The Effect of Social Capital on Households' Access to Microcredit in Cameroon in 2001 and 2007

Clarisse Metseyem

Research Paper 405

AFRICAN ECONOMIC RESEARCH CONSORTIUM
CONSORTIUM POUR LA RECHERCHE ÉCONOMIQUE EN AFRIQUE

Bringing Rigour and Evidence to Economic Policy Making in Africa

The Effect of Social Capital on Households' Access to Microcredit in Cameroon in 2001 and 2007

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AERC Research Paper 405
African Economic Research Consortium, Nairobi
November 2020

THIS RESEARCH STUDY was supported by a grant from the African Economic Research Consortium. The findings, opinions and recommendations are, however, those of the author and do not necessarily reflect the views of the Consortium, its individual members or the Secretariat.

Published by: The African Economic Research Consortium
P.O. Box 62882 - City Square
Nairobi 00200, Kenya

ISBN 978-9966-61-100-0

Contents

List of tables

List of figures

List of abbreviations and acronyms

ACEP	Appui de Crédit pour l'Entreprise Privée (Private Enterprise Credit Support)
EAs	Enumeration Areas
BCD	Banque Camerounaise de Développement (Cameroon Development Bank)
CAMCULL	Cameroon Cooperative Credit Union League Limited
CCCE	Caisse Centrale de Coopération Économique (National Economic Cooperation Fund)
CEMAC	Communauté Economique et monitaire de l'Afrique Centrale (Central African Economic and Monetary Community)
COBAC	Commission Bancaire de l'Afrique Centrale (Banking Commission of Central Africa)
COMECI	Coopérative Mutuelle d'Épargne et de Crédit d'Investissement (Mutual Cooperative for Savings and Investment Credit)
CUROR	Central Office for Rural Organizations Reforms
CVECA	Caisses Villageoises d'Épargne et de Crédit Autogérées (Self-managed Village-based Savings and Credit Funds)
ECAM	Enquéte Camerounaise Aupre's des ménages (Cameroon Household Survey)
FOGAPE	Fonds de Garanties de Petites et Moyennes Entreprises (Guarantee Fund for Small and Medium Enterprises)
FONADER	Fonds National de Développement Rural (National Fund for Rural Development)
INS	Institut National de la Statistique (National Institute of Statistics)
MC^2	Mutuelle Communautaire de Croissance (Community Mutual Benefit Society for Growth)
MCA	Multiple Component Analysis
MUFFA	Mutuelle Financière des Femmes Africaines (African Women's Financial Mutual Society)
MFIs	Microfinance Institutions
NGOs	Non-Governmental organisations
PCA	Principal Component Analysis
SMEs	Small and Medium Enterprises
SSA	Sub-Saharan African
UNDP	United Nations Development Programme

Abstract

The aim of this study is to identify the determinants of households' access to microcredit in Cameroon; in particular the effect of social capital on their access to microcredit in 2001 and 2007. The study is based on data collected during the Cameroon household surveys (ECAM II and III) conducted by the National Institute of Statistics (*Institut National de la Statistique, INS*) in 2001 and 2007. The Multiple Component Analysis (MCA) was used to construct the social capital index while the probit model was used for modelling. The Heckman two-step procedure was used to deal with the selection bias. The study found that social capital increased the probability of households having access to microcredit. An increase in this probability was observed for the years under study (4.2% for 2001 and 9.52% for 2007). It rose as a function of the level of household income (from the first to the fifth expenditure quintile). These findings suggest that there is a need for encouraging stakeholders (both private individuals and enterprises) to group together into networks.

Keywords: Social capital; Microfinance; Access to microcredit; Income distribution; Households; Cameroon.

1. Introduction

Inadequate resources and the difficulty in mobilising them, coupled with inadequate access to financial resources, notably credit, are a common challenge in most sub-Saharan African (SSA) countries. In this part of the world, most people are excluded from the mainstream financial system (Klapper and Singer, 2013). The most affected of them are the poor (those who live in rural areas) and women. According to the United Nations Development Programme (UNDP, 2011), in 2011, one billion poor people in the world did not have access to basic financial services. In developing countries, two-thirds of the working population do not always have access to financial services, and 80% of households and enterprises are excluded from the formal financial system.

In SSA countries, in 2013, only 23% of adults had a bank account, compared to 41% in developed countries. In Central Africa, only 11% of adults had a bank account (Klapper and Singer, 2013). This rate has remained low despite a rise in 2014 to 34% in SSA, against 62% in the world as a whole (Demirguc-Kunt *et al.*, 2014). Regarding access to financial services, Central Africa was at the bottom of the list, with only 12% of people who had access to credit, against 17% for North Africa, 23% for West Africa and 28% for East Africa (Demirguc-Kunt and Klapper, 2013). These statistics point to a low financial inclusion in Central Africa, where there were only 44 banks in 2011 (COBAC, 2011).

The awarding of the Nobel Peace Prize to Muhammad Yunus in 2006 was a form of recognition of the contribution of microfinance to the development of financial markets in developing countries and to poverty reduction. Undoubtedly, microfinance institutions (MFIs) have facilitated access to financial services and are considered today as one of the tools that contribute to development. However, enormous efforts still have to be made by the MFIs, as two-thirds of the unbanked people in developing countries still lack access to formal financial services (Duflo and Parenté, 2009). In Cameroon, after more than two decades following the enactment of the law on freedom of association and that on cooperative societies and joint initiative groups, access to credit by households was still limited, especially in rural areas (Government of Cameroon, 2009).

A striking reality in Cameroon is that the probability of having access to bank loans remains minimal, even though a slight increase was recorded between 2001 and 2007.

According to the National Institute of Statistics (INS), in 2001, nine out of ten of the applications for loans were rejected by the lenders. Household demand for credit in Cameroon rose from 5.8% in 2001 to 8.6% in 2007 (Government of Cameroon, 2009). Access to credit is seen as a catalyst for entrepreneurship, which makes it indispensable for socio-economic development. It is essential in developing countries, as it has been shown to increase output, to reduce poverty and to enhance wellbeing. Therefore, both businesses and households need access to credit (Creusot, 2006; Mayamou, 2012).

From this state of affairs arises the twofold question of what the factors that can explain the granting of credit by lenders in Cameroon are, and, on the other hand, what the deterrents against applying for credit by households are. Is it socioeconomic, geographical, demographic, and financial factors, or is it the membership of a network and access to information that influence access to credit? (Ajani and Tijani, 2009; Guerin *et al.*, 2011; Osotimehin *et al.*, 2011). All these factors may cause lenders to exclude valuable stakeholders from the financial market. These authors argue that the formation of associations or other social networks can reduce information asymmetry and thus allow the lenders to finance the best projects, because information asymmetry leads to adverse selection and to moral hazard (Stiglitz and Weiss, 1981).

According to Bourdieu (1980), the notion of "social capital" encompasses the relations and mutual-help networks that can be mobilised for socially useful purposes. Specifically, it comprises the resources acquired through relationships, associations, and networks that are based on notions such as trust, the logic of reciprocity, and the coordination and cooperation for mutual benefits. Defined in this way, social capital is a property of an individual or a group. It is both a stock of and the basis for a process of accumulation that allows the people who are already well off to position themselves better in social competition. Social capital thus refers to resources accruing from participation in networks and relationships that are more or less institutionalised (Bourdieu, 1980). Among such relationships is the fact of belonging to a group of agents who, not only share certain characteristics, but are also united by permanent and useful links.

The volume of social capital that an agent possesses depends on the extent of the network of links that he/she can effectively mobilise and the volume of (economic, cultural and symbolic) capital owned by each of those to whom he/she is linked (Bourdieu, 1980). In the late 1980s, Coleman (1988) expanded on the concept of social capital with a slightly different meaning. For him, social capital represents any aspect of the social structure that creates value and facilitates the actions of the individuals who make up this social structure. This definition is close to that of Putman (1995). According to the latter, social capital refers to relationships between individuals, to social networks and to the norms of reciprocity and trust that emerge within a group. Fukuyama (1995) demonstrated the importance of social networks in the process of access to credit, because networks and associations provide their members with financial benefits, and, hence, access to credit. Thus, social capital is important in life to the extent that networks, norms and trust facilitate cooperation and, thus, reduce transaction costs.

Research has already been conducted in Africa and has shown that social capital (as measured by the fact of belonging to an institution, to associations, and, recently, by the homogeneity index, the social-network index, the contract-compliance index, the collective membership index, and the decision-making index) and household wages (as measured by the income of the head of household) are determinants of access to credit (Bastelaer, 2000; Ajani and Tijani, 2009; Lawal *et al.*, 2009; Heikkilä *et al.*, 2009; Balogun and Yusuf, 2011; Guerin *et al.*, 2011; Karlan and Zinman, 2011; Osetimehin *et al.*, 2011; Kangogo *et al.*, 2013; Sadick *et al.*, 2013; Banerjee *et al.*, 2015). However, practically no similar research has yet been done concerning Cameroonian households. Most of the research conducted in Cameroon has generally focused on the characteristics of the head of household, particularly on his/her age, income, and socio-professional category. Studies on social capital as an explanatory factor for access to microcredit are rare, even though some researchers have recently carried out thorough investigation into this area and have shown social capital to be a determinant of access to credit, of the survival of SMEs, and of improvement in the welfare of households (especially of those involved in rural agriculture) and to have a positive effect on women's entrepreneurship (Tabi, 2011; Ngoa and Niyonsaba, 2012; Douzounet and Yogo, 2012; Nana-Djomo and Atangana-Ondoua, 2012; Epo, 2012).

The main research question that arises from the above background is the following: What is the role of social capital in households' access to microcredit in Cameroon? From this main question arise four subsidiary ones: (1) What was the effect of social capital on access to microcredit by households of different income levels in Cameroon in 2001 and 2007? (2) What were the trends in the influence of social capital on access to microcredit over the period between 2001 and 2007? (3) What was the influence of social capital on access to microcredit in relation to gender disparities in 2001 and 2007? (4) What was the influence of social capital on access to microcredit in relation to area residence in 2001 and 2007?

From the specific questions above, four objectives can be derived: (1) to analyse the effect of social capital on microcredit access by households of different income levels in 2001 and 2007; (2) to establish the trends in the influence of social capital on access to microcredit during the period between 2001 and 2007; (3) to examine the influence of social capital on access to microcredit in relation to gender disparities in 2001 and 2007; and (4) to assess the influence of social capital on access to microcredit in relation to area of residence in 2001 and 2007.

The present study follows the definitions of Putman (1995) and Fukuyama (1995). It, too, addresses the issue of how to measure social capital, because the latter is intangible. It uses three variables for the construction of a social capital index: (i) belonging to a religious organisation, (ii) being a member of an association, and (iii) marital status.

After this introductory section, the remainder of the paper is structured as follows: Section 2 presents the state of microfinance in Cameroon, while Section 3 reviews the literature. Section 4 describes the methodology, Section 5 describes the data used in the study, Section 6 presents the study's results, Section 7 its policy implications, and Section 8 its conclusion and recommendation.

2. The state of microfinance in Cameroon

The mission of microfinance is to serve the categories of people excluded from the conventional financial systems. It is also called "small-scale finance" and is the most affordable means of financing for the poor populations. The microfinance institutions' mission is to encourage their clients to set up or consolidate income-generating activities and thus lift themselves out of poverty. Those institutions offer services such as granting loans, collecting savings, issuing insurance cover, and transferring funds (Creusot, 2006). They have existed in Cameroon from well before independence, in their traditional form called tontine "Chu'a" and tontine "Njangi" (Nzemen, 1993). These tontines were not governed by any financial institution but had the advantage of being close and very accessible to the poor populations, especially those living in rural areas. It was not until the 1990s that they really diversified, with the assistance of the National Economic Cooperation Fund [Caisse Centrale de Coopération Économique, CCCE], which was founded in 1950 from the Mutual Credit Cooperatives [Coopératives de Crédit Mutuel] on the territory under the then French colonial administration (i.e., the Central and Southern regions).

In the region under British rule, the Loans and Thrift Associations were created in 1955. It was in 1963 that microfinance was started in its formal form with the creation of savings and credit cooperatives (variously referred to as "credit unions", "people's unions", or CAMCULL – for "Cameroon Cooperative Credit Union League Limited") in the English-speaking region, with the assistance of Dutch missionaries. The Yaoundé Union of the People's Funds [Union des Caisses Populaires de Yaoundé] was created in 1970, thanks to the support of the Catholic Church in partnership with the Desjardins movement (Djoum, 2008). However, it was not until the 1990s that this union could see a remarkable growth and diversification of its services following the law No. 90/053 of 19 December 1990 on the freedom of association and the law No. 92/006 of 14 August 1992 on cooperative societies and joint-initiative groups. Credit was supplied by banks, microfinance institutions, non-governmental organisations and the informal sector (tontines, parents, friends, and individuals) (INS, 2008).

The two laws led to the creation of more MFIs (MC^2, MUFFA, ACEP, COFINEST, and COMECI) throughout the country, with 268 institutions were created in 1995, 650 in 2003 and 714 in 2004 (Touna Mama, 2008). As of 31 December 2010, the MFI sector

had 440 MFIs, consisting of 186 independent MFIs and 254 MFIs affiliated to a network. There are five licenced networks in the sector: CAMCCUL (with 177 MFIs), the CVECA Centre (with 33 MFIs) and the CVECA Grand Nord [Greater North] (with 8 MFIs), the CMEC Ouest [West] (with 19 MFIs), the CMEC Nord-Ouest [North-West] (with 8 MFIs), and the CMEC Grand-Nord [Greater North] (with 9 MFIs). The number of MFIs increased to 418 from 2012 to 444 in 2015, consisting of 165 independent MFIs and 253 MFIs affiliated to a network. The sector is dominated by first-class MFIs, which represent 94% of all the MFIs licenced in Cameroon.

Two periods can be distinguished in the evolution of MFIs in Cameroon: from 1980 to 1990 and from 1990 to the present. The 1980-1990 period was characterised, in the countries of the CEMAC zone, by the bankruptcy of development banks following the financial crisis of the time and by the sudden increase in savings and cooperative societies, (SACCOS, locally known as COOPEC), which tried to fill the gap left by commercial banks (BCD, FONADER, and FOGAPE). This period also coincided with the coming into force of new legislation on cooperatives. The setting-up of cooperatives was no longer subject to a prior authorisation by the relevant government authorities but to a simple registration in the register of cooperatives in the Ministry of Agriculture. This relaxation of the law led to the creation of several autonomous SACCOs that were not affiliated to a network.

The 1990s were marked by the development of the microfinance sector in Cameroon following the enactment of the relevant laws in 1990 and in 1992. From that time, the promoters of MFIs began to champion rural credit as an instrument of poverty reduction, a campaign conducted under the supervision of the central bank governor. Institutions devoted to providing support to rural organisations were set up: the Investment in Rural Micro-projects Funds and the Central Office for Rural Organisations Reforms (CUROR). These institutions stimulated the creation of MFIs (such as MC^2, MUFFA, ACEP, COFINEST, and COMECI) throughout the country.

The MFIs in Cameroon are grouped into three categories, including the independent MFIs and those affiliated to a network:

- The first category consists of the MFIs that only deal with their members. They collect the savings from their members, which they then use to grant credit to the latter. This category comprises cooperatives and associations. There is no minimum capital required for the MFIs in this category.
- The second category comprises the MFIs that collect savings and offer credit to third parties. They have the status of public limited companies. The minimum capital required for the MFIs in this category is CFAF 50 million.
- The third category is made up of the MFIs that offer only credit, but are not allowed to collect savings. The minimum capital required for them is CFAF 25 million.

3. Review of the literature

As early as the beginning of the 20th century, Schumpeter presented finance as a panacea for the investment mechanism, especially with regard to adopting new production techniques. He stressed that the bank was the main player in this context. He viewed bank loans as a financial contract that connected a lender (the bank) – who had excess liquidity – to a borrower (the client) – who had a liquidity gap (Schumpeter, 1912). Even after the advent of microfinance, this view still prevails.

Over the past two decades, various authors have shown that microfinance (microcredit) is a tool for women's entrepreneurship, for development, for poverty reduction and for the improvement of the beneficiary populations' living conditions (Khandker, 2005; Hao, 2005; Duflo and Parenté, 2009; Attanasio *et al.*, 2011; Crépon *et al.*, 2011; Karlan and Zinman, 2011; Banerjee *et al.*, 2015; Metseyem *et al.*, 2016).

The conclusions reached by those authors show that group loans are more profitable than individual loans. A study conducted in Bangladesh with Grameen Bank clients showed that in the case of group loans, the reimbursement rate was 95% (Bastelaer, 2000), hence the importance of forming groups. Durlauf and Fafchamps (2004) showed that coordination at the local level generated positive externalities. Studies conducted in developing countries have shown that factors such as membership of a network, income level, salary, household size, family possessions (e.g., animals, farmed plots of land), activity sector, age of the head of household, savings, ownership of land, availability of credit, membership of an organisation, the education level of the head of household and his/her state of health increase the probability of his/her household having access to credit (Hao, 2005; Heikkilä *et al.*, 2009; Guerin *et al.*, 2011).

In addition, a study conducted by Kodjo (2007) in Togo found that the granting of loans by MFIs to microenterprises was influenced, not only by the factors pointed out above, but also by the annual turnover and increase in profits and by the loan applicants' number of years of activity within the institution and their membership of an association. For its part, a study by Heikkilä *et al.* (2009) found that, besides the factors already mentioned, there were gender-based disparities in having access to microcredit; women being

discriminated against. On the other hand, a study by Togba (2009) showed that the lack of trust within a group decreased the probability of it having access to credit by about 1.67%, and that this probability was highest in the informal sector (9.36 %), then in the microfinance sector (4.46%) and finally in the banking sector (1.89%).

Other studies conducted in developing countries have provided evidence that social capital increases the probability of gaining access to credit (Lawal *et al.*, 2009; Ajani and Tijani, 2009; Balogun and Yusuf, 2011; Osotimehin *et al.*, 2011). Research conducted among cocoa-growing households in the Ekiti and Osun states of southwestern Nigeria by Ajani and Tijani (2009) (who used a probit model) and by Lawal *et al.* (2009) (who used the logit multinomial model) found that social capital (as measured by the index of heterogeneity in the association, the meeting-attendance index, the amount of contribution to work, and the decision-making index) increased the probability of the cocoa-farming households having access to credit, a probability of around 0.22%. A separate analysis showed that the heterogeneity index increased this probability by 56.30%, meeting attendance by 75.52%, the amount of contribution to work by 12.33%, and the decision-making index by 6.40% (Lawal *et al.*, 2009).

A further study on the same (rural) areas by Balogun and Yusuf (2011), who used a multinomial logit model, confirmed that households' application for credit was a function of them belonging to a microfinance institution and of them already having some savings. To be added to these factors are social capital, attendance at meetings, and the interest rate charged by credit providers. In the same vein, Osotimehin *et al.* (2011) conducted a study in southwestern Nigeria on 80 microfinance institutions over the period 2005-2010. He found that in addition to the amount of the salary of the head of household, the other determining factors in getting access to microcredit were the average amount of the loans granted, the membership of the microfinance institution, and the loan repayment rate.

In a study conducted in Kenya, Mwangi and Ouma (2012) found that social capital increased financial inclusion by enhancing access to informal credit and group affiliation, and reduced information asymmetry. Using a Heckman model in a study of 174 households in Kenya, Kangogo *et al.* (2013) examined the different dimensions of social capital (as measured by membership density, by the heterogeneity index, by the association participation index, by cash contributions, and by the number of years of group membership) and the other determinants of a household's membership of a microcredit group. They found that age, gender, education, farm size, level of participation, the heterogeneity index and membership density, negatively influenced the households' decision to join a microcredit group. In contrast, household size, years of experience, farm income and distance from the nearest financial institution positively influenced the households' decision to join a microcredit group.

Another study conducted in the Karaga District of northern Ghana, involving an organisation of 210 farmers and using the Principal Correspondence Analysis and a logit, found evidence that social capital (as reflected in the homogeneity index,

measured by the degree of economic activity diversity and the farm members' income; in the network connection index, measured by the number of contacts with the financial organisation; in the contract-compliance index, measured by compliance with the regulations; in the level-of-confidence index, measured by the availability and use of financial products; and in the collective action index, measured by meeting attendance) increased the probability of the farmers' having access to credit (Sadick *et al.*, 2013). This probability was found to be 52% for the homogeneity index and 94% for the network connection index. It was more reduced for the level-of-confidence index (42%), for the collective action index (11.5%), and for the contract-compliance index (43%). Moreover, the type of business which the loan applicant was engaged in, his/her knowledge of the MFI, his/her age, and the size of his/her farm, were also found to influence his/her probability of having access to credit (Sadick *et al.*, 2013).

In the case of Cameroon, Ngoa and Niyonsaba (2012) and Wamba (2013), using a multinomial logit model, found that social capital (measured by the ratio of the family labour force, by the government support, by the membership of business networks or associations, by personal relationships with the Bank, and by the level of human capital prevailing in the business) increased the probability of the SMEs' survival by reducing their transaction costs and facilitating their access to credit.

The present study, in addition to establishing whether income (as measured by expenditure quintiles) is a guarantee of access to microcredit by households in Cameroon, will further focus on social capital as a guarantee by taking into account the following variables: area of residence (i.e., whether rural or urban), the region and the gender of the head of household.

4. Methodology

Some studies have emphasised the role of social capital in influencing access to credit (see, e.g., Ngoa and Niyonsaba, 2012; Sadick *et al.*, 2013; Wamba, 2013). Emphasis has also been laid on the income level of the head of household (Kangogo *et al.*, 2013). The literature review above shows that more variables were also found to influence access to credit. Among them are the size of the household, the gender of the head of household, his/her marital status, his/her age, and the distance from the household to the microfinance institution. The present study will empirically verify the various findings reported in the literature by using data from Cameroon (data collected for the ECAM II and III surveys). To identify the determinants of the Cameroonian households' access to credit and the factors that explain their application for credit, the study will use a simple probit model because there are only two possible answers: having or not having access to credit.

The 1979 Heckman two-step selection model is used to study the demand-driven access to credit. An analysis based on this model consists in identifying the determinants of a household's application for credit ($z = 1$ if the household has applied for credit, $z = 0$ if it has not) and then in identifying the determinants of the household's obtaining the credit ($y = 1$ if the household has obtained the credit applied for and $y = 0$ if it has not, provided that $z = 1$). The use of this model is justified by the fact that some households are excluded from the financial system by lenders, which is a manifestation of the issue of the lenders selecting who to grant the credit to. The Heckman two-step procedure produces robust results because it solves the selection bias issue. The first step consists in estimating the credit demand function and then in predicting the credit value, called the inverse Mills ratio. The second step consists in incorporating the inverse Mills ratio as an additional variable.

The probit model describes the values taken by the microcredit access function. The use of this model of qualitative variables, instead of linear (OLS) models, can be justified by the nature of the dependent variable (which in this case is a binary variable of having access to credit or not). In this model, the explained variable can take only one of two values: either an event has occurred or it has not. A sample of N individuals, indexed as $i = 1, \ldots, N$, is analysed. For each individual, what has to be observed is whether a certain event has occurred or not. In the following expression, y_i refers to the "microcredit" variable:

$$y_i = \begin{cases} 1 & \text{if the household has access to credit from an MFI} \\ 0 & \text{if the household does not have access to credit from an MFI} \end{cases}$$

Three methodological approaches will be used in the present study: (i) a descriptive approach; (ii) the Multiple Correspondence Analysis (MCA) – used for the construction of the social capital synthetic index proposed by Asselin (2005) and (iii) an econometric approach. The descriptive approach is essentially based on the construction of simple cross-tables and graphs to assess the importance of the households' need for bank loans according to the household expenditure quintiles, the regional characteristics and the gender of the head of household. The advantage of the MCA is that it compensates for the limitations of the Principal Component Analysis (PCA), which is only applicable to quantitative variables, while the MCA is applicable to both quantitative and qualitative variables. The latter technique is suitable for a multidimensional analysis of data grouped into ordered categories and which can be presented in the form of a binary table. The rows of the table generally represent the individuals (i.e., number of observations), while its columns represent the values assigned to the different questions or variables (Asselin, 2005).

The econometric approach will enable the present study to identify the determinants of households' access to microcredit in Cameroon on the one hand, and those of their application for credit on the other. In this connection, the study posits that there are a number of characteristics that are specific to households and to their activities, and which influence the microfinance institutions' decision to grant or not grant the credit applied for. The present study will draw upon the model used by Enjiang (2007) and that used by Mwangi and Ouma (2012). Its dependent variables (determined on the basis of existing data) are access to microcredit and the application for it, while its independent (explanatory) variables are a series of quantitative and qualitative variables related to the demographic factors and the social status of the head of household. Expenditure quintiles will be used to determine the different levels of household income. The minimax method will be used to construct the social capital index. The econometric specification is also inspired by Wooldridge (2009) for an intertemporal analysis.

The equation is formulated as follows:

$$\Pr(A_i = 1|X) = F\left(\beta_0 + \delta_0 d2007 + \beta_1 SC_i + \delta_1 d2007 * SC_i + \sum_{j=1}^{5} \beta_{2j} Q_{ij} + \sum_{k=6}^{m} \beta_k W_{ik}\right)$$

where, d2007 is the dummy variable "year", taking the value 1 for the year 2007 and 0 for the year 2001; SC is the composite index for social capital (membership of a religious organisation, membership of an association, and being married); Qij refers to the household expenditure quintiles (from the quintile for the poorest households to that for the least poor of them): the 1st quintile, the 2nd quintile, the 3rd quintile, the 4th quintile, and the 5th quintile;

2j is the coefficient of this variable; 0 is the coefficient of 2001, while 0+0 is the coefficient of 2007. The coefficient 1is that of the effect of social capital on access to microcredit in 2001. 1+1 is the coefficient of the same effect in 2007, while 1 is the coefficient of this effect between the two dates (with a downward or upward trend between the two). W is the vector of the other control variables such as age, age squared, household size, ownership of land, savings, ownership of financial assets, and activity sector. β_k is the vector of the corresponding explanatory variables.

The specification of the Heckman two-step model is the following:

$$z_i = 1\left(\gamma_0 + \lambda_0 d2007 + \gamma_1 SC_i + \lambda_0 d2007 * SC_i + \sum_{j=2}^{6} \gamma_j Q_{ij} + \sum_{k=7}^{m} \gamma_k \omega_{ik} + \mu_i > 0\right) [1]$$

$$y_i = \beta_0 + \delta_0 d2007 + \beta_1 SC_i + \delta_1 d2007 SC_i + \sum_{j=2}^{6} \beta_j Q_{ij} + \sum_{k=7}^{m} \beta_k \omega_{ik} + \delta HR + \varepsilon_i [2]$$

where, Zi=1 if Yi=1 and 0 otherwise

Zi is the equation for the application for credit and Yi the equation for obtaining the credit applied for. The selection equation (that is Equation 1, the equation for credit application, which must lead to the computation of the inverse Mills ratio, HR) will be estimated by a probit model, while the equation for obtaining the credit (Equation 2) will be estimated by introducing the inverse Mills ratio as an additional explanatory variable.

5. The data used in the present study

The data used in the present study were drawn from the databases of the 2nd and 3rd Cameroon household surveys (ECAM II and ECAM III) carried out by the National Institute of Statistics (INS) in 2001 and 2007. The two surveys covered all the 10 regions of Cameroon, and both the rural and the urban areas. They involved 22 strata (10 of which were rural and 12 urban), with Douala and Yaoundé being considered as separate strata. In the ECAM II survey, the data were obtained from six strata (Yaoundé, Douala, the other cities, the rural Forest, the rural Highland, and the rural Savannah). In the same survey, 8,311 households (75.6% of the sample) were headed by men and 2,681 households (24.4%) by women. A total of 4,975 households (45.26%) lived in urban areas and 6,017 households (54.74%) in rural areas. ECAM II used a sample of 10,992 households, while ECAM III used a sample of 11,391 households.

In the ECAM III survey, 6,365 households (55.88% of the total sample) resided in urban areas and 5,026 households (44.12%) in rural areas. Each of the ten regions had been divided into three strata: the urban stratum, comprising 6,242 households (54.8%); the semi-urban stratum, comprising 1,300 households (11.41%), and the rural stratum, comprising 3,849 households (33.79%). In relation to area of residence, 8,350 households (73.3%) headed by men were interviewed, against 3,041 households headed by women. In the city of Douala, 1,043 households were interviewed, against 1,022 households in the city of Yaoundé. The Far North, the North West and the West of the country recorded the highest percentages of households interviewed: 13.02%, 13.01%, and 11.36% of them, respectively. The southern region recorded the lowest percentage (4.7%) (INS, 2008).

Table 1 presents a summary of the variables taken into account in the present study, and Table 2 its descriptive statistics.

Table 1: Summary of the variables of the study

Variable	Definition
The variables to be explained	
Access to microcredit	Households that were granted microcredit (=1 and 0 if not)
Application for credit	Households that applied for microcredit (=1 and 0 if not)
The explanatory variables	
The social capital index	An index constructed from the several variables below
Membership of an association: Male-headed or female-headed households that are members of an association Membership of a religious organisation: Male-headed or female-headed households that are members of a religious organisation Married head of household: Heads of household, whether male or female, who are married	
The exogenous variables	
Household expenditure quintiles	Household expenditure quintiles (from the poorest to the least poor=1, 2, 3, 4, 5)
Farmed land	Male-headed or female-headed households which own farmed land
Size	Average number of people in the household (whether male-headed or female-headed)
Size ^{2}	Average number squared of members of the household (male-headed or female-headed)
Age^2	Age of head of household (male-headed or female-headed)
Age2	Age2 of head of household (male-headed or female-headed)
Informal sector (EA)	Heads of household employed in the formal sector (=1 if yes and 0 if not)
Dummy2007	1=2007 and 0=2001
Dummy2007*social capital index	Social capital index*Dummy2007
Savings (EA)	Households that have savings (=1 if yes and 0 if not)
Ownership of shares and bonds (EA)	Households that own shares and bonds (=1 if yes and 0 if not)
Health status	Head of household was ill two weeks before the survey (=1 if yes and 0 if not)
Inverse Mills ratio	The inverse of the Mills ratio
Other variables	
Area of residence	Area of residence (=1, if urban; 2, if rural)
Gender of the head of household	Gender of the head of household (=1 if male; 2 if female)

Source: Compiled by the author on the basis of the ECAM II and ECAM III data for 2001 and 2007.

6. Results

This section presents the results of the descriptive statistics of the MCA and those of the regression analysis. They are presented for each year (2001 and 2007), according to the household expenditure quintiles, the area of residence and the gender of the head of household.

Descriptive statistics

In 2001, out of the 12% of households that applied for credit, about 5% got it. In 2007, out of the 10% of households that applied for credit, 6% got it. This indicates a 1% improvement between the two survey years, which can be justified by the fact that the number of microfinance institutions had increased over the period. The average share capital recorded a slight decrease from 0.75 in 2001 to 0.703 in 2007. The average number of people per household was five and the average age was 42. In 2001, 60% of the surveyed households were employed in the informal sector, compared to 73% in 2007. Savings declined from 38% in 2001 to 30% in 2007. The lack of enough guarantees was mentioned by the households as the main reason (in 54.9% of the cases) why they were not granted credit, in addition to the lack of a surety (in 22.9% of the cases) (INS, 2008). In 2001, out of the 1,344 households that applied for credit, only 525 received it.

In rural areas, 294 households were granted credit, against 231 households in urban areas. Also, 115 female-headed households, against 410 male-headed ones, were granted credit. In 2001, 3.5% of the female-headed households had access to credit, compared to 5.5% of the male-headed ones. The statistics for the year 2007 show that out of the 1,085 households that applied for credit, only 700 received it. From the rural areas, 288 households obtained credit, compared to 412 from the urban areas, while 180 female-headed households obtained credit, against 520 male-headed ones (INS, 2002, 2008). The results of the test for the difference between means show that the variation between the average social capital for 2001 and 2007 was significant. It can thus be safely concluded that the households' social capital declined between 2001 and 2007 (see Table A8 in the Appendix).

The households in urban areas were found to have a higher social capital than those in rural areas. Likewise, the male-headed households had a higher social capital

than the female-headed ones. But this social capital followed a downward trend during the 2001-2007 period, both in urban and rural areas and in male-headed and female-headed households (Table 3). In 2001, the male-headed households in rural areas had a slightly higher social capital than those in urban areas. By contrast, the female-headed households in urban areas had a higher social capital than those in rural areas. In 2007, the male-headed households in urban areas had a higher social capital than those in rural areas, while the female-headed households in urban areas had a higher social capital than those in rural areas.

Table 2: Results of the descriptive statistics for 2001 and 2007

Variables	No. of obs.	Mean	SD	No. of obs.	Mean	SD
	2001			2007		
The variables to be explained						
Access to credit	10,992	0.0477	0.2132	11,391	0.06145	0.2401
Application for credit	10,992	0.1222	0.3276	11,391	0.0952	0.2935
The explanatory variables						
Social capital index	10,992	0.7551	0.2102	11,391	0.7037	0.2252
First expenditure quintile	10,992	0.1999	0.3999	11,391	0.1999	0.4000
Second expenditure quintile	10,992	0.20005	0.40005	11,391	0.1999	0.4000
Third expenditure quintile	10,992	0.1999	0.3999	11,391	0.20007	0.4000
Fourth expenditure quintile	10,992	0.20005	0.40005	11,391	0.1999	0.4000
Fifth expenditure quintile	10,992	0.1999	0.3999	11,391	0.1999	0.4000
Size	10,992	5.1789	3.549	11,391	4.493	3.06865
$Size^2$	10,992	39.418	60.964	11,391	29.6109	49.2174
Age of the head of household	10,992	42.927	15.063	11,391	41.9204	15.188
Age^2 of the head of household	10,992	2069.61	1455.34	11,391	1,987.99	1,465.369
Informal sector (by EA)	10,992	0.6002	0.27412	11,391	0.72557	0.2201
Ownership of savings (by EA)	10,992	0.3804	0.2441	11,391	0.2961	0.2249
Ownership of shares and bonds (by EA)	10,992	0.0131	0.0409	11,391	0.0091	0.0336
Ownership of farmed land (by EA)	10,992	0.48007	0.3473	11,391	0.4551	0.3401
Health status	10,992	0.3865	0.4869	11,391	0.3076	0.4615
Inverse Mills ratio	10,992	0.3224	0.1042	11,391	0.2909	0.10063
Area of residence	10,992	1.5473	0.4977	11,391	1.4412	0.4965
Gender of head of household	10,992	1.2439	0.4294	11,391	1.2669	0.4423

Source: Compiled by the author on the basis of data from the ECAM II and ECAM III surveys.

Table 3: Comparison of the social capital by gender and area of residence in 2001 and 2007

	2001			2007		
	Urban	Rural	Total	Urban	Rural	Total
Males	0.7903 (0.2107)	0.7917 (0.1981)	0.7911 (0.2038)	0.7430 (0.2285)	0.7259 (0.2172)	0.7356 (0.2238)
Females	0.6590 (0.1840)	0.6297 (0.1930)	0.6434 (0.1894)	0.6273 (0.198)	0.6033 (0.2124)	0.6163 (0.2050)
Total	0.7572 (0.2121)	0.7533 (0.2086)	0.7551 (0.2102)	0.7131 (0.2267)	0.6919 (0.2227)	0.7037 (0.2252)

Source: Compiled by the author on the basis of data from the ECAM II and ECAM III surveys.

Tables 2 and 3 show that the proportion of households that had access to credit increased with their level of expenditure; that is, from the poorest quintile to the least poor one. The proportion was 3.88% for the first expenditure quintile, 5.56% for the second, 5.65% for the third, 6.075% for the fourth, and 6.18% for the fifth. These results mean that the non-poor households, that is, those with a high income, had easier access to credit than those with a low income. This automatically suggests that a credit applicant from a non-poor household had a higher chance of a surety than one from a poor household, both in 2001 and 2007 (see Table 4).

These results indicate an upward trend along the expenditure quintiles and an upward trend by year. For the poor households (i.e., the first and second expenditure quintiles), the rate of access to credit grew more rapidly than for the less poor households (i.e., the fourth and fifth quintiles). This is an indication that over the period under study, microfinance institutions targeted the poor households more than they did the non-poor ones, which is indeed their goal. Based on these results, the present study chose the third expenditure quintile as the reference for its econometric analyses, since it is the one in the middle (between 40% and 60%). It thus serves as a good basis for the study's interpretations.

The results in Table 5 display disparities in access to credit between urban and rural areas. In 2001, the rate of access to credit was higher in the rural than in the urban areas, while the opposite was true in 2007 – with a rate of 5.73% for the rural areas and of 6.47% for the urban. The same table shows also that for both 2001 and 2007, there were disparities in access to credit depending on the gender of the head of household. The male-headed households tended to have a higher access to credit than the female-headed ones.

Table 4: Distribution of households that had access to credit within each expenditure quintile

				2001			2007		
Household expenditure quintiles	Credit access by quintile	House-holds by quintile	(%)	Credit access by quintile	House-holds by quintile	(%)	Credit access by quintile	House-holds by quintile	(%)
1st quintile	174	4,476	3.8874	77	2198	3.5031	97	2278	4.2581
2nd quintile	249	4,477	5.5617	102	2199	4.6384	147	2278	6.45303
3rd quintile	253	4,477	5.6511	117	2198	5.32302	136	2279	5.96753
4th quintile	272	4,477	6.0755	108	2199	4.91132	164	2278	7.1993
5th quintile	277	4,476	6.18718	121	2198	5.505	156	2278	6.84811
Total	1,225	22,383	#	525	10,992	#	700	11,391	#

Source: Compiled by the author on the basis of data from the ECAM II and ECAM III surveys.

Table 5: Distribution of households that had access to credit according to area of residence

	2001			2007		
Area of residence	Households that had access to credit	Number of households	(%)	Households that had access to credit	Number of households	(%)
Rural area	294	6,017	4.88	288	5,026	5.73
Urban area	231	4,975	4.64	412	6,365	6.47
Total	525	10,992	#	700	11,391	#

Source: Compiled by the author on the basis of data from the ECAM II and ECAM III surveys.

Men are more likely to have access to credit than women. This can be justified by the fact that microfinance institutions are more frequent in urban areas, where informal sector activities thrive more, and by the fact that women do not always have enough guarantees to enable them to be granted a loan. Typically, on the Cameroonian labour market, most women are engaged in low-income activities which do not always generate enough revenue to enable a wealth accumulation that can be used as a guarantee for a loan.

Table 6: Distribution of households that had access to credit according to the gender of their head

	2001			2007		
Gender of the head of household	Households that had access to credit	Number of households	(%)	Households that had access to credit	Number of households	(%)
Male	410	8,311	4.93	520	8,350	6.23
Female	115	2,681	4.29	180	3,041	5.91
Total	525	10,992	#	700	11,391	#

Source: Compiled by the author on the basis of data from the ECAM II and ECAM III surveys.

Table 7 shows that in the Northwest, Southwest, West, Far North and Northern regions of Cameroon, there was a higher rate of access to credit than in the country's other regions. This is because they benefit from initiatives or schemes aimed at supporting income-generating activities for the poor. The rate of access to credit in these regions is higher than the national average. What is specific to them is that they host quite a number of NGOs, associations and networks (such as CAMCCUL, MC^2, and CMEC).

Table 7: Distribution of households that had access to credit by region

Region	Households that had access to credit	Number of households	(%)
Douala	90	2,167	4.1532
Yaoundé	105	2,117	4.95985
Adamaoua	46	1,336	3.4431
Central	45	1,663	2.7059
Eastern	34	1,334	2.5487
Far North	186	2,805	6.63102
Littoral	29	1,370	2.11679
Northern	101	1,639	6.16229
North-west	191	2,364	8.07953
West	182	2,370	7.6793
South	47	1,296	3.62654
South-west	169	1,922	8.79292
Total	1,225	22,383	

Source: Compiled by the author on the basis of data from the ECAM II and ECAM III surveys.

Results of the MCA

Table 8: Scores, correlations and contributions of the values taken by the variables

Category/Axis	Scores		Correlations		Contributions	
	Axis 1	Axis 2	Axis 1	Axis 2	Axis 1	Axis 2
Religious organisation						
1: is a member of a religious organisation	0.060	0.134	1.053	0.028	0.001	0.006
2: is not a member of a religious organisation	-3.339	-7.492	1.053	0.028	0.065	0.328
Association						
1: is a member of an association	1.176	-0.001	0.771	0.000	0.236	0.000
2: is not a member of an association	-1.237	0.146	0.770	0.000	0.248	0.003
Marital status						
1: married	0.978	-0.257	0.772	0.000	0.187	0.013
2: unmarried	-1.380	0.363	0.772	0.000	0.263	0.018

Source: Compiled by the author on the basis of data from the ECAM II and ECAM III surveys.

The social capital index (in the present study) was constructed from three variables, using a multiple correspondence analysis: membership of a religious organisation, membership of an association, and marital status. This construction produced two axes. All the variables follow the same (increasing) order. The inertia for the first axis is 12.946*10-4 (78.15%), that for the second axis is only 6.83*10-6 (0.41%), while the total inertia is 0.0016565. The first factorial axis will be the reference, as it contains the bulk of the information (78.15%). It transpires from this analysis that unmarried individuals tended not to be members of religious organisations and of any association. Married

individuals tended to be members of an association. The variable "association" was found to contribute to the construction of the social capital index more than the other variables; that is, at a rate of 23.6%, compared to a rate of 18.7% for "marital status" and 0.1% for "membership of a religious organisation".

Results of the regression analysis

Results of the probit model

The results of the estimations are given in tables 9, 10, 11 and 12. These show that social capital increased the probability of having access to credit (4.2% in 2001 and 9.5% in 2007), which translates into a 5.3% rise between the two. This increase can be attributed to the fact that during this period, the number of microfinance institutions increased, as did that of the NGOs set up, especially in the northern part of the country (the Far-North and the North). These results corroborate those obtained by Ngoa and Niyonsaba (2102) and Wamba (2013) in the case of small- and medium-sized enterprises, and also those from recent studies done on households in Kenya (Mwangi and Ouma, 2012), Ghana (Sadick *et al.*, 2013) and Nigeria (Lawal *et al.*, 2009; Ajani and Tijani, 2009; Balogun and Yusuf, 2011).

The analysis based on expenditure quintiles provides evidence that access to credit is a function of household income (from that of the poorest quintile to that of the least poor). The poor households' probability of having access to credit was found to be lower than that of the non-poor ones: that is, 2.67% (-2.46% in 2001 and -2.74% in 2007) for the first expenditure quintile, -0.6% (-0.86% in 2001 and -0.25% in 2007) for the second quintile, 1.05% (0.27% in 2001 and 1.8% in 2007) for the fourth quintile, and 2.36% (1.78% in 2001 and 2.9% in 2007) for the fifth quintile (see Table 9). These results mean that the households in the first and the second quintiles were 2.67% and 0.6%, respectively, less likely to have access to credit than those in the third quintile, and that the households in the fourth and fifth quintiles were 1.05% and 2.36%, respectively, more likely to have access to credit than those in the third quintile.

On the other hand, the study found that this probability was on an upward trend between the two dates, rising by 3.5%, 8%, 12% and 6.2% for the first, the second, the fourth and the fifth quintile, respectively. These figures show that the average individual did not have too much difficulty having access to credit during the period under study. Given the fact that poverty remained almost stable between 2001 and 2007 (40.2% and 39.9%, respectively) as a result of structural changes and of the achievement of the completion point of the Heavily Indebted Poor Countries Initiative in April 2006, some households moved from the category of "very poor" to a middle category. This observation is consistent with those made by other authors (Hao, 2005; Guérin *et al.*, 2011) who used the household income level as the measure.

The probability of households having access to credit was also found to depend on the size of the household. However, this probability increased up to a certain threshold, after which it decreased. Indeed, the study found that the bigger the size of the household, the lower the probability of having access to credit. This can be explained by the fact that large households have few guarantees for access to microcredit, since their income is in most cases oriented towards consumer spending. A similar observation was made about the age of the head of household. The study further found that the probability of having access to credit was also a function of the activity sector, of ownership of savings, and of ownership of land. The present study's findings are consistent with those made by Hao (2005) and Guérin *et al.* (2011). They confirm the study's first and second hypotheses.

In both the case of urban vs. rural areas and that of male-headed vs. female-headed households, the probability of having access to credit was found to depend on social capital. However, this probability was higher among the males (7.9%) than among the females (5.6%) and higher in the urban areas (7.3%) than in the rural ones (6.4%). The probability increased over the period under study, from 5.07% (in 2001) to 10.3% (in 2007) for the male-headed households and from 2.06% (in 2001) to 7.7% (in 2007) for the female-headed ones. Social capital influenced access to credit in 2001, but the coefficient was not significant. Over the study period, the variation was about 5% for the males and 4.6% for the females (see tables 10 and 11).

Access to credit also varied with the income level of the head of household. This was true for both the male-headed households and the female-headed ones, and for both the households in the urban areas and those in the rural (see tables 10 and 11). The poor households (i.e., those in the first and second expenditure quintiles) were found to be less likely to have access to credit than those in the third quintile, while the least poor households (i.e., those in the fourth and fifth quintiles) were more likely to have access to it. This probability rose over the study period. For the male-headed households, in 2001 it was -2.29% for the first quintile, -0.25% for the second, 0.9% for the fourth, and 3.12% for the fifth quintile, while in 2007 it was -2.89% for the first quintile, 0.29% for the second, 2.58% for the fourth, and 4.26% for the fifth. For the female-headed households, in 2001 the probability was -2.26%, -2.22%, -1.09% and -1.14% for the respective four quintiles, while in 2007 it was -2.48%, -1.72%, 0.013%, and 0.023%, respectively (see Table 11). For urban areas, this probability was -2.31, -1.78%, -1.28% and 0.83% in 2001; and -3.4%, 0.019%, 2.27% and 3.42% in 2007, for the first, the second, the fourth and the fifth quintiles, respectively.

For the rural areas, the probability of having access to credit was -2.34%, -0.21%, 0.62%, and 2.93% in 2001, against -2.43%, -0.52%, 0.25% and 0.72% in 2007, for the first, the second, the fourth and the fifth quintile, respectively (see Table 12). The rural households are poorer than the urban ones. Typically, they engage in activities such as agriculture, livestock farming, but not on a large scale, which explains the lower probability of them having access to credit.

Access to credit was further found to depend on household size, activity sector, savings and ownership of land.

Table 9: The probability, in relation to the various variables, of having access to credit in 2001 and 2007

Variables				Marginal effects		
	Overall	2001	2007	Overall	2001	2007
Social capital	0.482***	0.477***	0.890***	0.0472***	0.0420***	0.0952***
	(0.112)	(0.122)	(0.103)	(0.0110)	(0.0107)	(0.0108)
Social capital*dum2007	0.428***			0.0420***		
	(0.138)			(0.0135)		
First expenditure quintile	-0.318***	-0.330***	-0.295***	-0.0267***	-0.0246***	-0.0274***
	(0.0506)	(0.0732)	(0.0707)	(0.00360)	(0.00456)	(0.00565)
Second expenditure quintile	-0.0637	-0.104	-0.0238	-0.00604	-0.00863*	-0.00252
	(0.0450)	(0.0665)	(0.0614)	(0.00414)	(0.00524)	(0.00642)
Fourth expenditure quintile	0.102**	0.0308	0.159***	0.0105**	0.00275	0.0184**
	(0.0444)	(0.0660)	(0.0602)	(0.00481)	(0.00599)	(0.00749)
Fifth expenditure quintile	0.216***	0.184***	0.246***	0.0236***	0.0178**	0.0296***
	(0.0472)	(0.0692)	(0.0649)	(0.00570)	(0.00733)	(0.00873)
Size of the household	0.0708***	0.0868***	0.0675***	0.00694***	0.00763***	0.00722***
	(0.0114)	(0.0209)	(0.0143)	(0.00111)	(0.00182)	(0.00152)
Size^2 of the household	-0.0018***	-0.0033***	-0.00114*	-0.00018***	-0.00029***	-0.000122*
	(0.000583)	(0.00120)	(0.000682)	(5.71e-05)	(0.000105)	(7.28e-05)
Age of the head of household	0.00365	0.0108	-0.000680	0.000357	0.000951	-7.27e-05
	(0.00623)	(0.0102)	(0.00792)	(0.000610)	(0.000895)	(0.000847)
Age^2 of the head of household	-0.00015**	-0.00025**	-8.48e-05	-1.49e-05**	-2.26e-05**	-9.06e-06
	(6.66e-05)	(0.000112)	(8.34e-05)	(6.50e-06)	(9.70e-06)	(8.90e-06)
Female (head of household)	0.122***	0.0955*	0.143***	0.0126***	0.00876*	0.0162***
	(0.0350)	(0.0540)	(0.0462)	(0.00379)	(0.00516)	(0.00549)
Informal sector	0.288***	0.288**	0.232**	0.0282***	0.0254**	0.0248**
	(0.0844)	(0.129)	(0.116)	(0.00826)	(0.0113)	(0.0124)
Ownership of savings	0.325***	0.250***	0.401***	0.0319***	0.0219***	0.0429***
	(0.0645)	(0.0955)	(0.0886)	(0.00631)	(0.00837)	(0.00943)
Ownership of financial assets	1.204***	1.387***	1.000**	0.118***	0.122***	0.107**
	(0.320)	(0.421)	(0.498)	(0.0314)	(0.0371)	(0.0533)

continued next page

Table 9 Continued

Variables				Marginal effects		
	Overall	2001	2007	Overall	2001	2007
Dum2007	-0.149			-0.0147		
	(0.112)			(0.0111)		
Ownership of farmed land	0.270***	0.340***	0.215***	0.0264***	0.0299***	0.0229***
	(0.0608)	(0.0980)	(0.0789)	(0.00595)	(0.00859)	(0.00842)
Predicted value				0.04689	0.04097	0.05231
LR chi2 (16, 14) [P-val]	453.94 [0.000]	181.59 [0.000]	272.10 [0.000]			
No. of observations	22,383	10,992	11,391	22,383	10,992	11,391

Source: Compiled by the author on the basis of data from the ECAM II and ECAM III surveys.
Note: The standard deviations are given in parentheses, while ***, **, and * indicate the significance levels of 1%, 5% and 10%, respectively.

Table 10: The probability of having access to credit depending on the gender and area of residence of the head of household

Variables					Marginal effects			
	Males	Females	Urban	Rural	Males	Females	Urban	Rural
Social capital	0.789***	0.619***	0.710***	0.692***	0.0792***	0.0566***	0.0733***	0.0645***
	(0.0922)	(0.155)	(0.110)	(0.113)	(0.00909)	(0.0140)	(0.0112)	(0.0104)
First expenditure quintile	-0.302***	-0.330***	-0.371***	-0.283***	-0.026***	-0.0254***	-0.0299***	-0.0243***
	(0.0588)	(0.0992)	(0.0916)	(0.0649)	(0.00438)	(0.00636)	(0.00554)	(0.00510)
Second expenditure quintile	0.00353	-0.236***	-0.0840	-0.0365	0.000355	-0.0193***	-0.00827	-0.00335
	(0.0522)	(0.0893)	(0.0664)	(0.0619)	(0.00525)	(0.00646)	(0.00623)	(0.00559)
Fourth expenditure quintile	0.159***	-0.0545	0.114**	0.0816	0.0173***	-0.00485	0.0124*	0.00798
	(0.0515)	(0.0877)	(0.0575)	(0.0702)	(0.00604)	(0.00758)	(0.00653)	(0.00720)
Fifth expenditure quintile	0.311***	-0.0406	0.211***	0.227***	0.0364***	-0.00363	0.0235***	0.0247**
	(0.0544)	(0.0983)	(0.0602)	(0.0797)	(0.00731)	(0.00861)	(0.00716)	(0.00996)
Size of the household	0.0733***	0.0991***	0.0703***	0.0710***	0.00736***	0.00905***	0.00726***	0.00662***
	(0.0127)	(0.0363)	(0.0195)	(0.0154)	(0.00127)	(0.00331)	(0.00201)	(0.00143)
Size^2 of the household	-0.002***	-0.0056**	-0.00265**	-0.0015**	-0.0002***	-0.000514**	-0.000274**	-0.000144**
	(0.00061)	(0.00278)	(0.00115)	(0.00072)	(6.14e-05)	(0.000253)	(0.000119)	(6.78e-05)
Age of the head of household	-0.00542	0.0287**	0.0117	-0.00334	-0.000544	0.00262**	0.00121	-0.000311
	(0.00725)	(0.0127)	(0.00929)	(0.00843)	(0.00072)	(0.00115)	(0.00095)	(0.00078)
Age^2 of the head of household	-6.38e-05	-0.0004***	-0.000204**	-9.87e-05	-6.40e-06	-3.68e-05***	-2.11e-05**	-9.20e-06
	(7.67e-05)	(0.000138)	(9.96e-05)	(8.97e-05)	(7.68e-06)	(1.24e-05)	(1.03e-05)	(8.33e-06)
Informal sector	0.483***	0.339**	0.420***	0.551***	0.0484***	0.0310**	0.0434***	0.0513***
	(0.0921)	(0.163)	(0.0985)	(0.141)	(0.00919)	(0.0149)	(0.0101)	(0.0131)

continued next page

Table 10 Continued

Variables					Marginal effects			
	Males	Females	Urban	Rural	Males	Females	Urban	Rural
Ownership of savings	0.230***	0.421***	0.162*	0.397***	0.0231***	0.0385***	0.0167*	0.0370***
	(0.0748)	(0.128)	(0.0893)	(0.0933)	(0.00749)	(0.0116)	(0.00921)	(0.00866)
Ownership of financial assets	1.098***	1.505**	0.844**	2.783***	0.110***	0.138**	0.0872**	0.259***
	(0.374)	(0.632)	(0.361)	(0.761)	(0.0375)	(0.0578)	(0.0373)	(0.0710)
Ownership of farmed land	0.189**	0.293**	0.412***	0.113	0.0190**	0.0267**	0.0426***	0.0106
	(0.0821)	(0.142)	(0.102)	(0.108)	(0.00822)	(0.0130)	(0.0105)	(0.0100)
Area of residence	-0.0635	-0.00386			-0.00636	-0.000353		
	(0.0479)	(0.0800)			(0.00480)	(0.00731)		
Gender			0.0670	0.192***			0.00693	0.0179***
			(0.0480)	(0.0515)			(0.00496)	(0.00478)
Constant	-2.659***	-3.128***	-3.035***	-2.954***				
	(0.176)	(0.316)	(0.215)	(0.219)				
Predicted values					0.048287	0.043006	0.050105	0.04405
Log likelihood	-3426.61	-1103.15	-2372.43	-2159.28				
LR chi2 (14) [P-val]	321.16	117.62	194.72	239.96				
No. of observations	16,661	5,722	11,340	11,043	16,661	5,722	11,340	11,340

Source: Compiled by the author on the basis of data from the ECAM II and ECAM III surveys.
Note: The standard deviations are given in parentheses, while ***, **, and * indicate the significance levels of 1%, 5% and 10%, respectively.

Table 11: The probability of having access to credit depending on the gender of the head of household and by year

Variables					Marginal effects			
	Males	Males	Females	Females	Males	Males	Females	Females
	2001	2007	2001	2007	2001	2007	2001	2007
Social capital	0.573***	0.949***	0.255	0.804***	0.0507***	0.103***	0.0206	0.0770***
	(0.143)	(0.123)	(0.252)	(0.200)	(0.0125)	(0.0129)	(0.0203)	(0.0190)
First expenditure quintile	-0.299***	-0.309***	-0.394**	-0.301**	-0.0228***	-0.0289***	-0.026***	-0.0248***
	(0.0839)	(0.0840)	(0.153)	(0.133)	(0.00548)	(0.00673)	(0.00789)	(0.00940)
Second expenditure quintile	-0.0284	0.0272	-0.325**	-0.197	-0.00247	0.00299	-0.022***	-0.0172*
	(0.0767)	(0.0720)	(0.138)	(0.120)	(0.00658)	(0.00802)	(0.00801)	(0.00952)
Fourth expenditure quintile	0.0960	0.214***	-0.145	0.0135	0.00892	0.0258***	-0.0109	0.00130
	(0.0771)	(0.0700)	(0.130)	(0.121)	(0.00753)	(0.00927)	(0.00904)	(0.0118)
Fifth expenditure quintile	0.301***	0.335***	-0.153	0.0240	0.0312***	0.0426***	-0.0114	0.00232
	(0.0797)	(0.0752)	(0.147)	(0.135)	(0.00952)	(0.0110)	(0.0101)	(0.0133)
Size of the household	0.0963***	0.0716***	0.124*	0.103**	0.00851***	0.0077***	0.0101**	0.00988**
	(0.0236)	(0.0161)	(0.0641)	(0.0456)	(0.00207)	(0.00173)	(0.00509)	(0.00435)
$Size^2$ of the household	-0.0034***	-0.00110	-0.00980*	-0.00417	-0.00031***	-0.000119	-0.00079*	-0.000399
	(0.00129)	(0.000709)	(0.00538)	(0.00331)	(0.000114)	(7.67e-05)	(0.00043)	(0.000316)
Age of the head of household	0.0108	-0.0161*	0.00781	0.0444**	0.000958	-0.00174*	0.000631	0.00425***
	(0.0124)	(0.00918)	(0.0188)	(0.0175)	(0.00109)	(0.000994)	(0.00152)	(0.00162)
Age^2 of the head of household	-0.00028**	7.12e-05	-0.000188	-6e-4***	-2.47e-05**	7.72e-06	-1.52e-05	-5.4e-05***
	(0.000135)	(9.50e-05)	(0.000202)	(0.00019)	(1.18e-05)	(1.03e-05)	(1.62e-05)	(1.76e-05)

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Table 11 Continued

Variables					Marginal effects			
	Males	Males	Females	Females	Males	Males	Females	Females
	2001	2007	2001	2007	2001	2007	2001	2007
Informal sector	0.396***	0.187	-0.0709	0.306	0.0350***	0.0203	-0.00573	0.0293
	(0.150)	(0.133)	(0.261)	(0.245)	(0.0132)	(0.0144)	(0.0211)	(0.0235)
Ownership of savings	0.194*	0.349***	0.417**	0.524***	0.0171*	0.0378***	0.0337**	0.0503***
	(0.111)	(0.104)	(0.196)	(0.176)	(0.00978)	(0.0112)	(0.0157)	(0.0168)
Ownership of financial assets	1.560***	0.454	0.699	2.655***	0.138***	0.0491	0.0565	0.254***
	(0.490)	(0.592)	(0.851)	(0.979)	(0.0435)	(0.0641)	(0.0689)	(0.0942)
Ownership of farmed land	0.356***	0.169	0.455**	0.255	0.0314***	0.0183	0.0367**	0.0245
	(0.135)	(0.107)	(0.232)	(0.184)	(0.0119)	(0.0116)	(0.0187)	(0.0177)
Area of residence	-0.0687	0.0189	0.0240	0.0755	-0.00607	0.00204	0.00194	0.00724
	(0.0744)	(0.0645)	(0.124)	(0.109)	(0.00657)	(0.00699)	(0.0100)	(0.0105)
Constant	-2.877***	-2.494***	-2.321***	-3.74***				
	(0.280)	(0.232)	(0.466)	(0.439)				
Predicted value					0.041247	0.05319	0.036967	0.04562
Log likelihood	-1552.1013	-1846.98	-455.453	-633.465				
LR chi2 (14) [P-val]	162.76	200.19	38.36	99.91				
No. of observations	8,311	8,350	2,681	3,041	8,311	8,350	2,681	3,041

Source: Compiled by the author on the basis of data from the ECAM II and ECAM III surveys.
Note: The standard deviations are given in parentheses, while ***, **, and * indicate the significance levels of 1%, 5% and 10%, respectively.

Table 12: The probability of having access to credit depending on the area of residence of the head of household and by year

Variables					Marginal effects			
	Urban	Urban	Rural	Rural	Urban	Urban	Rural	Rural
	2001	2007	2001	2007	2001	2007	2001	2007
Social capital	0.621***	0.777***	0.377**	0.967***	0.0548***	0.0883***	0.0325**	0.0927***
	(0.185)	(0.137)	(0.165)	(0.159)	(0.0162)	(0.0154)	(0.0142)	(0.0149)
First expenditure quintile	-0.330**	-0.386***	-0.301***	-0.271***	-0.0231***	-0.034***	-0.0234***	-0.0243***
	(0.141)	(0.121)	(0.0903)	(0.0960)	(0.00761)	(0.00802)	(0.00631)	(0.00807)
Second expenditure quintile	-0.230**	0.00175	-0.0247	-0.0554	-0.0178**	0.000199	-0.00210	-0.00520
	(0.110)	(0.0848)	(0.0860)	(0.0910)	(0.00735)	(0.00966)	(0.00723)	(0.00834)
Fourth expenditure quintile	-0.0145	0.186**	0.0695	0.136	-0.00128	0.0227**	0.00623	0.0142
	(0.0917)	(0.0745)	(0.0957)	(0.105)	(0.00799)	(0.00978)	(0.00893)	(0.0119)
Fifth expenditure quintile	0.0918	0.274***	0.282***	0.228*	0.00838	0.0342***	0.0293**	0.0256
	(0.0931)	(0.0795)	(0.106)	(0.125)	(0.00875)	(0.0108)	(0.0130)	(0.0162)
Size of the household	0.0610*	0.0729***	0.103***	0.0743***	0.00539*	0.0083***	0.00883***	0.00712***
	(0.0313)	(0.0250)	(0.0284)	(0.0215)	(0.00275)	(0.00283)	(0.00243)	(0.00204)
Size^2 of the household	-0.00255	-0.00212	-0.00394**	-0.000941	-0.000225	-0.000241	-0.000339**	-9.03e-05
	(0.00180)	(0.00151)	(0.00163)	(0.000917)	(0.000159)	(0.00017)	(0.00014)	(8.78e-05)
Age of the head of household	0.0145	0.00936	0.00647	-0.0103	0.00128	0.00106	0.000557	-0.000992
	(0.0168)	(0.0113)	(0.0130)	(0.0113)	(0.00148)	(0.00128)	(0.00112)	(0.00109)
Age^2 of the head of household	-0.000255	-0.000172	-0.000233	5.88e-07	-2.25e-05	-1.96e-05	-2.00e-05*	5.64e-08
	(0.000184)	(0.000119)	(0.000142)	(0.000119)	(1.62e-05)	(1.35e-05)	(1.20e-05)	(1.14e-05)

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Table 12 Continued

Variables					Marginal effects			
	Urban	Urban	Rural	Rural	Urban	Urban	Rural	Rural
	2001	2007	2001	2007	2001	2007	2001	2007
Informal sector	0.312*	0.216	0.234	0.218	0.0276*	0.0246	0.0201	0.0210
	(0.168)	(0.139)	(0.209)	(0.222)	(0.0148)	(0.0158)	(0.0180)	(0.0213)
Ownership of savings	0.246*	0.186	0.239*	0.643***	0.0217*	0.0211	0.0206*	0.0617***
	(0.143)	(0.117)	(0.131)	(0.141)	(0.0126)	(0.0133)	(0.0112)	(0.0135)
Ownership of shares and bonds	1.091**	0.642	2.920***	2.328*	0.0964**	0.0730	0.251***	0.223*
	(0.478)	(0.562)	(1.000)	(1.201)	(0.0424)	(0.0639)	(0.0862)	(0.115)
Ownership of farmed land	0.348*	0.450***	0.493***	0.0548	0.0308*	0.0511***	0.0424***	0.00526
	(0.185)	(0.124)	(0.172)	(0.151)	(0.0163)	(0.0141)	(0.0147)	(0.0145)
Gender	0.0598	0.0637	0.132*	0.235***	0.00528	0.00724	0.0113*	0.0226***
	(0.0778)	(0.0614)	(0.0760)	(0.0714)	(0.00687)	(0.00698)	(0.00653)	(0.00682)
Constant	-2.917***	-2.954***	-2.906***	-2.831***				
	(0.369)	(0.271)	(0.323)	(0.304)				
Predicted value					0.041253	0.056546	0.03995	0.045681
Log likelihood	-901.2983	-1457.684	-1111.165	-1024.7745				
LR chi2 (14) [P-val]	66.74	137.11	126.10	156.65				
No. of observations	4,975	6,365	6,017	5,026	4,975	6,365	6,017	5,026

Source: Compiled by the author on the basis of data from the ECAM II and ECAM III surveys.
Note: The standard deviations are given in parentheses, while ***, **, and * indicate the significance levels of 1%, 5% and 10%, respectively.

Results of the second step of the Heckman two-step procedure

Table 13: The second step of the Heckman procedure for 2001 and 2007

Variables	Overall	2001	2007
	Credit	Credit	Credit
Social capital	0.282*	-0.0181	0.412**
	(0.148)	(0.220)	(0.202)
First expenditure quintile	-0.186***	-0.184*	-0.151
	(0.0660)	(0.0959)	(0.0922)
Second expenditure quintile	-0.0142	-0.0526	0.0272
	(0.0471)	(0.0700)	(0.0643)
Fourth expenditure quintile	0.0289	-0.0562	0.0754
	(0.0509)	(0.0753)	(0.0698)
Fifth expenditure	0.109*	0.0595	0.123
	(0.0584)	(0.0853)	(0.0812)
Size of the household	0.0350**	0.0480*	0.0295
	(0.0157)	(0.0263)	(0.0207)
Size^2 of the household	-0.00111*	-0.00249**	-0.000312
	(0.000634)	(0.00126)	(0.000762)
Age of the head of household	0.000772	0.00462	-0.00454
	(0.00651)	(0.0107)	(0.00828)
Age^2 of the head of household	-6.43e-05	-0.000128	1.74e-05
	(7.68e-05)	(0.000126)	(9.77e-05)
Informal sector	0.412***	0.228*	0.169
	(0.0809)	(0.131)	(0.118)
Ownership of savings	0.144	0.0626	0.238**
	(0.0873)	(0.128)	(0.121)
Ownership of financial assets	0.666*	0.750	0.311
	(0.377)	(0.503)	(0.582)
Ownership of farmed land	0.0573	0.219**	0.101
	(0.0689)	(0.110)	(0.0938)
Inverse Mills ratio	1.512***	1.806**	1.700**
	(0.532)	(0.776)	(0.742)
Constant	-2.713***	-2.620***	-2.629***
	(0.147)	(0.230)	(0.194)
No. of observations	22,383	10,992	11,391

Source: Compiled by the author on the basis of data from the ECAM II and ECAM III surveys.
Note: The standard deviations are given in parentheses, while ***, **, and * indicate the significance levels of 1%, 5% and 10%, respectively.

Tables 13 and 14 present the results of the estimation of the second step of the Heckman procedure, while tables A6 and A7 present those of the first step (about the credit application function). The results obtained show that the determinants of the application for credit are the same as those of obtaining the credit applied for. However, some clarification needs to be made: in all the estimations, the inverse Mills ratio was found to be significant, which justifies the relevance of the model. It is noted that the probability of an individual applying for credit depends on his/her health status. Given the selection bias, the probability of a household having access to credit is always a function of social capital. This probability rose between 2001 and 2007, a rise that was observed both in the case of the credit application function and that of obtaining the credit.

Table 14: Results of the estimations of the Heckman model in relation to gender and area of residence and by year

Variables	Males	Males	Females	Females	Urban	Urban	Rural	Rural
	2001	2007	2001	2007	2001	2007	2001	2007
Social capital	0.443*	0.560**	-1.027**	0.472	0.0425	0.274	-0.0333	0.578*
	(0.267)	(0.248)	(0.457)	(0.392)	(0.324)	(0.272)	(0.302)	(0.306)
First expenditure quintile	-0.258**	-0.179	0.00168	-0.180	-0.156	-0.228	-0.186	-0.156
	(0.112)	(0.110)	(0.190)	(0.177)	(0.167)	(0.144)	(0.125)	(0.132)
Second expenditure quintile	-0.0139	0.0706	-0.192	-0.156	-0.168	0.0535	0.0176	-0.00954
	(0.0811)	(0.0759)	(0.144)	(0.125)	(0.115)	(0.0884)	(0.0909)	(0.0954)
Fourth expenditure quintile	0.0736	0.137*	-0.408***	-0.0574	-0.126	0.0942	0.00522	0.0612
	(0.0880)	(0.0820)	(0.153)	(0.140)	(0.107)	(0.0880)	(0.107)	(0.119)
Fifth expenditure quintile	0.271***	0.226**	-0.518***	-0.0742	-0.0621	0.143	0.186	0.125
	(0.0991)	(0.0958)	(0.184)	(0.165)	(0.119)	(0.103)	(0.126)	(0.146)
Size of the household	0.0864***	0.0385	0.0186	0.0727	0.0136	0.0339	0.0722**	0.0395
	(0.0302)	(0.0243)	(0.0720)	(0.0534)	(0.0391)	(0.0320)	(0.0359)	(0.0315)
Size^2 of the household	-0.00327**	-0.000344	-0.00783	-0.00347	-0.00148	-0.00130	-0.00328*	-0.000191
	(0.00136)	(0.00082)	(0.00551)	(0.00333)	(0.00188)	(0.00159)	(0.00171)	(0.00106)
Age of the head of household	0.00852	-0.0220**	-0.00923	0.0381**	0.00554	0.00287	0.00310	-0.0103
	(0.0130)	(0.00965)	(0.0185)	(0.0183)	(0.0174)	(0.0117)	(0.0137)	(0.0119)
Age^2 of the head of household	-0.000237	0.000187*	0.000157	-0.0004**	-8.33e-05	-3.89e-05	-0.000147	4.99e-05
	(0.000154)	(0.00011)	(0.000212)	(0.00021)	(0.00020)	(0.00013)	(0.00016)	(0.00014)
Informal sector	0.378**	0.141	-0.220	0.298	0.245	0.156	0.183	0.172
	(0.152)	(0.136)	(0.266)	(0.246)	(0.171)	(0.142)	(0.212)	(0.223)
Ownership of savings	0.142	0.169	-0.140	0.366	0.00172	-0.0165	0.115	0.561***
	(0.150)	(0.143)	(0.255)	(0.232)	(0.190)	(0.159)	(0.177)	(0.190)

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Table 14 Continued

Variables	Males	Males	Females	Females	Urban	Urban	Rural	Rural
	2001	2007	2001	2007	2001	2007	2001	2007
Ownership of financial assets	1.439**	-0.201	-1.362	2.075*	0.317	-0.137	2.368**	1.871
	(0.578)	(0.694)	(1.044)	(1.144)	(0.617)	(0.688)	(1.094)	(1.298)
Ownership of farmed land	0.254**	0.0768	0.138	0.218	0.193	0.317**	0.392**	-0.0380
	(0.127)	(0.109)	(0.225)	(0.191)	(0.202)	(0.143)	(0.184)	(0.168)
Inverse Mills ratio	0.513	1.594*	5.298***	1.395	2.273**	1.938**	1.334	1.180
	(0.915)	(0.888)	(1.568)	(1.429)	(1.143)	(0.988)	(1.066)	(1.135)
Constant	-2.912***	-2.370***	-2.090***	-3.573***	-2.686***	-2.751***	-2.626***	-2.452***
	(0.276)	(0.225)	(0.429)	(0.428)	(0.358)	(0.266)	(0.311)	(0.293)
No. of observations	8,311	8,350	2,681	3,041	4,975	6,365	6,017	5,026

Source: Compiled by the author on the basis of data from the ECAM II and ECAM III surveys.
Note: The standard deviations are in parentheses, while *** p<0.01, ** p<0.05, and * p<0.1 correspond to the significance levels of 1%, 5% and 10%, respectively.

7. Implications of the empirical results

Access to credit by households in Cameroon in 2001 and 2007 was not homogeneous. This is an indication of the differences in access to credit between the two dates, which in turn can be justified by the distribution of microfinance institutions across the country. This lack of homogeneity was observed in relation to the gender of the head of household (male-headed vs. female-headed households), as well as his/her area of residence (rural vs. urban). The depth of social capital which households had was also found to be unequally distributed. The households in urban areas and those that were headed by males had a higher level of social capital than those in rural areas and those headed by females. This finding is an indication of the level of confidence in the males living in urban areas. While in rural areas relations are those of mutual help, in urban areas, the mutual-help relations (between friends and relatives) are more developed. Males are also employed in better-paying jobs. That is why there is a need to promote the creation of associations and to sensitise women to be active members. This would promote entrepreneurship among women and, as a result, improve their living conditions. This is consistent with the results obtained by Epo (2012), Nana-Djomo and Atangana-Ondoua (2012), and Metseyem *et al.* (2016).

The probability of the non-poor households having access to credit was found to be higher than that of the poor ones. Evidence of this came from the study by Guérin *et al.* (2011) conducted in Morocco. It is therefore necessary for the government to review its employment policy by putting in place measures that would encourage the move from the informal sector to the formal one to reduce the poverty incidence.

Social capital increases the probability of having access to credit. This probability rose during the period between 2001 and 2007, a rise that can be justified by the high demand for credit in 2007 coupled with an increase in microfinance institutions.

8. Conclusion and recommendation

How can the effect of social capital on households' access to microcredit in Cameroon in 2001 and 2007 be characterised? This was the main question which the present study sought to answer. To this end, with the aim of identifying the determinants of access to microcredit according to the gender of the head of household and to his/her area of residence in the years 2001 and 2007, the study applied two methodological approaches, namely the probit model and the Heckman two-step model, to data collected by the National Institute of Statistics during two household surveys (abbreviated as ECAM II and ECAM III). The choice of the present study's topic was motivated by the precarious situation in which the people lived in Cameroon against the backdrop of the country's need to achieve the Millennium Development Goals by enabling family businesses, the SMEs and manufacturing firms to gain access to credit.

The study's results show that social capital increased a household's probability of getting access to credit, and that this probability was also a function of the household's level of income. But disparities were observed according to the gender and the area of residence of the head of household, and the year under study. The key observation made was that, over the period between 2001 and 2007, the probability increased and was stronger for households headed by women and those living in rural areas. This can be attributed to the fact that there were many self-help groups in rural areas and women were more active in social networks. Based on these results, there is a need to promote the grouping of stakeholders (both private individuals and enterprises) into networks.

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Appendix

Table A1: Trends in the number of banks operating from the CEMAC zone from 2008 to 2011

	2008	2009	2010	2011
Cameroon	13	12	12	13
Central African Republic	4	4	4	4
Congo	6	6	6	6
Chad	7	7	8	8
Equatorial Guinea	4	4	4	4
Gabon	7	7	9	9
Total	41	43	43	44

Source: COBAC, 2011.

Table A2: Households' application for and obtaining of credit in 2001

	The credit was granted		The credit was not granted		The household applied for credit		The household borrowed money	
	Yes	No	Yes	No	Yes	No	Yes	No
Rural	294	5,723	455	5,562	691	5,326	294	5,326
Urban	231	4,744	477	4,498	653	4,322	231	4,322
Total	525	10,467	932	10,060	1,344	9,648	525	9,648
Female	115	2,566	147	2,534	245	2,436	115	2,436
Male	410	7,901	785	7,526	1,099	7,212	410	7,212
Total	525	10,467	932	10,060	1,344	9,648	525	9,648

Source: Compiled by the author on the basis of data from the ECAM II survey conducted in 2001.

Table A3: Households' application for and obtaining of credit in 2007

	The credit was granted		The credit was not granted		The household applied for credit		The household borrowed money	
	Yes	No	Yes	No	Yes	No	Yes	No
Rural	288	6,077	180	4,846	428	4,598	288	4,598
Urban	412	4,614	303	6062	657	5,708	412	5,708
Total	700	10,691	483	10,908	1,085	10,306	700	10,306
Female	180	2,861	97	2,944	257	2,784	180	2,784
Male	520	7,830	386	7,964	828	7,522	520	7,522
Total	700	10,691	483	10,908	1,085	10,306	700	10,306

Source: Compiled by the author on the basis of data from the ECAM III survey conducted in 2007.

Table A4: Number of MFIs in the CEMAC countries as of 31 Dec. 2010

Category	Country						Total for CEMAC
	Cameroon	Congo	Gabon	Chad	CAR	Eq. Guinea	
1st category • Independent MFIs • MFIs affiliated to a network	446 183 263	53 19 34	2 2 0	170 11 159	18 2 16	0 0 0	689 217 472
2nd category	45	7	7	2	1	0	62
3rd category	4	2	1	0	0	0	7
Total	495	62	10	172	19	0	758

Source: COBAC, 2011.

Table A5: Distribution of MFIs across the regions of Cameroon

The MFIs affiliated to the CAMCULL network

Regions	AD	Central	Far North	Littoral	North	North-West	West	South	South-West	East	Total
Numbers	5	6	13	18	5	62	18	4	45	0	176

The MFIs affiliated to the CVECA network

Regions	Far North	North	Central	Total
Numbers	5	4	34	43

The MFIs affiliated to the CMEC network

Regions	North-West	West	Total
Numbers	9	18	27

Number of MCs[2]

Regions	AD	Central	Far North	Littoral	North	North-West	West	South	South-West	East	Total
Numbers	2	6	2	7	0	3	24	3	1	2	50

Number of MFIs by category

Category	1st category	2nd category	3rd category	Total
Numbers	149	43	5	197

The MFIs affiliated to networks

Networks	CAMCULL	CVECA	CMEC	MUCADEC	Total
Numbers	176	43	27	06	252

Source: Cameroun Tribune, No. 10177/6378 of 13 September 2012.

Table A6: The first-step of the Heckman procedure applied to the data of 2001 and 2007

Variables		2001	2007
	Credit application	Credit application	Credit application
Health status	0.164***	0.156***	0.167***
	(0.0241)	(0.0327)	(0.0361)
Informal sector	0.0949	0.191**	0.105
	(0.0636)	(0.0948)	(0.100)
Social capital	0.738***	0.682***	0.764***
	(0.0609)	(0.0869)	(0.0861)
First expenditure quintile	-0.241***	-0.234***	-0.249***
	(0.0404)	(0.0543)	(0.0612)
Second expenditure quintile	-0.0796**	-0.116**	-0.0370
	(0.0372)	(0.0512)	(0.0544)
Fourth expenditure quintile	0.145***	0.0762	0.223***
	(0.0360)	(0.0497)	(0.0524)
Fifth expenditure quintile	0.200***	0.180***	0.233***
	(0.0384)	(0.0522)	(0.0570)
Size of household	0.0635***	0.0648***	0.0650***
	(0.00920)	(0.0137)	(0.0126)
Size^2 of household	-0.00146***	-0.00196***	-0.00102*
	(0.000464)	(0.000723)	(0.000608)
Age of the head of household	0.0146***	0.0163**	0.0143**
	(0.00504)	(0.00732)	(0.00700)
Age^2 of the head of household	-0.000269***	-0.000313***	-0.000237***
	(5.38e-05)	(7.89e-05)	(7.41e-05)
Ownership of savings	0.331***	0.270***	0.379***
	(0.0521)	(0.0714)	(0.0777)
Ownership of financial assets	1.284***	1.593***	0.838*
	(0.270)	(0.341)	(0.449)
Ownership of farmed land	0.201***	0.142*	0.185***
	(0.0481)	(0.0737)	(0.0688)
Constant	-2.513***	-2.397***	-2.673***
	(0.117)	(0.165)	(0.169)
No. of observations	22,383	10,992	11,391

Source: Compiled by the author on the basis of data from the ECAM II and ECAM III surveys.
Note: The standard deviations are in parentheses, while *** p<0.01, ** p<0.05, and * p<0.1 correspond to the significance levels of 1%, 5% and 10%, respectively.

Table A7: The first-step of the Heckman procedure applied to the data on gender and area of residence in 2001 and 2007

Variables	2001	2007	2001	2007	Urban	Urban	Rural	Rural
	Males	Males	Females	Females	2001	2007	2001	2007
Health status	0.128***	0.140***	0.302***	0.229***	0.162***	0.146***	0.147***	0.186***
	(0.0374)	(0.0426)	(0.0707)	(0.0700)	(0.0476)	(0.0472)	(0.0452)	(0.0564)
Informal sector	0.212**	0.0795	0.0982	0.186	0.257**	0.0982	0.117	0.000942
	(0.108)	(0.115)	(0.203)	(0.214)	(0.124)	(0.120)	(0.154)	(0.193)
Social capital	0.762***	0.754***	0.265	0.889***	0.784***	0.617***	0.589***	0.917***
	(0.104)	(0.103)	(0.197)	(0.179)	(0.128)	(0.112)	(0.120)	(0.137)
First expenditure quintile	-0.212***	-0.263***	-0.297**	-0.252**	-0.0478	-0.266***	-0.297***	-0.198**
	(0.0609)	(0.0714)	(0.120)	(0.120)	(0.0946)	(0.0969)	(0.0685)	(0.0865)
Second expenditure quintile	-0.0696	-0.00139	-0.268**	-0.188*	-0.207**	-0.0912	-0.0756	0.0252
	(0.0578)	(0.0632)	(0.111)	(0.109)	(0.0818)	(0.0751)	(0.0669)	(0.0819)
Fourth expenditure quintile	0.0963*	0.268***	0.00419	0.0963	0.0457	0.230***	0.111	0.215**
	(0.0567)	(0.0602)	(0.103)	(0.109)	(0.0693)	(0.0640)	(0.0721)	(0.0936)
Fifth expenditure quintile	0.257***	0.297***	-0.107	0.0741	0.144**	0.239***	0.238***	0.273**
	(0.0589)	(0.0651)	(0.118)	(0.122)	(0.0700)	(0.0689)	(0.0819)	(0.111)
Size of household	0.0640***	0.0626***	0.0901**	0.146***	0.0268	0.0767***	0.111***	0.0578***
	(0.0153)	(0.0140)	(0.0422)	(0.0425)	(0.0180)	(0.0214)	(0.0215)	(0.0196)
Size^2 of household	-0.00182**	-0.000758	-0.00510	-0.00734**	-0.000209	-0.00220*	-0.0045***	-0.000305
	(0.000769)	(0.000628)	(0.00317)	(0.00319)	(0.00085)	(0.00129)	(0.00123)	(0.000875)
Age of the head of household	0.0164*	0.00526	0.0150	0.0382***	0.0327***	0.0240**	0.00619	0.00347
	(0.00857)	(0.00813)	(0.0146)	(0.0147)	(0.0121)	(0.00984)	(0.00923)	(0.0101)

continued next page

Table A7 Continued

Variables	2001	2007	2001	2007	Urban	Urban	Rural	Rural
	Males	Males	Females	Females	2001	2007	2001	2007
Age^2 of the head of household	-0.00032***	-0.000133	-0.00026*	-0.00051***	-0.0005***	-0.0003***	-0.00021**	-0.000146
	(9.22e-05)	(8.49e-05)	(0.00015)	(0.000159)	(0.00013)	(0.000105)	(9.80e-05)	(0.000106)
Ownership of savings	0.247***	0.345***	0.393**	0.424***	0.498***	0.0913	0.0599	0.768***
	(0.0814)	(0.0900)	(0.154)	(0.159)	(0.105)	(0.102)	(0.101)	(0.125)
Ownership of financial assets	1.781***	0.548	0.986	1.766*	1.174***	0.463	2.642***	2.390**
	(0.391)	(0.516)	(0.710)	(0.936)	(0.386)	(0.506)	(0.800)	(1.082)
Ownership of farmed land	0.110	0.150*	0.226	0.327**	0.305**	0.383***	0.138	0.181
	(0.0835)	(0.0784)	(0.160)	(0.146)	(0.139)	(0.109)	(0.127)	(0.134)
Constant	-2.443***	-2.467***	-2.223***	-3.466***	-2.856***	-2.750***	-2.130***	-2.572***
	(0.189)	(0.194)	(0.348)	(0.362)	(0.260)	(0.229)	(0.221)	(0.256)
No. of observations	8,311	8,350	2,681	3,041	4,975	6,365	6,017	5,026

Source: Compiled by the author on the basis of data from the ECAM II and ECAM III surveys.
Note: The standard deviations are in parentheses, while *** p<0.01, ** p<0.05, and * p<0.1 correspond to the significance levels of 1%, 5% and 10%, respectively.

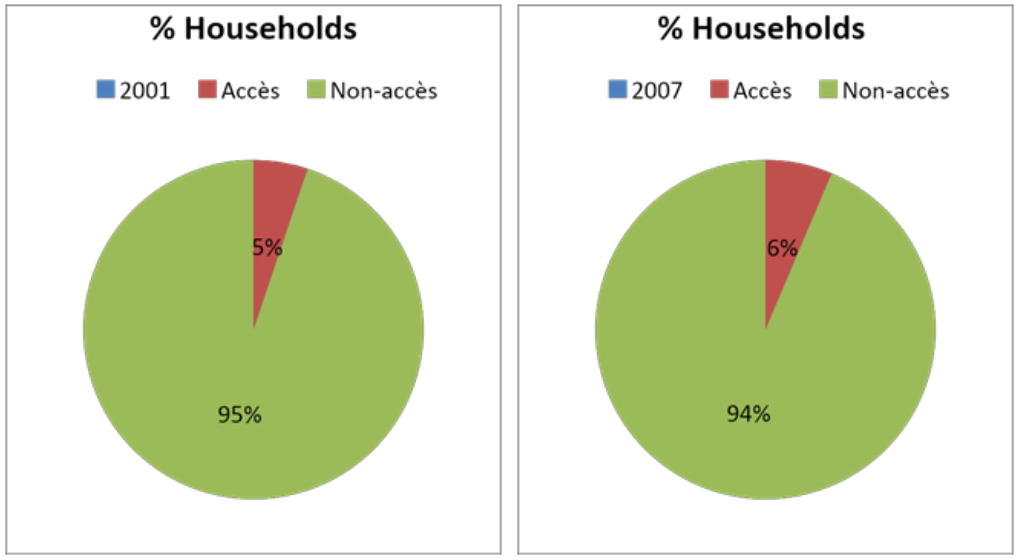
Table A8: The test for the comparison of means

Group	No. of obs.	Mean	Standard error	SD	95% level of confidence
2001 2007	10,992 11,391	0.7551 0.7037	0.002 0.0021	0.2102 0.2252	0.7511-0.759 0.6996-0.7079
Total	22,383	0.7289	0.0014	0.2195	0.7261-0.7318
Diff		0.5133	0.0029		0.0456-0.057

H0: Diff =0
Ha1: diff < 0 Ha2: diff != 0 Ha3: diff > 0
Pr(T < t) = 1.0000 Pr (|T| > |t|) = 0.0000 Pr(T > t) = 0.0000

Source: Compiled by the author on the basis of data from the ECAM II and ECAM III surveys.

Figure 1: Percentage of households that had access to credit in 2001 and 2007



Source: Compiled by the author on the basis of data from the ECAM II (of 2001) and ECAM III (of 2007) surveys.

NB: Accès: Access Non-accès: No access

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