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FINANCIAL INCLUSION IN BURUNDI: THE USE OF MICROFINANCE SERVICES IN SEMI-URBAN AREAS

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This research tried to analyze the ability of microfinance institutions to become effective alternatives to traditional banks in order to improve financial inclusion of low-income populations in Burundi. After analyzing data with logistic regressions (logit), we found that microfinance institutions contribute (i) to address barriers to financial inclusion, (ii) to foster the accessibility to formal financial services for men/women, married individuals, low-income people, educated individuals, and (iii) to facilitate the use of formal financial services by low-income populations living in Burundi semi-urban areas. However, microfinance should not be seen as the ultimate solution to break-up the poverty cycle for low-income populations in developing countries like Burundi, but rather as a driving for the socio-economic development of low-income individuals so that they can gradually increase their participation in the community development activities.

Keywords: Financial Inclusion, Access Barriers, Microfinance Institutions, Semi-urban Areas, Burundi
JEL Classification: G21, O16, O55, P34

1. INTRODUCTION

The development of a country is linked to the stability of the financial market and the accessibility of its low-income populations to financial services. The concept of the development of low- income populations can be analyzed according to human development indicators on one hand, and to the level of access to banking services on the other hand. It is, however, important to analyze human development from various angles and more particularly by taking into account inclusion factors in terms of participation of low-income rural and semi-urban populations in socioeconomic activities. This inclusion vision of the development involves among other things. The analysis of the accessibility to financial services, that is, financial inclusion. Financial exclusion is a global worldwide issue.

Financial inclusion is important for improving the living conditions of low-income populations like farmers, small shopkeepers and other vulnerable populations (Mahendra, 2006; Demirgüç-Kunt and Klapper, 2012; Bazira Bigawa, 2018), who constitute the majority of the population in sub-Saharan Africa. Thus, financial inclusion aims to foster accessibility to financial services and proximity financial facilities, but also to enhance the development of alternative and innovative models at the level of processes, products, services and institutions.

Various reasons may explain the low level of financial inclusion in Sub-Saharan countries and more particularly in Burundi. In fact, traditional financial institutions like banks offer products and services which, most of the time, are inaccessible to an important part of the active population, essentially for reasons like the lack of documents required by banks, the lack of confidence in this particularly less educated category of customers in conventional banks, the physical distance separating these potential users from banking service points, costs of transactions and the insufficiency of guarantees to take full advantage of various banking services.

Several alternative models have been developed to reduce access barriers to financial services and microfinance seems to establish itself as the most suitable solution in developing country because of its financial and social nature. For many authors microfinance is a major revolution in modern finance (Robinson, 2001). Microfinance has thus been introduced to meet the needs of low-income populations. It is meant to provide mechanisms for the allocation of resources in terms of small amounts of money to the unbanked or low-income people or groups of people to allow them to start small income- generating activities tailored to their needs and adapted to their environment. Microfinance must therefore be able to provide a certain degree of freedom of action for self-sufficiency, which is decisive for the well-being of the poorest. Thus, Yunus (1998), who is considered to be the father of solidarity microfinance, has even assimilated microfinance to a major and unavoidable economic model in reducing poverty.

In Burundi. difficulties in accessing financial products and services for different segments of the population began to be taken into account between 2003-2006 with the amendment to the banking Act in 2003 and the promulgation of the decree governing microfinance institutions in 2006 following the initiative of the Central Bank (Bank of the Republic of Burundi). BRB in short. According to the survey on financial inclusion in Burundi (2012), only 3.7% of the adult population has access to a bank account in a traditional banking institution while more than 23% of the population uses formal or informal non-banking institutions. According to this study. 73.3% of the population is completely excluded from the financial system while 90% of the population lives in rural and semi-urban areas.

Financial inclusion is a global concern as shown in the multitude of publications which aim to analyze existing solutions to address various barriers to the accessibility of financial services both at the level of supply and demand. In Burundi, unfortunately, apart from the investigation conducted by the Central Bank on financial inclusion in 2012 and the national strategy for financial inclusion in 2014, no scientific research has

been conducted on financial inclusion so far. The few existing studies tend to analyze the impact of microfinance institutions on the socio-economic development of the poor or low-income populations without taking into account the inclusive aspect which is actually the purpose of microfinance. The present study is therefore motivated by the desire to fill the gap on the lack of documentation, literature and framework for the analysis of access to financial services in Burundi.

The purpose of this study is to assess the capacity of microfinance institutions in Burundi to foster accessibility to basic financial services for low-income populations in semi-urban areas. It therefore aims to assess the contribution of microfinance institutions to enhance financial inclusion in Burundi and to analyze the ability of Microfinance institutions to become effective alternatives to traditional banks by addressing access barriers to financial services. The main objective of this study is to analyze the determinants of using services offered by Microfinance Institutions in countryside (semi-urban areas in this case), and to investigate on barriers to their usage. We use data from the 2012 national survey on financial inclusion that was conducted by the Bank of the Republic of Burundi to answer two questions, namely: (i) What are the factors that contribute to the use of services offered by Microfinance Institutions in semi-urban environments?, and (ii) Do services offered by microfinance institutions an adequate alternative to the limitations due to barriers to access the traditional financial system?.

This paper is structured as follows. It starts in the Section 2 with a review of related literature on the concept of microfinance, the notion of financial inclusion and the main causes of financial exclusion as well as the main barriers to financial inclusion. Section 3 briefly describes methods and data. Section 4 presents the results of estimations and Section 5 concludes.

2. LITERATURE REVIEW

In this section we provide the review of existing literature on key concepts on Financial Inclusion and Microfinance. We also present an overview of access barriers to Financial Inclusion.

2.1. Significance of Microfinance

Low-income populations constitute the majority of people living in developing countries like Burundi. For their well-being, these poor people need to access banking and financial instruments that might enable them to improve their socio-economic situation. The design of an efficient financing method adapted to their needs is therefore a major breakthrough and an obvious priority for inclusive socio-economic development. Microfinance is one of the many aspects and deployment tools of an inclusive financial system in developing countries.

Microfinance aims to meet the needs of low-income people by implementing

mechanisms for the allocation of resources in terms of small amount loans to individuals or groups of people who do not normally have access to conventional banking services to enable them to engage in small income-generating activities tailored to their needs and adapted to their environment. Microfinance must thus be able to provide a certain degree of freedom of action toward self- sufficiency, which is crucial to improve the well-being of the poor to achieve effective socio-economic integration. That is why Microfinance offers a wide range of products such as deposits, small loans, money transfer, payment services as well as various types of insurance products for the poor and the weakest depending on their income so that they can generate more revenues and improve their living conditions. Most of the time, such funding allows these poor people to invest individually or collectively in micro-enterprises and small businesses (Dillinger, 2003).

The functional basis of Microfinance lies in its capacity to provide funds like small loans to solidarity groups that include people with no access to traditional banking services to enable them to develop income-generating activities. These micro-credits to both individuals and groups of people allow recipients to undertake micro-projects and create small businesses or production micro-enterprises. The activity generated by beneficiaries of such loans results not only in the creation of direct employment for themselves but also indirect employment for the production chain related to their activities. If the investment obtained through microcredit is substantial enough to start a small production unit, the beneficiary may recruit direct labor to assist him in his activity. Financing micro-projects and small businesses through small loans granted via Microfinance thus permits to stimulate economic activity and to create employment directly or indirectly in a community. By generating activity, micro-credits granted through Microfinance create employment which benefits the development of the entire community (Sundaresan, 2008; Johnson and Rogaly, 1997; Yunus, 2003; Ahmed, 2004).

By allowing low-income households to acquire funds to finance their micro-projects. Microfinance increases the income of households, allowing them to increase their savings as well as their investment capacity. Therefore, Microfinance plays an important role at the economic level because it allows people with low income who received small loans to participate effectively in the local economy and achieve financial stability which gives them more autonomy (Arner, 2007; Robinson, 2001). However, micro-credits are only a part of combined factors to actually achieve a sustainable poverty reduction scheme since the major problem remains education and the capacity of investment management for the beneficiaries of loans via Microfinance (Halder and Mosley, 2004; Chen and Ravallion, 2008; Khandker, 2005; Yunus, 2003; Armendáriz and Morduch, 2010).

It is in this context of correcting recurrent errors in the modeling of micro-credits, where loans were given to individuals with no management expertise that most Microfinance Institutions offer training in the design and management of micro-projects to beneficiaries grouped into solidarity groups so that micro-credits granted to them may actually break the cycle of poverty and reduce dependence. Microfinance is an effective

tool in the reduction of poverty as it allows poor and low-income people to improve their living standard as well as their financial stability through the growth of productive activities, thus finally allowing them to increase their income and to create jobs.

2.2. Financial Inclusion

The concept of inclusion is broad and multidimensional. According to Demirgüç Kunt and Klapper (2013), access to financial services must be distinguished from their use. They consider that the use of financial services is two-fold in relation to the financial market. Contrary to common usage, the authors consider that access to financial services refers strictly to the supply side of financial institutions. According to Han and Melecky (2013), the ultimate aim of financial inclusion is to provide everyone with the opportunity to improve their daily lives and living standards by increasing their financial stability, with the ultimate goal of sustaining this financial stability to prevent future uncertainty for individuals.

For Fungáčová and Weill (2015), economic development is linked to the financial activity of a country and its population. These authors consider that financial inclusion which they define as the use of formal financial services is a crucial element of economic growth. They structure the analysis of financial inclusion around three main services, namely (i) the possession of a bank account in a formal financial institution, (ii) recourse to savings in a formal institution, and (iii) the recent use of a bank credit.

The assessment of the level of financial inclusion is strongly dependent on the concept of the unbanked population excluded from a given financial system. There exist two categories of excluded people, namely: (i) people involuntarily excluded from any access to financial services on one hand, and (ii) people who are able to access financial services but who voluntarily choose to exclude themselves, on the other hand. To have an objective assessment, it is preferable to focus on the analysis of the usage of financial services. But to have a global vision of the level of financial inclusion, analysis must take into account several factors such as usage of financial services, barriers to access the financial system, access to financial services and the quality of the services offered. i.e., if they correspond to the needs of potential consumers of such services.

This multidimensional aspect of the analysis of financial inclusion is reflected in the Index of Financial Inclusion (IFIs) proposed by Sarma (2008). Generally, the analysis of financial inclusion takes into account three dimensions, namely (i) access, (ii) usage and (iii) quality of financial services. Usage and access determine the level of inclusiveness of the financial system of a country. Usage is generally measured by using the number of deposit or credit accounts per 1000 adults as a basic indicator but other complementary indicators such as the percentage of adults who use their mobile devices to perform transactions can also be used. To measure access to financial services, indicators such as the level of penetration of the financial system like the number of banks and bank branches per 1,000,000 people, the number of ATMs per 100,000 adults. or even the number of mobile banking accounts for mobile payments may be used.

Required documents to open an account and annual charges can also be added (account maintenance fees, withdrawal fees, transaction costs and methods of payment, etc.) to keep an account active (Beck et al., 2007; Sarma, 2010; Honohan, 2008). These indicators may be modified or adapted to the situation of each country to have results that correspond to the reality and particularities of each country. Thus, to have a complete view of the accessibility of financial services like traditional banking services and alternative financial services such as microfinance institutions or even innovative banking services such as mobile banking should be included (Christen et al., 2004; Peachey and Roe, 2006).

Barriers to access the formal financial system concern both demand and supply sides (Collins et al., 2009; Kempson, 2006). The World Bank (2008) considers that financial exclusion can be voluntary or involuntary. Insofar as exclusion is involuntary, policies and appropriate strategies must be put in place to facilitate access to financial services for low-income populations. Barriers to access the formal financial system concern both demand and supply sides (Collins et al., 2009; Kempson, 2006). These barriers to access financial services may vary from one country to another. Generally, physical barriers, lack of suitable financial products, terms and conditions of banks that are not suitable to low income groups and documentation barriers are considered as supply side barriers. While, social barriers, cultural barriers, psychological barriers, lack of financial literacy and the lack of financial capability are considered as demand side barriers. Involuntary financial exclusion is linked to access barriers on the supply side, while voluntary self-exclusion is linked to demand side barriers.

3. METHODS AND DATA

In this section, we present methods and approaches that guide the present research, the empirical model and the variables. The data used and descriptive statistics of the sample.

3.1. Methodology

As no hypothesis has been formulated, this research follows an inductive reasoning approach to avoid rigidity in the treatment and analysis of data. It uses a hybrid approach. That is, it is both qualitative and quantitative in nature because of the multidisciplinary aspect of the subject under study. This study is a cross-cutting research which seeks to analyze both demand and supply to assess the capacity of Microfinance Institutions to reduce barriers to financial inclusion.

To be able to undertake this study, we mainly used secondary data from a demand side survey conducted by the Bank of the Republic of Burundi in 2012. It will be supplemented by statistical data on the supply side from the Central Bank of Burundi (BRB). The data from the survey were gathered through interviews of 3220 individuals

aged between 18 years and above from the 129 communes of the country, fifteen focus group discussions from each of the 19 provinces and a supply side survey of the 33 financial institutions licensed by the Central Bank in 2012. These individuals were identified from the general population using stratified random sampling. Based on the fact that the use of financial services by individuals is the most observable dimension of financial inclusion, we considered the probability of the use (dependent variable) of these services in a formal framework as the basis of our analysis to determine individual characteristics that influence financial inclusion in semi-urban areas in Burundi through formal financial services offered by Microfinance Institutions.

To be able to carry out this study we used multiple logistic regressions in our analysis as we have a dichotomous dependent variable type that can take only two values 0 or 1. To carry out the estimates of the logistic model (logit) to analyze the determinants of semi-urban financial inclusion in Burundi, we use the following equation proposed by Bazira Bigawa (2018):

$$U_i = \beta_0 + \beta_1 Gender + \beta_2 Income + \beta_3 Education + \beta_4 Employement + \beta_5 Marital + \varepsilon_i. \quad (1)$$

The dependent variable U represents the use of formal financial services by an individual i which takes the value 1 in case of use and zero in case of non-use. Individual characteristics like Gender, Income, Education, Employment, and Marital Status constitute independent variables of the equation.

Table 1. Description of Independent Variables

Variable	Description	Coding
Gender	Variable that represents the respondent's sex	0 = female. 1 = male
Education	Variable that represents the respondent's education level	0 = no level 1 = less than high school 2 = high school and above
Marital status	Variable that represents the respondent's marital status	0 = single or not living together 1 = married or living together
Employment	Variable that represents the respondent's employment status	0 = employed 1 = unemployed
Income	Variable that represents the respondent's monthly income	Q1. Q2. Q3

The table above presents individual characteristics used in our estimates to analyze the use of Microfinance Institutions services. As shown in Table 1, gender stands for male or female (0 = female, 1 = male). The level of education of the individuals surveyed is assessed in relation to whether they have completed secondary and university education or have no education level (0 = no level, 1 = less than high school, 2 = high school and above high school). Marital status stands for individuals being

single married or living together without being married (0 = single, 1 = married or living together without being married). The employment status of individuals considers whether they work for an employer or for themselves regardless of the type of activity they are involved in (0 = employed, 1 = unemployed). The monthly income of the individuals surveyed is divided into three categories ranging from the extremely poor (Q1), low-income individuals (Q2) and above-average (the least poor) found in the third category (Q3).

3.2. Data

The data for this study was collected by the Institute of Statistics and Economic Studies of Burundi for the National Survey on Financial Inclusion carried out by the Central Bank (BRB) in 2012. They were collected by interviewing 3220 individuals as previously indicated, but for semi-urban populations who in fact constitute the sample for this study; the number of persons surveyed comprises 2897 individuals only after removing the 323 people living in the city of Bujumbura who participated in the survey.

After a descriptive presentation of the sample, the analysis tried to evaluate individual factors to determine the main characteristics that positively favor financial inclusion through services proposed by Microfinance Institutions on the one hand to determine the capacity of Microfinance Institutions to limit barriers to financial inclusion. To obtain significant results as well as their valid interpretation, a structured process of collection and analysis of numerical data was necessary. These data were summarized and schematized in graphics and tables to facilitate their interpretation.

3.3. Descriptive Statistics of the Data

The following table describes the respondents' socio-economic characteristics at the individual level. The sample for this study comprised a total number of 2897 adult people aged 18 or over 18 living in semi-urban areas. 52.2% of which are women, i.e. 1513 people. The majority of these people, who represent 36.5% of the sample are in the age range of less than 30 years, which represents a total number of 1056 people. As far as the education level of the respondents is concerned, 43% of them have no education at all. The majority of those with a primary education level represent 45.4%, while only 11.5% have completed secondary and university education. As for employment, only 251 (8.7%) respondents have a job whereas the remaining 2646 of those surveyed, i.e. 91.3% are unemployed.

Finally, as far as monthly income is concerned, we have three categories distributed as follows: (i) 84.7% in the first category, meaning that they are extremely poor; (ii) 9.2% of the respondents that represent low-income populations; (iii) while the top quarter representing high-income groups represent only 6.1% of the individuals surveyed. It should be noted that the majority of people living in the countryside are extremely poor.

Table 2. Descriptive Statistics of the Sample at Individual Level

Variables	Number of respondents	Percentage
Gender		
Female	1513	52.2
Male	1384	47.8
Total	2897	100.0
Age		
18-29	1056	36.5
30-39	683	23.6
40-49	504	17.4
50-59	446	15.4
Beyond 60	208	7.2
Total	2897	100.0
Marital status		
Single	731	25.2
Married /cohabited	2166	74.8
Total	2897	100.0
Education		
No education level	1247	43.0
Less than high school	1316	45.4
High school and above	334	11.5
Total	2897	100.0
Income		
Less than 50000 BIF (Q1)	2454	84.7
50000-100000 BIF (Q2)	267	9.2
More than 100000 BIF (Q3)	176	6.1
Total	2897	100.0
Employment		
Employed	251	8.7
Unemployed	2646	91.3
Total	2897	100.0

Notes: This table displays the descriptive statistics for the independent variables studied in our estimations: Gender, Marital status, Education, Employment and Income.

4. EMPIRICAL ANALYSIS

In this section, we analyze the determinants of the use of services provided by microfinance institutions. This analysis was carried out through a model of logistic regressions (logit) which was applied throughout this study. We then analyzed the capacity of microfinance institutions to reduce traditional barriers to financial inclusion through the assessment of the determinants of barriers to financial inclusion. This section is devoted to the discussion of the results of the different regressions.

4.1. Determinants of Financial Inclusion: the Use of Microfinance Institutions Services

Table 3 below shows the results of a logit model that regressed explanatory variables on formal financial services users. The Model regressed socio-demographics and economic variables on financial services users. According to results in Table 3, all explanatory variables have significant relationships with the likelihood of Microfinance Institutions services use. According to estimations, being male significantly increases at about 75% the likelihood of using formal financial services provided by Microfinance Institutions as observed by Honohan and King (2012), Johnson and Niño-Zarazua (2011) and more recently Fungáčová and Weill (2015). Furthermore, we found that being married is associated with a high likelihood of being financially included via Microfinance Institutions services.

Table 3. Determinants of the Use of Financial Services Provided by Microfinance Institution

Variables		Odds Ratio
		Use *(Microfinance Institutions Services)*
Gender	Male	1.753**
		(3.19)
Marital status	Married/living together	3.111***
		(4.61)
Education	Less than high school	1.917**
		(3.08)
	High school and above	6.190***
		(6.94)
Employment	Unemployed	0.359***
		(-4.98)
Income	Q2	4.623***
		(7.57)
	Q3	8.237***
		(9.17)
Observations		2897
Pseudo R^2		0.304

Note: Exponentiated coefficients; t statistics in parentheses.
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

According to estimations, being married increases more than 3 times the likelihood to use services provided by Microfinance Institutions. As for individuals' employment status, we found that being in a situation of unemployment decreases at about 36% the probability of being financially included by using services provided by Microfinance Institutions. That means that employed people are more likely to be financially included via Microfinance Institutions services. Johnson and Niño-Zarazua (2011) found a similar relationship between employment and the use of formal financial services provided by Microfinance Institutions.

We also found that being educated increases the probability for individuals to use formal financial services provided by Microfinance Institutions. The level of education less than secondary school increases by 1.9 times the likelihood for an individual to be financially included by using financial services provided by Microfinance Institutions. Moreover, we found that the level of education of high school and above shows a highly positive relationship with the use of Microfinance Institutions services; results show that having a high level of education increases more than 6 times the likelihood of being financially included via Microfinance Institutions services. Concerning the financial capability of individuals we found that each level of income is highly and positively associated with the likelihood of being financially included via the use of formal financial services provided by Microfinance Institutions. We found that being in a low income (Q2) category increases more than 4 times the probability of being financially included via Microfinance Institutions services. We also found that individuals in the highest category of income (Q3) are more than 8 times likely to be financially included via Microfinance Institutions services. Like Allen et al. (2014), Demirgüç-Kunt and Klapper (2013) and Fungáčová and Weill (2015), we found that individuals with a high income and a high level of education are more likely to be financially included by using formal financial services.

The major difference we observed was about low-income people and individuals with a low level of education. Findings also showed that low-income people and less educated people (less than high school in the sample) are also likely to be financially included by using formal financial services provided by Microfinance Institutions.

All in all, findings in the results of our estimations suggested that individual characteristics like employment, income, education, marital status and gender could obviously help to explain the use of formal financial services provided by Microfinance Institutions in Burundi.

4.2. Determinants of Barriers to Financial Inclusion via Services Provided by Microfinance Institutions

Table 4 below shows the relationship between individual characteristics and the reasons for not using formal financial services provided by Microfinance Institutions. We performed seven multiple logistic regressions to estimate the impact of each individual characteristic on the reasons of financial exclusion. On the contrary, gender is related to several barriers to financial inclusion via services provided by Microfinance Institutions in the countryside in Burundi. "Lack of money" and "religious reasons" are less likely to be barriers to financial inclusion for men than women. However, we also found that men are more sensitive to the fact that the Microfinance Institutions service point is "too far away". Our findings suggested that exclusion for men is more involuntary and mostly due to market failure. According to estimations, married people are less likely to be financially excluded due to the "lack of documentation". Results suggested that married individuals are not sensitive to market barriers to financial

inclusion.

Barriers to financial inclusion via Microfinance Institutions services like “religious reasons” and a “too expensive” cost of services provided would increase the likelihood of being excluded for less educated individuals with the level of education less than high school in the sample. On the contrary, the fact that a “family member has an account” as a barrier to financial inclusion would reduce the likelihood of being excluded for more educated individuals with the level of education less than high school in this study. This suggested that less educated individuals are much more influenced by “religious reasons” concerning the use of financial services provided by Microfinance Institutions on one hand, and they seem to care more about the cost of those financial services on the other hand.

Barriers to financial inclusion via Microfinance Institutions services like the “lack of money”, “lack of documentation” and the fact that a “family has member an account” would reduce the probability of being excluded for more educated individuals with the level of education of high school and above in the sample. Conversely, a “too expensive” cost of services provided by Microfinance Institutions as a barrier to financial inclusion would increase the probability of being excluded for more educated individuals with the level of education of high school and above in the sample. This suggested that more educated people are more sensitive to the cost of financial services. Results related to education are significant, as they implied that increasing the level of education in Burundi may significantly contribute to major changes in the relation between the general public living in semi-rural areas and financial institutions like Microfinance Institutions. With more educated people in the country, the demand for formal financial services like Microfinance Institutions may become more flexible with regard to costs.

According to estimations, unemployed individuals are more likely to be financially excluded because of the “lack of money” and “religious reasons”. Results suggested that unemployed individuals are more influenced by “religious reasons” and income they have with regard to the use of financial services provided by Microfinance Institutions. In other words, they are more responsive to self-exclusion socio-economic factors. Income is related to several reasons for not using financial services provided by Microfinance Institutions.

The likelihood of being financially excluded for low-income individuals (Q2) is likely to be increased by the fact that service points are “too far away” but on the contrary the “lack of documentation”, the fact that a “family member has an account” and the “lack of money” reduces the likelihood of being excluded from accessing financial services provided by Microfinance Institutions. For high-income people (Q3), the “lack of trust” is the principal reason for being financially excluded although we also found that they are less sensitive to the “lack of money” and to the fact that a “family member has an account”. This suggested that people with high incomes (Q2, Q3) are only sensitive to market barriers to financial inclusion via Microfinance Institutions services. The richest people are more sensitive when it comes to trust Microfinance

Institutions while low-income individuals seemed to be more aware about the distance to Microfinance Institutions because this may induce additional transportation costs.

Table 4. Determinants of Barriers to Financial Inclusion via Services Provided by Microfinance Institutions[1]

Variables	Lack of Trust	Lack of documentation	Too expensive	Too far away	Religious reasons	Family member has an account	Lack of Money
Gender							
Male	2.150	0.898	1.608	1.754***	0.672*	1.070	0.790*
	(1.72)	(-0.97)	(1.66)	(3.35)	(-2.02)	(0.33)	(-2.29)
Marital status							
Married/cohabited	1.003	0.715**	1.813	1.007	0.737	0.919	0.930
	(0.01)	(-2.72)	(1.57)	(0.03)	(-1.21)	(-0.34)	(-0.58)
Education							
Less than high school	0.876	1.146	2.005*	1.327	1.501*	0.413***	0.984
	(-0.31)	(1.22)	(2.11)	(1.64)	(1.98)	(-3.46)	(-0.14)
High school and above	0.234	0.577*	4.698***	1.100	1.548	0.279***	0.605**
	(-1.72)	(-2.44)	(3.45)	(0.33)	(1.22)	(-3.78)	(-2.95)
Employment							
Unemployed	0.440	1.669	1.840	1.538	2.212*	0.716	2.885***
	(-1.51)	(1.87)	(1.04)	(1.37)	(2.44)	(-0.97)	(6.11)
Income							
Q2	2.111	0.546*	1.513	1.938**	1.051	0.449**	0.241***
	(1.35)	(-2.45)	(1.06)	(2.87)	(0.15)	(-2.77)	(-9.70)
Q3	3.673*	1.082	0.209	1.644	1.210	0.315***	0.107***
	(2.20)	(0.29)	(-1.48)	(1.54)	(0.45)	(-3.41)	(-10.81)
Observations	2897	2897	2897	2897	2897	2897	2897
Pseudo R^2	0.060	0.016	0.042	0.023	0.016	0.049	0.157

Note: Exponentiated coefficients; t statistics in parentheses.
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

All in all, the analysis of the determinants of barriers to financial inclusion through the use of services offered by microfinance institutions revealed that, for men, microfinance institutions make it possible to overcome barriers like "religious reasons" and "lack of money". In the case of married persons, microfinance institutions try to limit barriers related to the "lack of documentation" required by formal financial institutions. As for the level of education, the services offered by microfinance institutions make it possible to reduce constraints related to barriers like the "lack of

[1] Barriers at the top of each column represent dependent variables. Individual characteristics (gender, marital status, education, employment and income) are explanatory variables.

money" and the "lack of documentation" required by financial institutions for people with high education level "high school and above" on one hand; and on the other hand to limit the likelihood of financial exclusion due to the fact that a "family member has an account". As far as the employment situation of individuals is concerned, only independent factors to the market of microfinance institutions that relate to voluntary self- exclusion such as "religious reasons" and "lack of money" could justify the financial exclusion of unemployed persons.

Concerning the financial capacity of individuals, we noted that microfinance institutions try to restrict barriers like "religious reasons" and "lack of money", regardless the level of income, but also to address the "lack of documentation" as a barrier to the financial inclusion of low-income people.

5. CONCLUSIONS

The objective of this study was to analyze the impact of individual characteristics on the probability of using formal financial services provided by microfinance institutions and their impact on traditional barriers to financial inclusion by using logistic regressions models. According to findings in the results of our econometric estimations, we firstly found that the use of microfinance institutions services support the vision that developing countries like Burundi should develop policies that help to enhance financial inclusion by targeting some particular groups of the population like women and unemployed people. These findings answered our first question - What are the factors that contribute to the use of services offered by Microfinance institutions in semi-urban environments? - by suggesting that individual characteristics that may presumably help to explain the use of formal financial services provided by microfinance institutions in Burundi are employment, income, education, marital status and gender. Secondly, findings concerning barriers to financial inclusion provided by microfinance institutions enable us to respond to our second research question - Are the services offered by microfinance institutions an adequate alternative to the limitations due to barriers to access the traditional financial system? - by suggesting that being less sensitive or less likely for individuals to be financially excluded due to voluntary (self-exclusion) or involuntary exclusion due to market failure implies that microfinance institutions services are an adequate alternative to address barriers to financial inclusion. All in all, we can conclude that microfinance institutions play a positive role by addressing barriers to financial inclusion, fostering the accessibility and use of formal financial services by low-income populations living semi-urban areas in Burundi.

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