THE CHALLENGES OF FINANCIAL INCLUSION FOR RURAL WOMEN IN NICARAGUA

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Abstract

This paper analyzes the intrahousehold dynamics that restrict or allow rural women to have access to credit and additional resources to improve their living conditions. The paper also explores the financial mechanisms of microcredit institutions that in practice impose restrictions to credit access. We use a multivariate analysis based on the CBMS database of 1,543 rural women as wives or household heads (aged 15 and over) from 32 rural communities in the municipality of Río Blanco, Nicaragua. The main findings indicate that credit is scarce in general in these rural communities and the lack of it affects both women and men. However, women are doubly affected by both the lending practices of financial institutions and the psycho-social barriers in the intrahousehold dynamics. The husband's support needs to be included in credit policy as it represents an opportunity or a constraint for rural women to be financially included, and is thus a challenge for financial institutions.

Keywords: Gender, intrahousehold dynamics, microcredit, rural women, psychosocial factors

I. Introduction

In recent years, we have witnessed a growing concern to promote and improve financial inclusion for poor households as a way to improve economic growth and, more recently, to reach the Sustainable Development Goals (SDGs) promoted by the United Nations (UN). Promoting inclusive and sustainable economic growth, employment and decent work is goal 8 of the SDGs, which recognizes gender disparities. [1] The UN stresses that "there needs to be increased access to financial services to manage incomes, accumulate assets and make productive investments" (United Nations, 2018). Financial inclusion is a key point to move toward goal 8, particularly for rural families and mainly for women who face more vulnerabilities to being excluded from financial services than men.

Access to credit has been a historical demand of the productive sector, mainly for agricultural activities of small-scale or microenterprises (working with local raw materials to add value) to supply the domestic market. The insufficient offer of credit and its high cost are two of the main restrictions to economic growth in the rural economy. In 2012 Nicaragua was lagging behind other Latin American countries, with fewer financial services per number of bank branches, ATMs, loans and deposits (Flores, Acevedo, & Sandino, 2012).

Although at the end of 2017, the National Commission of Microfinance Institutions (CONAMI - Spanish acronym) reported more women (54%) than men (46%) as credit users in 38 microfinance

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[1] For instance, globally men earn 12.5% more than women in 40 out of 45 countries with data, and women's labor force participation rate is 63% while that of men is 94%.

institutions operating throughout the country (CONAMI, 2018), there is no available information about how many rural women have access to credit or how many of them are facing restrictions to be credit users. By our experience working in the countryside with rural women we know few of them have access to credit. In addition, the credit supply is less oriented to productive activities. The CONAMI report indicates that 12.43% of the total credit portfolio is allocated as agricultural credit, 5.76% is livestock credit, 40.93% is consumption credit and 23.98% for commercial activities, with the remaining 16.9% divided among other activities. The National Bank of Nicaragua reported a similar portfolio structure for the National Financial System in 2018, in which 53.7% is credit allocated to commerce and consumption (Banco Central de Nicaragua, 2018).

This research analyzes the intrahousehold dynamic in accessing external resources for production. González (2000) and Oliveira, et, al. (1999) emphasize that family dynamics and the links crossed by collaboration, exchange, power and conflict generated among family members are the tissue of relationships, the natural space where ideas converge and decisions are made. Rural households "are the vital spaces where the fundamental affective connections are constituted, responsibilities are exercised and the consequences of life in common are experienced." The main components of family dynamics, says Agudelo Bedoya, (2005), include the various situations of psychological, biological and social nature that are present in the relationships that occur between the members that make up the family and enable the exercise of daily life at the level of communication, affectivity and authority (CEPAL, 2006, Ariza, 1999, Oliveira, et al., 1999; Torres Velasquez, 2008). In this study, we look at the intrahousehold dynamics in the interactions and relationships of the family members (mainly family heads) that are involved in income generation at the level of household, land tenure, assets, property, money use and decisions. We analyze whether such conditions influence accessing credit as well as the intention to request it.

To analyze intrahousehold dynamics and the credit mechanisms offered by microfinance institutions in order to discover the credit restrictions faced by rural women, we used the data of 1,543 rural women collected in 2017 by the Community Based Monitoring System (CBMS) in 32 rural communities in the municipality of Rio Blanco. We first explore the set of variables associated with credit and the relationship between men and women in order to identify the existence of underlying structures in household decision-making about whether or not to apply for credit and to do so together, and also to identify the most important variables from the perspective of decision-making to manage a loan.

To answer this, we developed a first exploratory phase following the interdependence analysis proposals (Analysis of the Principal Components -ACP) and in a second phase we implemented a dependency analysis using the binary response model of logistic regression (or ARL). The first helped us identify the existence of underlying structures in the data set, while the second, from the predictive perspective, allowed us to better understand how women deal with their restrictions in rural settings (predictor variables). Therefore, the relative importance of the husband´s support in a woman´s intention to apply for credit is the key issue we try to explain through the binary response model, which we have turned into our dependent binary response variable. Logistic regression models or ARLs are one of the multivariate models most used in social sciences given its versatility to measure and predict human behavior patterns.

Finally, we have structured this research paper in five sections: Introduction followed by a literature review explaining the relationship of the concepts of financial inclusion and family dynamics and the obstacles women face. The third section continues with the methodological aspects, delimiting the study area and the characteristics of the survey and nature of the data. The fourth section presents the research results, and the fifth, the conclusion and recommendations to contribute in the configuring of policies for rural women's financial inclusion.

II. Literature review

This section presents a literature review starting with the concept of financial inclusion, a more recent term in the development discussion oriented not only to reducing poverty but also facilitating ways to growth. Then it moves to the link between microcredit, poverty and gender to contextualize the discussion. The section ends with rural credit and the gender bias context to position the situation of financial services and the role of rural women in economic activities and income generation.

2.1 Definition of financial inclusion

The term financial inclusion has been getting attention in the literature on development issues. The concept of financial inclusion "means that individuals and businesses have access to useful and affordable financial products and services that meet their needs – transactions, payments, savings, credit and insurance – delivered in a responsible and sustainable way" (World Bank , 2017). Its premises are that access to credit and saving institutions enable large sectors of the world's population that lack their own financial resources to be in a better position to work and live. Lack of financial resources not only limit the rural population's possibilities but also hinder economic growth (Angulo & Villarreal, 2012). "Financial inclusion has generally been celebrated for dismantling the foundations of previously rigid and regulated banking systems, allowing greater participation for all in the opportunities provided by excess liquidity and plentiful credit" (Allon, 2014, p. 17). "Financial inclusion entails several benefits for poor households" (Ghosh & Vinod, 2017) and "access to financial services enables households to invest in activities that are likely to contribute to higher future income, and therefore to growth" (Ellis, Lemma, & Rud, 2010).

2.2 Credit, poverty and gender: background and current discussion

Microcredit as a work tool alone cannot produce either a significant reduction in poverty or substantial changes in unequal gender relations if complementary actions are not contemplated (García R. , 2012). Other authors who have investigated the issue of poverty and social changes agree that in order to influence poverty levels and provoke social changes, a multidimensional understanding of poverty is required (Debraj, 1988; Bastiaensen, De Herdt, & D´Excell, 2005), and it should be linked to processes beyond the monetary aspects (Sen, 2002; Kakwani & Silber, 2008; Stiglitz, 2009). Poverty and social change are inexorably linked to the dynamics of the labor market and social environments. Likewise, research with a gender approach has found evidence that since policies are not gender-neutral, they affect women in a particular and sensitive way. The vicious circle of poverty can be broken by policies that combine microfinance with comprehensive social actions and a gender perspective (García R. , 2012).

Currently, some authors suggest paying attention to the family's relation at home, highlighting the asymmetries among family members (see for instance Langley, 2008; Lorencio, 2014; and Wilkis, 2019). Doing so permits a multidimensional perspective of poverty that provides a better understanding of the roles of men and women in income generation and decision making at home. Such a dynamic vision needs to be incorporated to define strategies of social change to get out of poverty, including a financial inclusion approach that benefits women. As Allon (2014, p. 13) highlights, "women have also become a target group for financial products and services, actively encouraged to engage with personal finance, mortgage finance and financial markets more generally as part of their efforts to be autonomous, responsible and enterprising subjects". Allon refers to strategies to include women in financial activities, for instance as consumers or as a particular group of women within their home where they do income generation activities usually coded as "feminine" business because it takes place in the space of everyday life. She argues that financialization is a "gendered process that reproduces familiar gender inequalities and division, but also transforms the capacities of women, indeed redefines what women are and can be, in the process of constituting them as financial subjects" (p.13). Usually for finance institutions those women who have their own properties (i.e. own land that can be mortgaged) or show that their economic activity is profitable enough are able to be credit clients.

The analysis of family dynamics in the design of microcredit policies and programs has shown that knowledge of the family situation regarding their education level, health and capacity to manage household credit are key elements for the success of a family economy and its welfare. Lorencio (2014); Langley (2008) and Wilkis (2014) point out the consequences of credit contracts in the daily life of people and their social ties, knowledge and identities. They argue that there is a monetary resource market link with family networks, given the transforming power of successful experiences in which strategies and positions of power are combined. At the same time, new responsibilities and skills emerge from family members, where their capacities increase and the values and strategies of the home are strengthened.

The findings of these studies show that financial credit has a significant relationship with family dynamics. It is demonstrated with the degree of correlation R = 0.58 indicating a moderate degree of positive relationship, where access to financial credit, amounts and payment behavior have a relationship in family dynamics at the level of communication, affection, roles and authority within the family and its links with the community. Finally, money always works by measuring, evaluating and morally comparing people and their social ties (Wilkis, 2019).

Going from a conception in which microcredit is simply a service that should be paid punctually to a more integral approach in which women can choose not only the credit requirements but also the kind of life they want for themselves and their families in which credit is only a mean to help them. It is, perhaps the main challenge for researchers and institutions for development. This is something that both practitioners and researchers should emphasize more, not only in their discussion about the credit impact but also in their credit policies. Some experts emphasize promoting knowledge creation processes and skills aimed at providing options that help improve self-esteem, while solving problems and developing self-management (Bruera, 2007; Millán, 2006).

Social monitoring is a key issue in the dynamics between family needs, decisions on production and the credit use to invest. Usually, there should be a correspondence between the investment needs and the use of the requested credit, but it is not always the case. Therefore, social monitoring requires promoters with the capacity to understand the environment of the local culture, social norms, livelihoods and the family's practices and constraints in carrying out its basic functions. It also implies using a simple and clear language (without technical complications) to avoid confusion and misunderstanding related to what is expected. Dealing with psychosocial barriers (such as low self-esteem and fear of failure) coming from gender relations requires a developed capacity for social accompaniment, since the implications of family failure leave the home devastated, which could also imply non-payment of the loan and the loss of livelihood. It many even cause an increase in domestic violence, as Goetze & Sen, (1996) mention initial evidence in their research that the increase in payment default, reprogramming, refinancing and credit punishment is directly related to domestic violence.

In Latin America there are conclusive studies that address the links between violence and delinquency. Vara-Horna (2012), and Custodio (2015) found that 23 of every 100 women entrepreneurs in Ecuador and Peru have been assaulted by their partners. Other research in the region shows a direct relationship between microcredit entities and families, where loan default is related to the type of family, in which nuclear families (a couple) can access higher amounts than single-parent families, as evidenced by the Pearson correlation degree R = 0.51 (Lorencio, 2014).

Research developed by the Autonomous University of Barcelona and University of Medellín indicate that informal factors (perception of entrepreneurial skills, social networks and family role) have a significant effect on the probability of being an entrepreneur and taking risks, while formal factors (financing, non-economic support policies and training) have a lesser effect. These results rekindle the debate about the importance of both approaches. According to these studies, informal factors are important for entrepreneurship and female empowerment relative to informal factors within the socio-demographic variables analyzed by several authors in empirical studies (Welter & Smallbone, 2008).

In developed countries, research shows a slight difference with respect to the gender and entrepreneurship variable, in which Álvarez, et.al. (2012) indicate that male initiatives stood at 7% compared to 4.5% female. However, the rural environments of low-income countries show that women face greater restrictions, in large part because micro-credit programs are poorly designed by not considering some of their features. According to research by La Curuña university, women show better results in variables such as passion, enthusiasm, initiative, persistence, willingness to take great risks for a new idea, ability to perceive the potential of radically new ideas for the creation of a new business, consideration of society's interests in their decision-making and greater willingness than men to work based on the resources they have at hand (Neira, et al. 2012).

Current research has become very relevant in analyzing how the set of networks and relational capital have a decisive influence on the creation and success of new initiatives (Kantis, et al. 2004, Capelleras, et al. 2009). From the perspective of these authors, education provides skills allowing women to identify and exploit new business opportunities (Alemany, et al. 2011). In addition, education provides knowledge that can help them overcome financial difficulties (Evans &

Leighton, 1989). Álvarez, et al. (2012 p.115) affirm that "informal factors (perceived ability to run a new business, social networks and family role) have a significant effect on the probability of being a woman entrepreneur, while other formal factors as financing, supportive policies (non-economic) and training do not have a differential effect on entrepreneurship in terms of gender".

Other studies show that initiatives with higher growth rates associate education with work experience (García and Jiménez 2012). The importance of recognizing small industrial skills for women's entrepreneurship in activities related to food preparation, commerce or other activities transferred from the household dynamics should be rescued as a form of education for life and explored by the microcredit programs. Similar studies point to the importance of personal history as experience; personal characteristics such as values, attitudes, motivations, personality traits, etc.; and personal skills, as they can predispose individuals towards the formation of entrepreneurial intentions (Sanchez-Escobedo & Hernández Mogollón, 2011)

2.3 Rural credit and gender bias

Fletschner & Kenney (2011) highlighted that rural financial markets are not gender neutral. Social norms and family responsibilities are not the only things that influence whether or not a woman can have control over land and livestock, the main assets usually accepted as credit collateral. The particular context of legal rights also plays a key role in determining women's access to financial services.   As they stress, "even though millions of women throughout the world contribute to national agricultural output and family food security, detailed studies from Latin America, South Asia, and Sub-Saharan Africa consistently indicate that rural women are more likely to be credit constrained than men of equivalent socio-economic conditions" (p.2).

Researchers who investigate women's difficulty accessing credit in rural areas of Bolivia have found strong evidence, through Bayesian approaches, that geographical conditions constrain their access to monetary or productive resources.   These studies explain the favorable effect of microfinance on women's empowerment when such constraints are removed. Other studies in different parts of the world corroborate the same finding (see Rahman, 1986, Swain & Wallestin, 2009; Pitt, et al. 2006, Divino, et al 2016). However, distances in rural areas are not only a problem of access and security for women who must travel in restrictive geographical conditions. It is also important to consider the behavior of their husbands as a crucial factor to allow or restrict whether women participate or not in training or technical assistance as related activities of a loan. Both activities could be offered as a positive discrimination in favor of women creating a negative male reaction, since men feel they also need credit or training but are deliberately excluded.

III. Methodology

Attempts to explain such complex phenomena as empowerment or rural entrepreneurship must transcend the analysis of aspects that have already been the subject of research and have helped in the design of microcredit programs. In fact, variables such as time, interest, guarantees and rural distances are still part of the problem and it is possible to follow it through the various investigations that have already been developed. However, exploring the dynamics of the home

and the rationalities with which it operates could have an influence on decisions regarding access to resources and thus deserve our attention in this discussion. It seems prudent to try to make visible some of the relationships that are built in two dimensions: intra-family and between the family and the community in which they live. We used factorial analysis, in its modality of principal component analysis (PCA), to identify the components of the structure of those variables that could be representative of relationships within the household from the perspective of the interest to opt for a credit.

The main objective of our study is to identify the socioeconomic support factors relevant to the development of rural women's homes and initiatives through the structure of a model that allows us to "classify" their perceptions of both barriers and support to access resources in Río Blanco. We propose to develop the same model through the existence of a relationship between the variables to obtain a binary "classifier." From its results we propose a model represented as a decision system where the data patterns of the census are applied by the CBMs program in such way that the model can predict the labels associated with a set of new data that are not used in the learning. This model shows the probability that, under the condition of being a woman, it is possible to identify the main obstacles or restrictions of a social and economic nature the woman faces. Their desire to start a new project, their perspective on resource management and support from home are issues and concerns that social research has been addressing.

The PCA was useful to identify certain patterns of the data, from which it was possible to generate clusters that allowed us to infer the underlying nature of the household of the rural women of Rio Blanco from an approach that privileges variables of a social nature. Its use is valid specifically to reveal the common factors underlying a phenomenon or objective such as patterns of the household's relational behavior that is being studied and about which theoretical evidence is available in its formulation. To answer the question as to whether individual characteristics and insertion in the dynamics between households and communities affect access to credit in rural areas, we have proposed using the regression analysis, which is useful for our research from the perspective of predicting the presence or absence of a characteristic. We analyze the probability of occurrence of the measurement of a given event. The analyses that arise from this type of tools are probably one of the most used multivariate analyses in the social sciences due to their versatility to measure and predict human behavior patterns (Cox & Snell, 1989; Hosmer & Lemeshow, 1989).

a. Study Area

The study area covers three rural "*comarcas*" (or districts): Wanawás, Cuatro Esquinas and Manceras Central, located in the northeast part of the municipality as illustrated in the map below.

map 1. Location of the study area in the municipality of Rio Blanco in rural Nicaragua
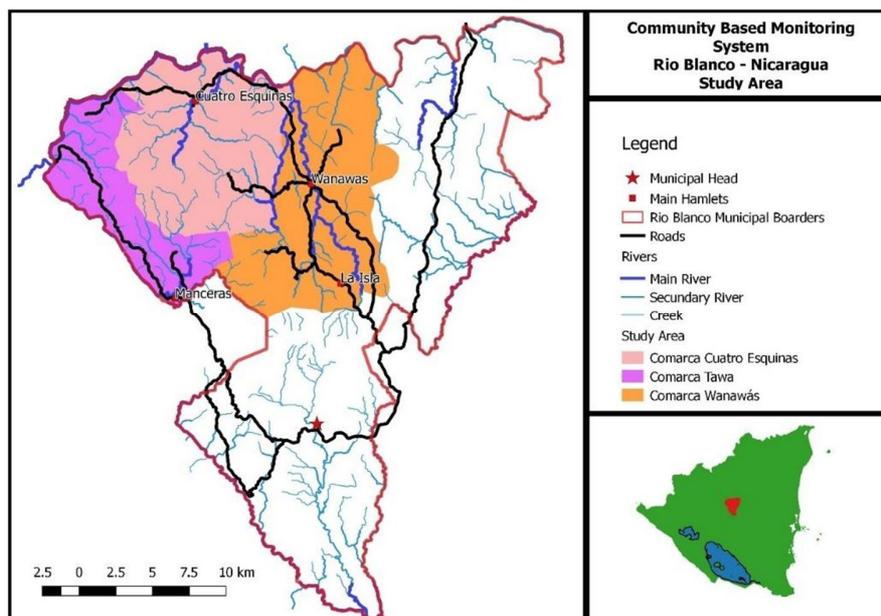
There are 35 communities and 1,877 houses in total most of them located distant to each other[2]. Only in three communities houses are concentrated, mainly where such community is the head of each comarca. In Rio Blanco, the dominant development pathway has been extensive cattle raising, supported by governmental incentives, milk collection centers, NGO programs, cooperatives, and finance institutions (Bermúdez, et al., 2015).

Although woman participate actively in the family production systems, their contribution to these dynamics is not always valorized since cattle raising is seen as a male activity, thereby reproducing gender inequalities (Flores, 2015). Alternatively, peasant families with capital restrictions, especially female-headed families, that cannot follow the cattle-raising pathway develop an alternative route focused on agricultural production and/or nonagricultural microenterprises, opening up a little more space to women through growing beans and cacao and raising pigs, as well as services and commercial activities in their communities. This alternative route has potential to develop women's economic empowerment, as they are incorporated into it. However, this alternative route is less supported by external organization interventions, and when it is, the support is paradoxically mainly directed to man (Maldidier & Martínez, 2015).

The sample for the study was a total of 2,064 women over 15 years old. However, 1543 (74.6%) presented the most complete data series and have been included in the analysis. (525 cases lost = 25.4% of the sample).

b. Empirical design

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[2] In rural communities in Nicaragua, people built their homes into the farm and usually houses are not concentrated as it is the case of urban areas.

To obtain primary data, the base has been filtered by selecting only women over 15 years of age, which follows the line of interest that, in its final stage, the survey is structured to be answered only by women in their capacity as spouses or heads of household. The survey of household heads asked about the degree of access to credit programs, the evaluation of their experience and, in particular, the importance of spousal support, through a set of credit ratio indicators that should be evaluated as potential variables to be incorporated into the proposed model. The objective is to derive observations from this population in which it is possible to identify both the experiences and real perceptions related to credit experiences, and fundamentally women´s interest in being able to access them.

All data series of the 2,064 cases are gross values; therefore, decisions must be made about cases of incomplete data because they can affect the quality and robustness of the results, given the distance between the results and the observed data, which can lead to biases (Horton and Lipsitz, 2001), (Little, Roderick and Donald Rubin, 1987). For this reason, each variable or simple indicator was eliminated where values of missing data exceeding 15% of the information were observed (Soto and Schuschny, 2009).

For this purpose, the last section of the questionnaire to collect information related to credit access proposed a scale of three points (strongly agree, agree, disagree) for which it was designed under a Likert scale (ordinal scale) dichotomized to facilitate its incorporation into the proposed model (see appendix No.1).

The Stata Version 15 program was used in all calculations. However, some complementary indicators to the logistic regression were calculated using SPSS program; for instance, the Omnibus tests (predictive capacity) and the Cox and Snell indicators as well as the values of the Nagelkerke test and the Exp (B) I.C 94% (see the eight columns in the final model of LR).

c. Selection of variables

After developing a theoretical framework that supports the incorporation of variables according to their performance in the different statistical tests, the basic variables that make them up were selected, according to their relevance and analytical consistency. This methodological step is fundamental in determining the data quality to answer the research questions. Structured methodological processes were applied for the construction of the logistics proposal. First, a theoretical framework was developed to support the selection of variables in the study. Subsequently, the information was collected from the survey applied in 2018 by the CBMS program in Rio Blanco to apply a multivariate analysis of the variables to eliminate those that do not meet the necessary methodological requirements.

Table 1. Description of variables in the research

	ID	Description	Variable	Source
1	Creditint	Are you interested in acquiring credit?	Nominal Dichotomous	Census CBMs 2018
2	creditsup_spouse	If you want to apply for a credit in your name: does your husband agree?	Nominal Dichotomous	Census CBMs 2018
3	techasstsup_spouse	If you want to participate in a training, would your partner agree?	Nominal Dichotomous	Census CBMs 2018

4	paycreditsup_spouse	Would your husband agree to you taking time to travel to Rio Blanco town to request a credit?	Nominal Dichotomous	Census CBMs 2018
5	credit_techasst	Would you like to receive technical assistance?	Nominal Dichotomous	Census CBMs 2018
6	Creditsatis1	I consider that I do not have an endorsement	Nominal Dichotomous	Census CBMs 2018
7	creditsatis2	I have to go far from home to manage it	Nominal Dichotomous	Census CBMs 2018
8	creditsatis3	It is likely that my application will be rejected	Nominal Dichotomous	Census CBMs 2018
9	creditsatis4	I think it's very expensive to have a credit	Nominal Dichotomous	Census CBMs 2018
10	creditsatis5	Fear of not paying the credit if I go wrong	Nominal Dichotomous	Census CBMs 2018
11	creditsatis6	The language the officers use is complicated	Nominal Dichotomous	Census CBMs 2018
12	creditsatis7	I do not like to work with credit	Nominal Dichotomous	Census CBMs 2018
13	creditsatis8	I do not have limitations to having credit	Nominal Dichotomous	Census CBMs 2018
14	Poormemeq	Level of poverty according to income control by the sex of the household head	Nominal Dichotomous	Census CBMs 2018
Source: Authors elaboration				

In total 14 variables of a nominal nature were considered and dichotomized (see table No. 1). The last variable, named Poormemeq, refers to women's poverty level. It is an artificial variable that has been drawn up following the national poverty line (approximately US$620 per year) as a condition of a woman being in poverty or not.

d. Atypical and lost data

The atypical data are considered extreme measures that affect (distort) the results of the study. With the help of the box diagrams, it was possible to identify them and later eliminate them if they showed twice the value of the deviation of the variable. The simultaneous appearance of losses and atypical values was also evaluated, eliminating from the base those cases that showed more than 15%. Samples with incomplete data may compromise the quality and robustness of the results obtained, because the distance between the observed and unobserved data may produce biases in the results and complicate or cancel the data processing and analysis (Horton and Lipsitz, 2001; Little, Roderick and Rubin, 1987). However, it is feasible to make artificial imputations without altering the structure of the data when the lost data is less than 15% of the total (Soto and Schuschny, 2009). In our case we eliminated the records that present more than 15% of the data (lost or absent data from two or more variables).

Some research experiences in lost credits and values show that more than 80% of the population had not responded to the survey, making the response rate lower than desired. Other research experiences that use online questionnaires in other fields and large samples, show a response rate of 10-20% (Baruch, 1999).

e. Elimination of variables

Table 2. Univariate and bivariate analysis

	Media	Desv. Desvi	Creditint	creditsup_	techasstsup	paycreditsu	credit_te	Creditsa	creditsat	creditsa	creditsa	creditsa	creditsat	creditsa	creditsati	Pobrezalngre
Creditint	0.650	0.476	1.000	0.458	0.437	0.446	0.540	-0.500	-0.300	-0.400	-0.600	-0.500	-0.200	-1.000	0.200	0.021
creditsup_spouse	0.310	0.462		1.000	0.845	0.865	0.550	-0.250	-0.260	-0.260	-0.360	-0.270	-0.200	-0.400	0.340	-0.035
techasstsup_spouse	0.290	0.452			1.000	0.938	0.521	-0.220	-0.300	-0.230	-0.330	-0.240	-0.180	-0.300	0.320	-0.027
paycreditsup_spouse	0.290	0.452				1.000	0.526	-0.230	-0.280	-0.230	-0.350	-0.240	-0.160	-0.300	0.310	-0.025
credit_techasst	0.520	0.500					1.000	-0.280	-0.160	-0.260	-0.370	-0.270	-0.130	-0.400	0.450	-0.024
Creditsatis1	0.480	0.500						1.000	0.470	0.690	0.540	0.610	0.345	0.550	-0.290	0.071
creditsatis2	0.680	0.467							1.000	0.470	0.410	0.490	0.415	0.420	-0.120	0.071
creditsatis3	0.480	0.500								1.000	0.580	0.600	0.357	0.500	-0.280	0.095
creditsatis4	0.350	0.477									1.000	0.650	0.365	0.660	-0.140	0.089
creditsatis5	0.480	0.500										1.000	0.436	0.650	-0.250	0.063
creditsatis6	0.560	0.497											1.000	0.380	-0.150	0.065
creditsatis7	0.390	0.487												1.000	-0.200	0.058
creditsatis8	0.390	0.488													1.000	-0.043
Pobrezalngresocontrol	0.136	0.343														1.000

Author elaboration

A multivariate analysis was done to verify the existing relationships between variables. We eliminate the independent variables that did not present links, as well as the variables that provided duplicate information. The explanatory variables must have a monotonous relationship with the probability of the event being studied, since the probability of the outcome must increase or decrease when the value of an independent variable grows. Such is the case of the variables techasstsup_spouse and paycreditsup_spouse (see table No.2), so we eliminated the variable paycreditsup_spouse. The independent variables involved show very small correlations with each other. If the correlation between two variables is high, the results of the regression are unreliable. Specifically, standard errors increase unduly and it may even happen that the iterative process for estimation does not converge. As a result of the exploratory analysis using principal components (PCA) to explore the possible structures underlying our variables, we identified 14 variables of interest (see PCA in annexes), of which 13 were selected.

f. Analysis of the principal components (PCA)

The adaptation test of the reduction of the dimensionality of the data's characteristics (Bartlett's sphericity test), shows us the degree of incorrectness of the null hypothesis between variables, as a contrast statistic is distributed according to a $\chi2$ with 78 degrees of freedom. In our case, the critical level of 0.000 shows us a rejection of the null hypothesis that the population correlation matrix is the identity matrix. Therefore, the variables have some correlation relationship, making it interesting to perform a factorial analysis. The previous result indicates the usefulness of the factorial analysis, given that the value of the statistic is adequate **(KMO 0.8799)** and the associated small **critical level, a = 0.05> p**, the hypothesis that the variables are linearly incorrect and thus it has to be rejected. Factor analysis is feasible for the matrix of sample correlations.

g. The content of the selected factors

For the exploratory character of this type of analysis, the variables whose commonality was greater than 0.4 were kept, and the variable creditsatis8 was eliminated. Table 3 presents the components. As we can see, the value of the cumulative proportion is approximate 0. 96 by three components in the first two factors and at the end we retained three final factors.

Table 3. Components

Factor	Eigenvalue	Difference	Proportion	Cumulative
Factor1	5.45486	3.55582	0.7132	0.7132
Factor2	1.89905	1.40955	0.2483	0.9615
Factor3	0.4895	0.10854	0.064	1.0255

h. Dependence analysis: Logistic regression analysis (LRA).

Through the bivariate analysis to check and verify the existing relationships between variables. It is useful to eliminate the independent variables that do not present links, as well as the variables that provide duplicate information that can distort the results of the study. Also, through the bivariate analysis (chi square) between the dependent variables and the predictors and their consistency (p value) we have refined the set of variables that we propose to incorporate in the model).

In the model the equation is positive and negative in relation to the Beta values and values of the significance levels of each of the predictors; i.e. technical assistance, support from the partner and the condition of poverty of those women who show in favor of the dependent variable (desire to apply for credit). On the other hand, the variables of not wishing to work with credit and fear of being unable to pay it back show negative values affecting the condition of interest in acquiring a loan. Most of the variables are significant, and the unit is not contained in their confidence intervals, with the exception of the variables creditsatis6.

The omnibus test shows by means of the values of significance (.000) the relevant variables to use in the model in order to explain the dependent variable, which can be measured by the estimates of Cox & Snell 0.538% and the R2 Nagelkerke 0.742%. According to Mittlböck and Schemper the predictive capacity regarding the dependent variable, the performance shown is very satisfactory and encouraging given the nominal nature of the data.

The Hosmer and Lemeshow test show that the expected and observed values are fairly close (p value> 0.5), showing that there is proximity of the prediction. This test allows an evaluation of the quality of the estimated model's adjustment. However, the use of this test is questionable. Some

authors suggest simply inspecting the expected and observed values informally and if the differences are not very noticeable, admit that the model is appropriate.

The overall performance of the model can be observed in the classification table, which presents a good performance in 89% of the cases analyzed. Both results are relevant in the predictions of the model, that is, it has a good performance for both women who are interested in acquiring a loan according to the results of the well-classified cases (83.8%), and those who have no interest (91.9%).

IV. Results and Discussion

The results are organized in two parts. The first is made up of descriptive statistics to characterize credit availability in the study area, the percentage of households accessing credit the year before the survey, the individual characteristics of credit users and the credit mechanism through which financial institutions operate. The second part corresponds to the multivariate analysis starting with the Principal Component Analysis, which permits the search for hidden structures (or patterns) emerging from women's credit desire and the intrahousehold dynamic associated with the women's perception.

4.1 Rural households face institutional credit discrimination

We asked for the household where at least one member received credit in 2017. The survey revealed that 97.3% of total households did not have access to credit in that year. Only 2.7% (107 cases in total) had the opportunity to get credit in similar cases for women and men. The survey also showed a very small group of women who have actually had a specific credit experience. The lack of credit for these rural communities is consistent with the results of other studies that highlight credit restriction in rural areas. This fact indicates that the rural households in this research area are under institutional discrimination, "when financial institutions in the area consider rural women [rural men too] smaller, less experienced and therefore less attractive clients," or when financial institutions decide to exclude some territorial area or group of people because they are classified as a high risk (Fletschner & Kenney, 2011).

The database results indicate the credit-related household situation in 2017. But one-year data cannot inform about the background of credit functioning and the credit offer, and the survey did not explore it either. Nevertheless, we know that rural areas such as in Rio Blanco have historically been facing credit problems due to a combination of factors. First, the war periods affected the possibilities of achieving a stable and profitable production system; second, the culture of credit non-payment established during the Sandinista revolution (1979-1989) created a negative image of poor families, a phenomenon revived in Rio Blanco in 2008 with the Non-Payment Movement[3], and the aftermath it of reducing financial services locally. The crisis of clients' over-indebtedness was a consequence of competition among financial institutions, inappropriate credit policies and power conflicts. In this regard, Bastiaensen et al. (2013) argued that the "Non-Payment Movement' and the reactions of microfinance institutions (MFIs), together

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[3] Paradoxically this movement did not emerge from poor families but from medium and large farmers, most of them cattle ranchers. The financial institutions usually doubt the ability of the poor to repay loans, although most poor people have proven to be best credit payers, poor women most of all.

with those that monopolize the value chains of agricultural products, led to an exclusion of the peasantry from financing. For them, the analysis of the two years of violent confrontations between the MFIs, the producers' movements and the national government, led to the paradoxical conclusion that the strategic interests of both the MFIs and their vulnerable rural clients would have benefited more from a political alliance rather than confrontation". Third, as one credit expert stresses, "the unexpected contingencies and adversities farmers live with—droughts, floods, pests, changing input costs, bad roads and the like—"all increase the risk of not recovering the credit and strengthen the banks' fear of placing credit in that sector" (Hernández, 2015).

These three factors illustrate the complex reality of the institutional environment surrounding the rural population's credit needs and the credit policies. Thus, the particular context imposes biases in lending practices, particularly if the financial institution does not pay attention to other social factors influencing the credit need and use. Considering access to resources as a way to reduce poverty and empower vulnerable people, the institutional efforts will not only be a matter of providing physical resources, but will also include other aspects of the context. They will also affect each person's life beyond mere economic and quantitative elements, due in part to the way microcredit programs are designed. Un the opinion of some experts, they are one of the causes of inefficient resource allocation (Rodriguez & López, 2009).

4.2 Gender biases in employment and in the limited credit offer

Women's employment rate is 16.4%, compared to 66.8% for men. In addition to the lack of employment opportunities for women, household chores are one of the principal barriers to their labor insertion. One in two women (50.1%) reported that they were unavailable to work due to domestic chores; and within the group of young women (15-24 years old) 82% do not work due to domestic tasks, showing their orientation for these tasks in the household dynamics from an early age (Romero, 2018)., 2018). This survey result is congruent with some experts who have pointed out that the current market changes in the globalization era, particularly in the labor market. is moving towards exclusion, informalization, and precarious flexibility. These changes continue to generate confusion and social conflicts that question governability and institutional legitimacy (Todaro, 2008).

In addition, as we highlighted before, the credit offer is limited in the research area. The few credit suppliers are microfinance institutions (59%, and focused more on men), followed by to nongovernmental organization (17%) and governmental programs (12%). Both of the last both cases provide credit mainly to women. Other credit suppliers are some banks (8%), cooperatives and associations (4%, and focused on men). The few credits provided mainly use a methodology based on an individual approach (87.9%). The other methodology is credit groups (12.1%) and is mainly oriented to women (18.5% vs 7.5% to men).

The credit purpose is highly differentiated by sex, following traditional gender roles or segmented task according to sex; for instance, investing in a farm applies mainly to men, as farm management is a male responsibility in the social self-image. Credit to buy land is also usually for men, while women can get access to credit for household investment, although still a greater percentage of men get credit for that same purpose (17% for men vs 9.3% for women). Credit for non-agricultural capital is more used by women than men, is congruent with the fact that men control

most of the agricultural activities. There are cases where agricultural capital is also requested by women but in smaller percentages than men. The hypothesis behind these results is that most of the few credits supplied to the rural communities, even if women are the target, are under the husband's control most of the time. That is true in 40% of cases of the database where women were the ones who requested the credit.

Although the credit offer is limited in the study area, we found gender biases in the credit policies. For instance, in the analysis of those few who access credit (107 cases, of which 54 are women), gender discrimination is notable in recognizing the personal characteristics of men and women. To analyze these personal characteristics, we considered a set of variables: sex, age, marital status, illiteracy and having a job. The result indicates that among these variables, only three make a difference in whether or not the person gets access to credit: sex, illiteracy and if the person is active in the workplace (employed). When analyzing in the subsample of women, we note that women who are active in the workplace and are not illiterate have opportunities to access credit. In the case of men, in contrast, the results show that being active in the workplace is not statistically significant, which indicates that the credit offer in the research site is has a gender bias that mainly benefits men.

In sum, a challenge is emerging here to financially include rural households and particularly women in the study area. It implies first recognizing the institutional discrimination imposed by credit/lending policies or practices as well as their gender biases, and second implementing specific credit policies for rural women. The latter requires including in the credit policy an analysis of the intrahousehold barriers derived from traditional gender roles that affect women and put home responsibilities and unpaid family care as their main tasks.

4.2 The intrahousehold dynamics become physiological barriers to requesting credit

To analyze the intrahousehold dynamics, the rider questionnaire explored women's opinion about their desire to access credit and additional resources to use such credit, and their husband's attitude related to the woman´s desire. The data of rural women in Rio Blanco show that want to only 538 of 2,064 women who want apply for a loan have the support of their partner; which, that is only 26.1% compared to 50.2% whose partner does not support her (the rest is lost data). This higher percentage of women without their spouse's support for requesting credit caught our attention so we explored it in the data through the Principal Component Analysis (PCA), then used the variables to determine their validity in the logistic regression model. The model showed two groups of rural women based on the rotated analysis matrix of PCA (see table 4) in which their factorial loads mainly explain two types of components:

A first component of women (the half of them) is not interested in applying for a loan because they do not have their husband's support and they have low self-esteem. We call these psychosocial barriers that combine a lack of material resources with psychological attitudes explained as follows: lack of mortgage guarantees (creditsatis1 0.7567); having to travel very long distances (creditsatis2 0.5807) resulting in being sanctioned by the husband because she is away from home (i.e. does not fulfill her main responsibility at home); fear of failing and being unable to repay the loan (creditsatis5 0.8000); fear that her application will be rejected by the credit institution (creditsatis3 0.7462); the fact that the credit is a very expensive resource (creditsatis4

0.7135); the difficulty of understanding the technical language of the promoters (creditsatis6 0.5050); and not liking to work with credit (creditsatis7 0.7221). These findings are consistent with the results of research showing that women perceive their environment as more difficult and less appropriate to engage in this entrepreneurial activity, which leads them to reduce their ambition when it comes to entrepreneurship (Zhao, 2005).

Table 4. Rotated component

Variable	Factor1	Factor2	Factor3	Uniqueness
creditint1	-0.5604	0.3537	0.4609	0.3485
Creditsup_espouse	-0.1768	0.8672	0.1146	0.2036
Paycredits_espouse	-0.1341	0.9423	0.0181	0.0938
Techassts_espuse	-0.1322	0.9498	0.0483	0.0781
credits_techtass	-0.2430	0.5126	0.4690	0.4583
creditsatis1	0.7567	-0.1349	-0.0462	0.4070
creditsatis2	0.5807	-0.2213	0.2017	0.5732
creditsatis3	0.7462	-0.1453	0.0217	0.4216
creditsatis4	0.7135	-0.2416	-0.1529	0.4092
creditsatis5	0.8000	-0.1392	-0.0667	0.3361
creditsatis6	0.5050	-0.1293	0.1397	0.7087
creditsatis7	0.7221	-0.2445	-0.3050	0.3257
creditsatis8	-0.2068	0.3160	0.2188	0.8095
PoorMemeq	0.0868	-0.0280	0.0804	0.9834
Source: Authors' elaboration. Varimax method				

These psychosocial barriers take the form in of low self-esteem which is derived from the cultural patriarchy in which rural women live. The results of the survey related to the psychosocial aspects and self-esteem measured by the variables of fear of failure, the belief that their credit request could be denied and the difficulty of understanding the technical risk of the promoters show 52%, 52.1% and 44% respectively in the case of rural women of Rio Blanco. It is likely that these results are linked to the findings of other researchers who recognize that husbands and wives can differ on how to use and allocate family resources, (Haddad, Hoddinott, & Alderman, 1997), what to produce or how spend the income generated. Usually, spouses disagree with each other or do not share information related to saving, credit or investment with their partners (Fletschner & Kenney, 2011), including the preference to keep savings in separated accounts to avoid their spouse's knowledge of it (Ashraf, 2009). Thus, family relationships used to be more complex than we assumed and there is a need to understand more clearly when it becomes an obstacle to women in applying for credit and related resources to generate income.

A second component of the PCA is characterized by the women (26%) who wish to apply for a credit (creditint1 0.3537) and have the support of their partner for both the credit request and its management (see variable in Table 5 Creditsup_spouse 0.8672 and Paycredits_spouse 0.9423 and for receiving technical assistance (see variables: credit_techtass 0.5126 and Techassts_spouse 0.9498).   What makes it possible for some women to have their husband's support in their

intention to request a credit? Exploring the database, we find that some of these women have their own property and are involved in commercial activities generating income

Table 5. Variables in the equation

		B	Error estándar	Wald	Sig.	Z	Exp(B)	95% C.I. para EXP(B)	
								L	H
If you wanted to participate in training, would your partner agree?	creditsup_spouse	2.931	0.466	39.534	0.000	6.290	18.741	2.017154	3.84427
Would you like to receive technical assistance?	Credit_teachass	1.934	0.209	85.571	0.000	9.250	6.915	1.52393	2.3431
I not consider that I have an endorsement	Creditsatis1	-0.664	0.222	8.973	0.000	-3.000	0.515	- 1.09892	- 02295
Fear of not paying the credit because I go wrong	Creditsatis5	-1.094	0.253	18.628	0.003	-4.320	0.335	- 1.59048	- 0.5970
The language the officers use is complicated	Creditsatis6	0.650	0.233	7.764	0.000	2. 79	1.916	0.192481	1.1072
I do not like to work with credit	Creditsatis7	-2.936	0.240	149.774	0.005	-12.340	0.053	- 3.40575	- 2.4654
Poverty (Poor Memeq)	Poormemeq	1.489	0.342	18.995	0.000	4.360	4.434	0.81956	2.159
Constant		1.505	0.176	73.405	0.000	8.570	4.502	1.16041	1.8488
Source: Author´s elaboration, Dependent Variable: Creditint = Are you interested in acquiring credit?									

The logistic regression analysis shows the importance of the psychosocial barriers conditioning rural women's behavior, which are strongly affected by their husband's support (or lack of it), the fear of failure and not having their own property as mortgage guarantees for a loan. In the opposite direction, it shows women who are interested in applying for a loan and have the support of their partners and also demand the need to complete training and receive technical assistance. These results corroborate other research showing that there are strong links between family dynamics and microcredit programs.

As we can see in the table 4, there are two key variables according to the relevance of the Z value in the intrahousehold dynamic. The first has to do with the spouse's support for the woman participating in training (creditsu_spouse), which shows that 18.74 times more women are interested in managing credit when they have the spouse's support than women who do not have that support. The second relevant variable is having technical assistance (credit_techass), in which 6.9 times more women whose husbands support them are interested in having than women whose husbands do not support them. It is important to note that the survey implemented by the CBMS shows that 47.5% of women also wish access to technical assistance in case they request some type of credit and up to 71.1% show interest in participating in training sessions. Both are related to increasing their knowledge and educational opportunities. It is necessary to recall that the education level in the study area is very low and achieving the goal of quality education still a huge challenge. Some 38% of the population older than age 10 cannot read and write, and 20% of children of school age (6-16 years old) are not enrolled in school. Access to secondary school is highly restricted, with 64.2% of those aged 13-16 are not enrolled in secondary school. Education, as many recognize, has the virtue of developing skills that allow women and men to identify and exploit new business opportunities (Alemany, Alvarez, Planellas, & Urbano, 2011), and have higher growth rates for their activities while associating education with work experience (García and

Jiménez 2012) or increase the opportunity to access credit from formal sources instead of informal (and thus more expensive) ones (Ghosh & Vinod, 2017).

Although, the poverty of the households did not show factorial loads in any of the components, (indeed, the survey showed that 78% of the women and 77% of the men are poor according to the international poverty line), this variable in the logistic regression shows that poverty is a motivation for rural women to access microcredit. Poverty is the third most important element, showing how poor households are more likely to request a loan than those that are not poor. In our understanding, the condition of poverty could be a stimulus in more integrated households. If both women and men are deprived of material resources (money, productive assets, etc.) they tend to share roles in resource management at least while that remains the case. From Nitlapan's experience working with the poorest families in the countryside we have learned that as soon as some of these households increase their monetary level, gender discrimination within family members emerges. For instance, some husbands spend more money in their own interest or pleasure (drink alcohol, start to be womanizers) to show other that they are overcoming poverty, even if it means leaving their wives to respond alone for the credit repayment. In these cases, they, as men, put their personal male-interest before the family interest, affecting the household welfare and particularly, deteriorating the wife's situation.

Following with the result of Table 5, the negative values of variables in the model with significant values are linked to the fear of not being able to repay the credit as well as the fear of not having enough of the guarantees required by the credit programs. Both these variables also become psychosocial barriers faced by women interested in acquiring a loan, reducing the probability of accessing and managing it. The fear of failure is condemned in many investigations as an important variable. In short, when the perception of the risk of failing is lower, the probability that an individual will decide to start a new activity may increase (Weber, 1997) in both sexes. A recent study, aimed at nascent entrepreneurs, found a significant negative effect on the fear of failure factor over the propensity to undertake a new economic activity (Arenius, 2005). Our research corroborates the perspective of women facing fear through the results of the principal components analysis (ACP), where the first component is made up of women whose analytical variables are associated with failure and fear of having insufficient backup. These same results are also corroborated through the logistic regression analysis (LRA) that highlights fear of failure and rejection of working with microcredit as the main barriers in women's propensity to seek credit.

Therefore, the opportunity for rural women to be financial subjects implies dealing with these psychosocial barriers. The governmental programs and financial institutions, most of them with a discourse of being rural- and gender-oriented, need to consider the restrictions to women accessing credit in order not only to enhance credit policies but also create credit products more tailored to respond to the restrictions faced by rural women. It is necessary to recognize that not all rural households in poverty condition are homogeneous in male attitudes and goals, and this makes it necessary to incorporate new indicators at the moment to evaluate a potential credit user in the case of rural women in order to put an appropriated financial inclusion in practice.

The results of both the ACP and the RLA show that women who are in a relationship that shares roles and responsibilities with their partner are in a better position to deal with microcredit management. The fact that some women want credit and others do not shows how men and women differentially perceive their environment and their possibilities of insertion in it. The

analytical model proposed in our research explores the individual decision of women according to their partner's support, their poverty situation, and the psychological and sociological environment of their home and community. With this, we intended to improve their capacities and help improve the different alternatives that allow women in the future to reduce the fear of failure that permeates the expectations of so many women in rural areas in Nicaragua.

V. Conclusion and policy recommendations

The research findings have shown that less than 3% of rural households have had access to credit recently, Therefore, financial inclusion is a big challenge in these rural communities of Rio Blanco. Nonetheless, a double challenge is how to benefit not only poor rural households but rural women within them, considering the psycho-social barriers to being a financial subject that they face in the intrahousehold dynamics. In the study area, lack of credit is not only associated to the poor condition in which families live, but also to external factors influencing the lending practices of financial institutions themselves, which end up with both credit and gender discrimination.

From the perspective of financial institutions, being financially included usually implies proving repayment capacity, but in poor areas repayment needs to be adjusted to the characteristic of micro-income generation, which needs additional support (technical and entrepreneurial training and assistance), particularly to help them avoid the deterioration of the few household assets or family decapitalization. From the perspective of family success, however, achieving the credit objectives not only implies improving the economic conditions at home but also being a source of self-employment and generation of employability opportunities in the communities by stimulating labor markets through the offer of temporary or permanent jobs. The consequences derived from the local labor market and the restructuring of policies linked to these processes generate changes in the work relationships affecting gender relations.

Less frequently contemplated is the perspective of rural women–as wives–for whom achieving the credit objectives implies first the husband's emotional and material support for their micro economic initiatives, which are usually initiated at home when they do not have their own land (for instance buying crops for resale, micro grocery stores, processing cheese, cereals and other products). Even if they have a plot of land, they usually have two objectives: to produce for family consumption and to sell any crop surplus. In either case, whether working with non-agricultural or agricultural activities women need emotional and material support, not only from their partner but also from the financial institutions that claim to be working to develop financial inclusion of poor families, and particularly poor women.

On the basis of the research findings, assuming the following challenges is mandatory in the design of policies and development programs aimed to deal with rural women's exclusion: First, train the credit promoters as well as the credit committee members in a more holistic perspective to identify (the case of promoters) and to understand (the case of credit committee members) the household barriers faced by women when they apply or attempt to apply for a loan. Second, credit promoters play a crucial role as the point of contact between the microcredit institutions and the communities, families and people in addressing social diagnosis and social monitoring. Although they are doing social monitoring, the scope of that monitoring very often leaves out the way in which partners within the family distribute their resource management and income generation responsibilities.

In their social diagnosis, credit promoters should not evaluate just the social reputation of women (trustable), the profit level of their activity and their repayment capacity. They should also include the husband's attitude and both his material and emotional support to his wife. In cases where promoters find negative attitude by the husband but the wife's credit request has financing potential, the promoter can help her by working with the husband so he understands the relevance of support to his wife. As some researchers point out, interventions improving women's direct access to and control over financial resources enhance their position vis-à-vis their husbands, help them become strong decision-makers and develop their skills to influence how and when to allocate their household resources (Fletschner & Kenney, 2011). If there are cases of a husband's continued resistance, the promoter can send it to their gender-sensitive allied organization, to work on it. There needs to be a simple but transparent agreement between both allied institutions regarding such cases.

The credit promoters as well as those who supply technical assistance should be cultural translators and mediators between the family's logic and the interests of the microcredit institutions to help them deal with the psychosocial barriers of rural women we have described. The same should be understood by the members of the credit committee when evaluating who should get credit approval. The credit committee should evaluate the husband's support as well as what has been fulfilled on the typical check list of indicators to stimulate credit promoters.

The statistical evidence shows that households where men and women collaborate with credit and income generation can be effective instruments to overcome their poverty. Therefore, financial institutions committed to financial inclusion should incorporate as credit policy that taking a loan should be an activity shared by the household members. Doing so means assuring (by themselves or with the help of other organizations) that the family is monitored in in the assignment of new roles and responsibilities in the transit to managing the microcredit as a family venture, helping to develop skills and areas of cooperation among the household members. Accompanying the family in the areas of preparation for management go beyond a formal follow-up visit by a promoter. The credit programs must redefine the scope and nature of the social monitoring process, how it needs to be adapted to the type of family, assigning new commitments that include technical assistance and a training process for its members (not just the husband).

The credit policies should segment their credit offer and adapt it to the type of household in each community. To do that is necessary to consider the nature of both the traditional nuclear and single-parent households where the woman is in charge of her family without a partner, or perhaps relaying in the support of an elder son living with her mother. This female-headed type of household is increasing in number in rural areas, curiously changing the configurations of households in rural territories.

Finally, we want to suggest that given the importance of these findings there is a need to continue doing more research, particularly qualitative research, in order to find other factors influencing the intrahousehold dynamics that this research did not consider given the variables included in the survey and the model of analysis.

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Appendix

Appendix 1: Section related to financing included in the rider questionnaire of the CBMS

Appendix 2: Statistics table of Variables that are not in the equation

	Punctuation	gl	Sig.
In case you want to request a credit in your name: Will your spouse agree?	313.769	1	0.000
Should this time be taken, would your spouse agree?	285.145	1	0.000
If you want to participate in training, would your partner agree?	303.387	1	0.000
(14) Would you like to receive technical assistance?	455.632	1	0.000
I consider that I do not have an endorsement	357.018	1	0.000
I have to go far from home to manage it	160.042	1	0.000
It is likely that they will reject my application	282.264	1	0.000
I think it's very expensive to have a credit	492.568	1	0.000
Fear of not paying the credit because I go wrong	442.979	1	0.000
The language that the officers use is complicated	93.813	1	0.000

I do not like to work with credit	**782.798**	**1**	**0.000**
I do not have limitations to have credit	**93.224**	**1**	**0.000**
Poverty of member- income equivalent	**0.594**	**1**	**0.441**
Constant	**943.242**	**13**	**0.000**
Source: Author's elaboration			

Appendix 4 resume

Log Likelihood	N. Obs	Standard Error	Wald	Prob. Chi>0.
- 398. 9545	1,543	0.054	411.97	0.000