve benadering, waarbij we vertrouwen op quasi-experimentele methoden voor impactevaluatie, zoals matchingtechnieken en difference-in-differences-schattingen. Daarnaast passen we op innovatieve wijze Sociale Network Analyse (SNA) toe op de beoordeling van CT-prestaties, waarbij we een aantal beschrijvende, visuele en inferentie-analyses gebruiken. Uiteindelijk biedt dit proefschrift een waardevolle basis voor toekomstig onderzoek en beleid, door belangrijke (en voornamelijk positieve) inzichten te geven over de (lange termijn) gevolgen van cash transfer programma's (en UBI). De uitgelichte bevindingen kunnen vervolgens ook nuttige aanbevelingen opleveren voor de bevordering van (universele) agenda's voor sociale bescherming, en in het bijzonder van SDG 1.3.

Trefwoorden: cash transfers, (transformatieve) sociale bescherming, uitkomsten op collectief niveau, sociaal kapitaal, agency, collectieve actie, duurzaamheid, burgerschap, arbeid, klimaatverandering, Social Network Analysis