Cash-Transfer Programs and Income-Generating Activities: Evidence from Rural Burundi

Jean Claude Nsabimana
Jeanine Nkunzimana
Lydia Bukuru
Charles Kabwigiri
Belyse Mupfasoni
Nesha Ramful
Rama Lionel Ngenzebuke

July 2020

pep.
partnership for
economic
policy

PAGE

IDRC ✳ CRDI
International Development
Research Centre | Centre de recherches pour le
développement international

pep
partnership for
economic
policy

UKaid
from the British people

policy analysis on growth and employment

Cash-Transfer Programs and Income-Generating Activities: Evidence from Rural Burundi

Abstract

We investigated the nexus between a cash-transfer program and creation of income-generating activities using evidence from rural Burundi. The cash-transfer program, named "Terintambwe," was designed as a package of four interventions that included a cash transfer to support household consumption, savings services, coaching services, and another cash transfer to start an income-generating activity. Three key findings emerged from our analysis. First, participation in the Terintambwe program was positively and significantly associated with the likelihood of creating an income-generating activity. Second, this positive association was driven mainly by two interventions: savings services and cash transfer to start an IGA. Third, we observed a gender-based pattern in that positive association: participation in the program was more positively and significantly associated with the creation of women-owned income-generating activities that it was with the creation of income-generating activities owned by men. More specifically, this gender pattern was driven by coaching services that benefited creation of women-owned income-generating activities only.

Authors

Jean Claude Nsabimana
Social Development Specialist
African Development Bank,
Burundi
nsabiclaud@yahoo.fr

Jeanine Nkunzimana
Analyst, Ministry of Finances
Burundi
nkunzijne@gmail.com

Lydia Bukuru
Statistician
Republic Bank of Burundi
Burundi
lylybu@yahoo.fr

Charles Kabwigiri
Senior Lecturer, University of
Burundi
Burundi
charles.kabwigiri@ub.edu.bi

Belyse Mupfasoni
PhD Student
Wageningen University and
Reseach (WUR)
University of Burundi (UB)
The Netherlands & Burundi
mbelyse2@yahoo.fr

Nesha Ramful
Research Analyst
Social Policy Research
Institute, Mauritius
nesharamful@yahoo.com

Rama Lionel Ngenzebuke
Research analyst
R.A Malatest & Associates Ltd.
Canada
ngenzeramajlionel@yahoo.fr

Table of Contents

I.   Introduction

A decade of conflict in Burundi ended in 2005, and the post-conflict period has been marked by peace-building efforts and the implementation of development strategies. The 2005-2015 decade was marked by positive growth (on average 4%), but poverty levels remained high (64.7%) according to 2015 data. The 2015 political crisis broke down the pace of growth that began in the early 2000s (-0.3% in 2015 and -0.7% in 2016).

As part of the global agenda to achieve Sustainable Development Goals (henceforth, SDG), the Government of Burundi established a number of national agendas and programs, most notably including the Cadre Stratégique de Lutte contre la Pauvrété. More specifically, to achieve SDG #1 (no poverty), the halving of the population that lives in poverty, and the eradication of extreme poverty, the government developed a national social-protection strategy and is currently implementing cash-transfer programs in partnership with international development agencies such as the World Bank. Furthermore, other development organizations have implemented cash-transfer programs at the local level.

Since 2015, the Government has engaged in a process of decentralization whereby local administrative units (communes) are given greater autonomy to develop and implement their own community-development plans. At the national level, monitoring in Burundi is conducted by the Institute of Statistics and Economic Studies of Burundi (ISTEEBU), yet no monitoring system exists at the local level to evaluate community-development plans or poverty at the community level.

This study uses data gathered from a community-based monitoring system (CBMS) approach to analyze the effect of a cash-transfer program (the Terintambwe program, implemented in Burundi between April 2013 and April 2015) on rural non-agricultural income generation.

The study addressed three research questions:

- Was participation in the Terintambwe program associated with a higher likelihood of creating an income-generating activity (hereafter, IGA) at the household level?
- Which component/intervention of the Terintambwe program drove that association, if any?
- Was there any gender pattern in the association between participation in the Terintambwe program and creation of an IGA?

II.   Literature Review

A number of studies have analyzed the effect of cash-transfer programs on economic activities. Studies conducted in Latin America have suggested that cash-transfer programs do not have a significant impact on participation in wage employment by adult men or women or on reallocation between agricultural and non-agricultural sectors (Alzúa, Cruces

& Ripani, 2013; Edmonds & Schady, 2012; Galiani & McEwan, 2012; Maluccio, 2010). Some studies, however, have suggested that cash-transfer programs reduce time spent working (Maluccio & Flores Montenegro, 2005; Teixeira, 2010). In Sub-Saharan Africa, cash-transfer programs have been found to increase labor supply in Malawi (Covarrubias, Davis & Winters, 2012) and South Africa (Ardington, Case & Hosegood, 2009) by reducing financial and time constraints.

A World Bank study (Fiszbein et al., 2009) noted that social-protection programs had changed household consumption patterns by providing money directly to women, who then spent more than men on high-nutritional-value food and other goods and services that contributed to the healthy development of children.

One of the issues raised about cash-transfers is their propensity to negatively affect the relationships between men and women in beneficiary households. At the heart of these concerns are the assumptions that: a) women are generally less able to control the use of money in the household; (b) men may use funds for antisocial expenses, including alcohol and cigarettes; and (c) intra-household conflict between husbands and wives may increase (Slater & Mphale, 2008).

A pilot project in Sri Lanka provided funding to some households and food rations to others. In households headed by men that received food, 54% of couples reported making joint decisions about using those rations. In households that received monetary assistance, more than 60% of couples reported decisions about spending the money were made jointly (Sandström & Tchatchua, 2010). Although the sample was limited, the results contradicted the assumption that women lost decision-making power when aid was monetary rather than food. Households headed by women bought more grains and meat and fewer cigarettes and dairy products.

But targeting women does not necessarily lead to their empowerment and does not necessarily promote gender equality. Giving money to women is not empowering in itself, and is not always a good thing for coupled relationships. In the absence of an analysis of how money is controlled within households, it would be risky to say that giving money to women could improve household life and women's status. Such assumptions may also reinforce sexist stereotypes by assuming that men use money irresponsibly. This does not mean that projects should not target women as beneficiaries, but that decisions to do so must be based on a good understanding of the dynamics of gender relations and realistic expectations regarding women's empowerment.

Several field experiments have found positive returns for subsidies for men and women micro-entrepreneurs, though they have largely ignored the fact that these individuals often belonged to the same household. A study that used data from randomized trials in India, Sri Lanka, and Ghana (Bernhardt, Pande & Rohini Rigol, 2019) showed that the gender gap in the performance of microenterprises was not the result of a lack of aptitude. Instead, there was a low average return for women's businesses because women's capital was invested in their husbands' businesses rather than in their own. When women were the only business operator in a household, capital shocks led to a sharp rise in profits. Income gains at the household level were equivalent regardless of the loan recipient or type of subsidy.

III. The Terintambwe Program in Burundi

The Terintambwe program was implemented by Concern Worldwide in two provinces of Burundi (Cibitoke and Kirundo) from April 2013 to April 2015. The program targeted the poorest households in the two provinces and provided them, in a gradual approach, with a package of interventions intended to lift them out of extreme poverty. These interventions included:

- Monthly cash transfers of 24,500 BIF over fourteen months to support consumption;
- Access to savings facilities and services, including training in financial literacy and encouragement to join a Saving and Lending Community;
- Skills training and coaching services on a variety of topics, including income-generating activities, mobile phones, HIV/AIDS, hygiene, nutrition, adult literacy, and gender equity; and
- Cash transfers in the form of working capital to start income-generating activities

The Terintambwe program targeted 2,600 extremely poor households in the provinces of Cibitoke and Kirundo using a community-based and participatory approach. Beneficiaries were selected by community members and leaders. One thousand households were randomly assigned to a high treatment group (T1), 1000 households to a low treatment group (T2), and 600 households to a control group (C). Both treatment groups received the aforementioned interventions. The difference between the high and low treatment groups was that the former received more intensive support from Concern Worldwide case managers than the latter.

IV. Data

4.1. Source of Data

We used data from a census conducted by the CBMS Burundi project team between October and November 2018. The census was conducted in areas where the Terintambwe cash-transfer program had been implemented. For budgetary reasons, the census was conducted in a sub-sample of the project areas. In specific, very remote areas that would have been difficult and costly to reach were not included. In the province of Cibitoke, the census was conducted in four collines (Rushimabarimyi, Rushiha, Gakerekwa, and Butaramuka) in two communes (Mugina and Mabayi). In the province of Kirundo, the census was conducted in two collines (Gitwe and Gaturanda) in the commune of Bugabira. In line with the CBMS approach, all households within each colline were covered.[1]

Survey instruments were developed and programmed into the CBMS APP

---

[1] For more details on how the CBMS approach was used in the data collection, see the CBMS design paper of this project (Nkunzimana et al., in press).

(Accelerated Poverty Profiling) tools for data collection, and data were sent to and consolidated in the CBMS Portal. The CBMS included three questionnaires:

- A household questionnaire that collected standard demographic and socioeconomic information at the household and individual levels (e.g., household composition, education, employment, health, consumption, and food security) as well as the GPS coordinates of the household;
- A community questionnaire that collected information at the community level, including such characteristics of the colline as service institutions and infrastructure (health and education facilities, service facilities, agricultural facilities, public transportation), road networks, water supply, credit institutions, registered business firms, non-agricultural activities, energy facilities, and PPAs (Programs, Projects, and Activities) implemented in the year prior to the survey; and
- A questionnaire specific to household involvement in the Terintambwe program: for example, whether the household benefited from the project, what components the household benefited from, who received project benefits, whether the household operated an active IGA, the start date of the IGA, the sector and owner(s) of the IGA, etc.

Census data were collected by teams of enumerators and supervisors using Android tablets installed with the CBMS Scan software. This was the first time that Android gadgets were used to collect census data of households and individuals in selected communities. Enumerators were natives of their respective provinces and had a university education in social sciences. Provincial and municipal authorities were involved in recruiting investigators in line with project's participatory approach.[2]

4.2. Descriptive statistics

a. Household Involvement in the Terintambwe Program

Table 1 presents descriptive statistics pertaining to household involvement in the Terintambwe program. In total, 4,839 households were covered, and 3.49% of them reported that they had benefited from the Terintambwe program. Some beneficiary households did not benefit from all project interventions, however. Indeed, while 3.45% of surveyed households benefited from the first program intervention (cash transfer for consumption), 2.29% benefited from the second program intervention (savings services) 2.89% benefited from the third program intervention (coaching services), and 2.48% of households benefited from the fourth program intervention (cash transfer for starting an IGA).

---

[2] For more details on how the CBMS promoted a participatory approach, see Nkunzimana et al. (in press).

Table 1: Household Involvement in the Terintambwe Program

Variable	Total # of observations	Count	Proportion
Beneficiary households—Terintambwe program	4,839	169	3.49%
Beneficiary households—Cash transfer for consumption	4,839	167	3.45%
Beneficiary households—Savings services	4,839	111	2.29%
Beneficiary households—Coaching services	4,839	140	2.89%
Beneficiary households -Cash transfer to start an IGA	4,839	120	2.48%
Different recipients of program interventions with the same household	169	7	4.14%
Multiple (two) decision-makers—Cash transfer for consumption	166	99	59.64%
Multiple (two) decision-makers—Cash transfer for stating an IGA	120	69	57.50%
The cash transfer recipient and decision-makers were the same—Cash transfer for consumption	166	162	97.59%
The cash transfer recipient and decision-makers were the same—Cash transfer for starting an IGA	120	119	99.17%

Within most beneficiary households, the same individual benefited from the four different program interventions. Indeed, the four interventions were delivered to different household members in only 4.14% of households.

Two of the project interventions involved cash transfers, either for the purpose of consuming (first intervention) or starting an IGA (fourth intervention). For these specific interventions, the person who receives the cash transfer (recipient) and the person who decides how to use it (decision-maker) might not be the same, which matters for the potential impact of the cash transfers. While the survey questionnaire allowed for reporting one cash recipient, it allowed reporting up to two cash decision-makers. There often were two cash decision-makers. The proportion of households featuring two cash decision-makers was 60% in households that received the cash transfer for the purpose of consumption; and 58% in households that received the cash transfer for the purpose of starting an IGA. Furthermore, the cash transfer recipient was also (one of) the decision-maker(s) in majority of households that received the cash transfers for consumption and for starting an IGA.

b.   Households' creation of IGA

Table 2 presents descriptive statistics regarding the characteristics of household IGAs. Out of the 4,839 surveyed households, only 3% reported having operated at least one IGA during the five years prior to the survey. Most of these households (96%) had operated just one IGA. At the time of the survey, 69% of IGAs were operating, 21% were closed permanently, whereas 10% were closed temporarily (including those closed seasonally). The three main sectors of IGAs were "wholesale and retail sales" (53%), "manufacturing" (17%), and "agricultural sector" (15%). 27% of IGAs were male-owned, 22% women-

owned, while 46% were jointly-owned by a male and a female. Half of IGAs were owned by one owner, and the other half by two owners. 43% of IGAs were subject to one decision-maker, and the remainder to two decision-makers. 48% of IGAs were managed by one manager, and the remainder was managed by two managers.

Table 2: Household IGAs Characteristics

Variable	Category	Count & Percentage
Households with an IGA *(N=4,839)*	-	122 (3%)
Number of IGAs *(N=121)*	One	117 (96%)
	Two	4 (3%)
Status of the IGA *(N=121)*	Currently operating	84 (69%)
	Closed permanently	25 (21%)
	Closed temporarily (including seasonally)	12 (10%)
Sector of the IGA *(N=121)*	Whole sale & retail sales	64 (53%)
	Manufacturing	21 (17%)
	Agricultural sector	18 (15%)
	Other	18 (15%)
Gender of the owner of the IGA *(N=121)*	Male-owned	33 (27%)
	Women-owned	27 (22%)
	Jointly-owned	56 (46%)
Ownership structure of the IGA *(N=121)*	One owner	60 (50%)
	Two owners	61 (50%)
Decision-making structure of the IGA *(N=121)*	One decision-maker	52 (43%)
	Two decision-makers	69 (57%)
Management structure of the IGA	One management	58 (48%)
	Two managers	63 (52%)

c.   Other household characteristics
Table 3 presents additional characteristics of surveyed households. The median household size was four members, and most (70%) households were headed by a man. The median age of the head of household was 40, and only 39% of heads of household were educated (i.e., had ever attended school).

Table 3: Household Characteristics

Variable	# of observations	Metric	Value
Household size	4,839	Median	4 members
Head of household was a man	4,839	Proportion	70%
Age of head of household	4,771	Median	40 years
Head of household was educated	4,771	Proportion	39%

V. Empirical Model and Findings

5.1. Empirical models
To assess whether participation in the Terintambwe program was associated with the creation of income-generating activities, we estimate the following logit model:

$$IGA_{ij} = \begin{cases} 1 \; if \left(IGA_{ij}^* = \alpha + \beta * T_{ij} + \gamma * X_{ij} + \delta * Z_j + \varepsilon_{ij}\right) > 0 \\ 0 \; otherwise \end{cases}$$

(Equation 1)

where:

- IGA_{ij} is a dummy equal to one (1) if a household i in community j has ever created at least one IGA , and IGA_{ij}^* its underlying latent variable; The outcome variable was created from a survey question asking respondents whether their household or any member of their household has ever operated any non-farm enterprises or income-generating activity during the previous five years. As such:

- T_{ij} is a vector of control variables related to the Terintambwe program; such as whether the household benefited from the project, whether the household benefited from a specific project component, the gender of the household member who benefited from a specific project intervention, etc. β is the vector of coefficients of interest representing the associations between the Terintambwe program and the likelihood of creating an IGA;

- X_{ij} is a vector of household-level characteristics, including household size, characteristics of the head of household (for example, age, gender, and education), and γ is a vector of corresponding coefficients;

- Z_j is a vector of community-level characteristics, such as commune-level fixed effects; and δ is a vector of their corresponding coefficients;

- α is the intercept, and ε_{ij} is an error distributed by the standard logistic distribution.

The Estimation of Equation 1 overlooked gender patterns in the likelihood of creation of an IGA because the dependent variable was at the household level and disregarded the gender of the owner of the IGA. For instance, it did not inform us whether participation in the Terintambwe program was differentially associated with the creation of men-owned and women-owned IGAs. To address this, we estimated the following multinomial logit model:

$$Gender\_IGA\_Owner_{ij} = f\left(T_{ij}, X_{ij}, Z_j\right) \text{(Equation 2)}$$

where:

- $Gender\_IGA\_Owner_{ij}$ is a categorical variable equal to 0 if no IGA was created

within household i in community j, 1 if a male-owned IGA was created, 2 if a women-owned IGA was created and 3 if a jointly-owned IGA was created. This outcome variable was created based on a survey question that asked about the gender of the owner(s) (up to two owners) of each listed IGA;

· T_{ij}, X_{ij}, Z_j are defined as in Equation 1.

5.2. Empirical findings

a. Household participation in the Terintambwe program and creation of an income-generating activity.

Table 4 displays the logit estimates of likelihood of creating an IGA at the household level as a function of participation in the Terintambwe program and other covariates (Equation 1). Each column represents a distinct model specification whereby different covariates were controlled.

In Columns 1 to 3, the main independent variable was a dummy for whether the household was a beneficiary of the Terintambwe program. We first controlled for that dummy solely, along with the intercept (Column 1). Next, we further controlled for household-level covariates (Column 2) and community-level fixed effects (Column 3). As Columns 4 to 6 show, the main independent variables were four dummies indicating whether the household benefited from each of the four project interventions. We first controlled for those four dummies, along with the intercept (Column 4). Next, we further controlled for household-level covariates (Column 5) and community-level fixed effects (Columns 6 and 7).

Table 4: Logit Estimates of Likelihood of Creation of an Income Generating Activity

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
hh_IGA_dv_new							
Terintambwe program—d	2.491***	2.839***	2.792***				
	(4.27)	(4.30)	(4.03)				
Cash transfer for consumption—d				1.069**	1.313***	1.369***	-0.0210
				(2.37)	(3.01)	(2.65)	(-0.02)
Savings services—d				0.352	0.103	0.135	3.120**
				(0.51)	(0.18)	(0.18)	(2.19)
Coaching services				0.541	0.606**	0.404**	1.205
				(1.44)	(2.35)	(2.14)	(0.57)
Cash transfer to start an IGA—d				0.873	1.181	1.237	2.447***

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
			(1.27)	(1.45)	(1.44)	(2.86)	
Household Size	0.269***	0.249***		0.270***	0.249***	0.252***	
	(8.83)	(5.70)		(9.38)	(5.82)	(5.61)	
Head of household was a man—d	0.174	0.130		0.206	0.160	0.116	
	(0.97)	(0.62)		(1.14)	(0.76)	(0.55)	
Age of head of household	-0.00742***	-0.00841***		-0.00717***	-0.00800***	-0.00872**	
	(-2.30)	(-3.55)		(-3.45)	(-5.09)	(-2.29)	
Head of household was educated—d	0.974**	0.868**		0.988**	0.888**	0.891**	
	(2.55)	(1.96)		(2.37)	(1.85)	(1.89)	
Constant	-3.763***	-5.464***	-5.419***	-3.754***	-5.505***	-5.453***	-5.483***
	(-8.00)	(-10.70)	(-9.45)	(-8.00)	(-9.44)	(-8.76)	(-9.39)
Fixed effects	No	No	Yes—Colline	No	No	Yes—Colline	Yes—Colline
Interaction terms	No	No	No	No	No	No	Yes
Observations	4839	4771	4771	4839	4771	4771	4753
Pseudo R-squared	0.077	0.142	0.162	0.079	0.145	0.165	0.166

t statistics in parentheses

* p<0.10, ** p<0.05, *** p<0.01. All standard errors clustered at commune level.

The results showed that the coefficient of the dummy for household participation in the Terintambwe program was positive and significant at 1% (Columns 1 to 3), even after controlling for household-level covariates and colline-level fixed effects (Columns 2 and 3). This suggests that household participation in the Terintambwe program was positively and significantly associated with the likelihood that a household would create an IGA.

The coefficient of the dummy for the cash transfer for consumption was positive and significant at 5% before and after controlling for other covariates (Columns 3 to 6). The coefficients of the dummies for "coaching services" and "cash transfer to start an IGA" were positive and significant at 5% only when other covariates were controlled for (Columns 5 and 6), though the latter coefficient was weakly significant at 10%.

Column 7 is different from Column 6 in that it shows the results of controlling for the interaction terms among the four dummies for household participation in the specific project interventions. This model specification stood for our preferred specification because not every household beneficiary actually received the full package of interventions. When these interactions were accounted for, the coefficients associated with the dummies for "savings services" and "cash transfer to start an IGA" both became positive and significant at convention levels (1% and 5%).

Altogether, the findings shown in Columns 4 to 7 suggest that household participation in specific project interventions was differentially associated with the likelihood of creating an income-generating activity, depending on model specification. Findings from our preferred specification nonetheless suggested that receiving savings services and cash transfers to start an IGA were positively and significantly associated with the likelihood of creating an income-generating activity.

Regarding other control variables, household size and whether the head of household was educated were positively and significantly associated with the likelihood that the household would create an IGA. Conversely, the age of the head of household exhibited a negative and significant association with the outcome variable. It is still important to note that the magnitude of significant coefficients associated with Terintambwe program variables was quite a bit larger than the magnitude of any other significant coefficient associated with characteristics of the (head of) household.

b.   Gender patterns in the nexus between participation in the project and creation of an income-generating activities
Table 5 displays multinomial logit estimates of the model described in Equation 2. The dependent variable was a categorical variable equal to 0 when there was no income-generating activity in the household, 1 if there was an IGA owned by a man (MIGA), 2 if there was an IGA owned by a woman (FIGA), and 3 if there was a jointly-owned IGA (JIGA).

Each Column (I to VI) represents a distinct model specification, whereby a set of specific main independent variable(s) and other covariates were controlled. In Columns I to III, the main independent variable was a dummy indicating whether the household was a beneficiary of the Terintambwe program. We first controlled for that dummy solely, along with the intercept (Column I). Next, we further controlled for household-level covariates (Column II) and community-level fixed effects (Column III). In Columns IV to VI, the main independent variables include the four dummies indicating whether the household benefited from each of the four project interventions. We first controlled for those four

dummies, along with the intercept (Column IV). Next, we further controlled for household-level covariates (Column V) and community-level fixed effects (Columns VI).

Within each of those six columns, there are three un-stacked equations (Subcolumns 1 to 3) representing all the outcome variable categories except the base/reference category. To better document gender patterns in the nexus between participation in the project and creation of income-generating activities, the base equation was set as an IGA owned by a man. Within each model specification, then, the three Subcolumns represents the equation specific to (i) cases with no income-generating activity (No IGA, Subcolumn 1); an IGA owned by a woman (FIGA, Subcolumn 2); and a jointly-owned IGA (JIGA, Subcolumn 3), respectively.

The results showed that the coefficient associated with the dummy for household participation in the Terintambwe program was significant at conventional levels in all specifications (Columns I to III), even after controlling for household-level covariates and colline-level fixed effects (Columns II and III). More specifically, that coefficient was consistently negative and significant in every Subcolumn 1 of Columns I, II and III. This simply suggests that household beneficiaries were more likely to create IGAs owned by men than create no IGA at all. Next, that coefficient was consistently positive and significant in every Subcolumn 2. This suggests that households that benefited from the project were more likely to create a women-owned income-generating activity, as compared to creating a male-owned income-generating activity; even after controlling for other covariates. There was no significant difference when it comes to jointly-owned income-generating activities as compared to male-owned income-generating activities.

Speaking of specific project interventions, the coefficient of the dummy for coaching services was positive and the only significant, before and after controlling for other covariates (Columns IV to VI, Subcolumn 2); whereas the other project components' indicators exhibit non-significant coefficients. This suggests that household that benefited from coaching services were more likely to create women-owned income-generating activities, as compared to creating male-owned income-generating activities.

Table 5: Multinomial Logit Estimates of Likelihood of Creating an IGA (with Owners' Gender)

	(I) No IGA (1)	FIGA (2)	JIGA (3)	(II) No IGA (1)	FIGA (2)	JIGA (3)	(III) No IGA (1)	FIGA (2)	JIGA (3)	(IV) No IGA (1)	FIGA (2)	JIGA (3)	(V) No IGA (1)	FIGA (2)	JIGA (3)	(VI) No IGA (1)	FIGA (2)	JIGA (3)
Terintambwe program—d	-1.956** (-2.09)	1.520*** (2.71)	0.233 (0.46)	-2.311** (-2.12)	1.163* (1.73)	0.392 (0.68)	-2.030 (-1.53)	1.411* (1.73)	0.745 (0.74)									
Cash transfer for consumption -d										-0.826 (-0.71)	1.248 (1.33)	-0.397 (-0.16)	-0.984 (-0.74)	0.951 (1.01)	-0.194 (-0.08)	-0.737 (-0.47)	0.852 (0.65)	0.449 (0.15)
Savings services—d										-1.128 (-1.23)	-0.945 (-0.97)	-1.041 (-1.17)	-0.889 (-1.06)	-0.743 (-0.68)	-1.072 (-0.97)	-1.192 (-1.09)	-0.813 (-0.73)	-1.456 (-1.43)
Coaching services—d										0.347 (1.42)	1.373*** (4.31)	0.833 (0.59)	0.299 (0.64)	1.486*** (3.00)	0.839 (0.60)	0.712 (0.94)	2.209*** (4.15)	0.798 (0.55)
Cash transfer to start an IGA—d										-0.747 (-0.56)	-0.241 (-0.14)	0.717 (0.46)	-1.201 (-1.00)	-0.690 (-0.36)	0.705 (0.47)	-1.328 (-1.01)	-0.924 (-0.48)	0.714 (0.45)
Household Size				-0.276*** (-5.62)	-0.0534 (-0.69)	0.00433 (0.20)	-0.246*** (-3.54)	-0.0261 (-0.26)	0.00672 (0.43)				-0.279** (-6.36)	-0.0615 (-0.91)	0.00355 (0.15)	-0.251*** (-3.79)	-0.0403 (-0.43)	0.00177 (0.08)
Head of household was Male—d				-2.478*** (-2.75)	-4.468*** (-3.92)	-0.760 (-0.53)	-2.389** (-2.51)	-4.388*** (-3.78)	-0.665 (-0.45)				-2.507** (-2.78)	-4.488*** (-4.24)	-0.743 (-0.52)	-2.445*** (-2.59)	-4.451*** (-4.11)	-0.683 (-0.47)
Head of household' Age				0.00684 (0.59)	0.0109** (2.43)	-0.0127 (-0.53)	0.00577 (0.48)	0.0100* (1.77)	-0.0151 (-0.61)				0.00739 (0.71)	0.0122*** (2.60)	-0.0122 (-0.50)	0.00749 (0.71)	0.0122** (2.49)	-0.0125 (-0.52)
Head of household was educated—d				-0.482 (-1.57)	1.199** (4.78)	0.372* (1.79)	-0.318 (-0.74)	1.445*** (12.66)	0.384** (2.06)				-0.490 (-1.45)	1.211** (4.47)	0.390* (1.71)	-0.315 (-0.67)	1.494*** (11.24)	0.440** (2.07)
Colline=22							-1.000*** (-3.67)	-0.0146 (-0.10)	-1.297*** (-4.71)							-1.022*** (-4.07)	-0.0660 (-0.60)	-1.275*** (-4.52)
Colline=41							0.894*** (9.76)	2.129*** (51.78)	-0.468*** (-10.64)							0.902*** (6.94)	2.278*** (13.80)	-0.517*** (-24.84)
Colline=51							0.496*** (2.62)	1.265*** (5.48)	-0.255*** (-3.02)							0.482** (2.42)	1.343*** (4.14)	-0.286*** (-3.78)
Colline=106							-1.045*** (-9.51)	-0.154 (-1.17)	-0.162** (-2.04)							-1.077*** (-10.35)	-0.121 (-0.58)	-0.228** (-2.10)
Colline=107							0.211** (2.25)	0.577*** (3.57)	0.691*** (11.71)							0.234*** (2.64)	0.493** (1.98)	0.685*** (8.25)
Constant	4.901*** (7.47)	-0.693 (-1.43)	0.386 (1.02)	8.500*** (6.63)	1.882 (1.40)	1.363* (1.72)	8.282*** (7.60)	0.957 (0.92)	1.372** (2.23)	4.902*** (7.47)	-0.694 (-1.43)	0.405 (1.05)	8.527** (6.43)	1.887 (1.42)	1.338* (1.69)	8.304*** (7.34)	0.929 (0.83)	1.332** (2.19)
Fixed effects (colline level)	No	No	No	No	No	No	Yes	Yes	Yes	No	No	No	No	No	No	Yes	Yes	Yes

Observations	4839	4771	4771	4839	4771	4771
Pseudo R-squared	0.070	0.161	0.190	0.073	0.165	0.195
ll	-714.8	-643.1	-621.1	-712.3	-640.2	-617.5

t statistics in parentheses. * p<0.10, ** p<0.05, *** p<0.01. All standard errors clustered at the commune level.

VI. Conclusion and Policy Implications

We have documented the nexus between participation in the Terintambwe cash-transfer program and the creation of income-generating activities in selected communities in two rural provinces of Burundi. Our findings pointed to a positive and significant association: households that participated in the program were more likely to create an income-generating activity.

The Terintambwe program cash-transfer program was designed as a package of interventions with specific purpose. To the extent that household beneficiaries benefited from the program's interventions, we also documented the nexus between specific program interventions and the creation of income-generating activities. We found that "savings services" and "cash transfer to start an IGA" were positively and significantly associated with the likelihood of creating an income-generating activity. The magnitude of this association was significantly larger than that of any other association between the likelihood of creating an income-generating activity and characteristics of the (head of) household. Coaching services and cash transfers for consumption did not seem to matter significantly for creation of income-generating activities. These findings were consistent with the intended purpose of each specific intervention, as described in Section 3.

We also documented the existence of gender patterns in the nexus between participation in the Terintambwe program and the creation of income-generating activities. More specifically, we investigated whether participation in the program was associated with the creation of income-generating activities owned by an individual of a particular gender: i.e., IGAs owned by men, women, or jointly. We found that participation in the Terintambwe program was associated with the creation of women-owned IGAs more than with the creation of men-owned IGAs. Furthermore, this gender pattern was driven by coaching services because they were the only program intervention positively and significantly associated with the creation of women-owned income-generating activities.

However, while there were significant results, the number of beneficiaries of the cash-transfer program included in the sample population was very low compared to the target population. Moreover, the number of these beneficiaries varied in terms of the benefits they received from the program. This means that the significant findings in this study apply only to the selected communities included in this study. Thus, further study that involves a larger sample of household beneficiaries, that covers more geographic areas, and which ensures that program participation is not under-reported by beneficiaries would be necessary to confirm whether our findings can be observed in other communities, collines, communes, or provinces of Burundi. In this regard, the Merankabandi project, a cash-transfer program implemented in Burundi in July 2017 and funded by the World Bank, is a good opportunity because, as compared to the Terintambwe program, it covers a greater number of households (48,000) in four provinces (Gitega, Karusi, Kirundo, and Ruyigi).

References

Alzúa, M. L., Cruces, G., and Ripani, L. (2010). Welfare Programs and Labor Supply in Developing Countries: Experimental Evidence from Latin America. *Journal of Population Economics* 26(4): 1255–-84.

Ardington, C., Case, A., and Hosegood, V. (2009). Labor Supply Responses to Large Social Transfers: Longitudinal Evidence from South Africa. *American Economic Journal: Applied Economics*, 1(1), 22-48.

Bernhardt, A. F., Pande, E., and Rohini Rigol, N. (2019). Household Matters: Revisiting the Returns to Capital among Female Microentrepreneurs. *American Economic Review: Insights*, *1*(2), 141-160.

Covarrubias, K., Davis, B., and Winters, P. (2012). From Protection to Production: Productive Impacts of the Malawi Social Cash Transfer Scheme. *Journal of Development Effectiveness*, 4(1), 50-77.

Edmonds, E. V. and Schady, N. (2012). Poverty Alleviation and Child Labour. Policy Research Working Paper No. 4702. Washington, DC: World Bank.

Fiszbein, A., Schady, N., Ferreira, F., Grosh, M., Keleher, N., Olinto, P., and Skoufias, E. (2009). Conditional Cash Transfers: Reducing Present and Future Poverty. Washington, DC: World Bank. Available at https://econpapers.repec.org/RePEc:wbk:wbpubs:2597.

Galiani, S. and McEwan, P. (2012). The Heterogeneous Impact of Conditional Cash Transfers. *Journal of Public Economics, 103*, 85-96.

Maluccio, J. and Flores Montenegro, R. (2005). Impact Evaluation of a Conditional Cash Transfer Program: The Nicaraguan Red de Protección Social. International Food Policy Research Institute Report 141. Washington, DC: IFPRI.

Maluccio, John. 2010. The Impact of Conditional Cash Transfers on Consumption and Investment in Nicaragua. *The Journal of Development Studies,* 46, 14-38.

Nkunzimana et al. (in press). Burundi CBMS Design. Poverty for Economic Policy (PEP).

Sandström, S. and Tchatchua, L. (2010). Do Cash Transfers Improve Food Security in Emergencies? Evidence from Sri Lanka. In Omamo, S. W., Gentilini, U., and Sandström, S. (Eds), *Revolution: From Food Aid to Food Assistance.* Rome: World Food Programme.

Slater, R. and Mphale, M. (2008). *Cash Transfers, Gender and Generational Relations: Evidence from a Pilot Project in Lesotho*. London: Humanitarian Policy Group.

Teixeira, C. G. (2010). A Heterogeneity Analysis of the Bolsa Família Programme Effect on Men and Women's Work Supply. International Policy Center for Inclusive Growth Working Paper 61. Brasília, Brazil: UNDP.