

Adequacy of Supply and Demand for Agricultural Finance in Benin: Analysis of Access and Satisfaction of Agricultural Producers with Financial Services

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Abstract

In Benin, despite the coexistence of commercial banks and decentralized financing systems, it can be seen that conventional banks, unlike microfinance institutions, give little or even little credit to actors in the rural world. The objective of this article was to analyze producers' access and their satisfaction to financial services from Micro Finance Institutions (MFI) in Benin. Data were collected using questionnaires and an interview guide from a sample of 4480 producers. The assessment of access rates, coverage of credit applications and the satisfaction rate of agricultural producers of agricultural financial products was made from descriptive statistics and the Pearson Chi-square homogeneity test while the analysis of the determinants of producers' access to MFI financial services was done using a binomial Logit econometric model. The results showed that the rate of access of agricultural producers to MFI financial products remains low across the country. The main determinants of supply and demand for financial services at the producer level are agricultural income, education level, knowledge of the MFI and the possession of guarantees which have a positive effect on access and demand for agricultural credits. The results also showed that most producers are satisfied with the financial services provided by MFIs.

Keywords: Supply, access, agricultural producers, satisfaction, financial services.

1. Introduction

The agricultural sector represents the poverty reduction sector or even the economic recovery of many countries (Kouako et al., 2017). Its funding has been the subject of great concern in recent years (Djimasra et al., 2013; Martinez, 2009). In Benin, this sector mobilizes around 75% of the total population and contributes to the creation of added value (28.50% of GDP) and almost 85% of export currencies (INASE, 2018). The increase in agricultural productivity, identified as the primary factor for improving the performance of the agricultural sector, cannot be achieved without the adoption of proven technological innovations (Kodjo et al., 2003) and the funding required for good implementation of technological packages (Christiaensen et al., 2010). Without financial resources, agriculture remains archaic and less and less developed. For the World Bank (2008), agricultural credit constitutes the basic tool to improve the productivity of agriculture. Thus, with the acceleration of financial innovations, financing of the agricultural sector can pass through different channels such as microfinance institutions (MFIs) and conventional or commercial banks (Silvestru, 2011; Neuberger et al., 2012). According to Lesaffre (2000), only 14% of the overall supply of short-term credit goes to the agricultural sector of the West African Economic and Monetary Union (WAEMU) countries. In Benin, there is a coexistence of commercial banks and decentralized funding systems (Medjigbodo, 2005). The problem of financing populations' agricultural activities is still almost general. The poor access of producers to credit despite all the actions carried out continues to be one of the major causes of poverty and insufficient job creation (Slotty, 2009). In developing countries such as Benin, banks or traditional financial institutions give little or even little credit to rural actors because of production risks such as production losses due to flooding, drought, climate change. One can wonder today about the capacity of the financial reforms to allow the Beninese banks a modification of their credit policy in order to adapt them much more to the realities of the communities with relatively low incomes and this vis-a-vis the existence of the institutions decentralized financing, which is almost the only means of financing producers because of their mode of operation and their proximity to agricultural producers (Sossa, 2011).

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In Benin, the microfinance sector has experienced a significant emergence with the creation of several direct credit institutions, rural banks, cooperatives and mutual savings and credit unions. In fact, the number of Micro Finance Institutions increased from 157 (1998) to 762 (2005), an increase of 384% (Sossa, 2011). The growth rate of commercial or conventional banks is 26% in the same period (Ikiemi, 2018). In recent years, very few studies have assessed the supply and demand for financing from producers to improve the productivity of their farms with new sector reforms. The objective of this paper is to analyze: -i- producers' access to agricultural financial products, -ii- coverage of loan / loan demand from farms, -iii- the determinants of producers' access to financial products of Micro Finance Institutions and -iv- the level of satisfaction of producers of financial services of MFIs in Benin.

2. Materials and Methods

2.1. Study environment and sampling

The study was carried out on the whole extent of Benin's territory and in all the municipalities. In order to obtain an acceptable level of precision in coverage rates / access to financial services at national level, the study used the information available in agricultural policy documents in Benin (Agricultural Sector Development Strategic Plan, Agricultural Sector Recovery Strategic Plan) to calculate the minimum size nationally representative sample. The farm was the main observation unit. The minimum size of selected farms has been determined by the following formula (Gorstein et al., 2007):

$$n = \frac{t_{\alpha}^2 p(1-p)deff}{d^2} (1+h) \quad (1)$$

with, t_{α} the quantile of order $(1-\alpha)$, α , the level of confidence. The confidence level was set at 5%, which gave a value of 1.96 for t_{α} . p was the technical coaching rate for producers. It was 20% (MAEP / PSDSA (2017)). $deff$ corresponded to the cluster effect fixed at 3 taking into account the fact that it was envisaged to take 20 farms per cluster. h was the non-response rate set at 5%; d represented the level of precision desired and set at 2%.

The parameters set resulted in a sample of 4844 farms for 244 clusters. The minimum sample size obtained was distributed among the 12 departments of Benin included in the seven Poles of Agricultural Development. The clusters were distributed by department in proportion to their weight in agricultural holdings. The clusters were then distributed by municipality. For simplicity, the clusters have been coincided with the villages, the smallest administrative unit in Benin. In each commune, the clusters were drawn randomly. The farms existing in each selected cluster were identified in order to form a sampling frame. The farms listed were numbered from 1 to m . Systematic sampling was carried out.

The number of farms surveyed in each department is presented in Table 1.

Table 1: Distribution of the sample by department and sex of the farm manager

Department	Gender of farm manager		Total
	Woman	Man	
Alibori	19	537	556
Atacora	32	504	536
Atlantique	48	364	412
Borgou	5	614	619
Collines	59	451	510
Couffo	144	438	582
Donga	3	296	299
Littoral	0	19	19
Mono	43	232	275
Ouémé	14	206	220
Plateau	35	306	341
Zou	58	453	511
Benin	460	4 420	4 880

Source: Satisfaction survey, 2019 PAPA

2.2. Data analysis methods

2.2.1. Method for evaluating access rates, credit demand coverage and satisfaction of financial services

The evaluation of the different rates was made from descriptive statistics (frequencies, proportions, histograms). Pearson's Chi-square homogeneity test was applied to analyze variations in access rates. For this purpose, there would be a variation between the access rates if the probability associated with the chi-square homogeneity test is less than or equal to 5%. The value of the Pearson chi-square coefficient and its probability were calculated using the software R 3.5.0.

2.2.2. Analysis of socio-economic determinants of producers' access to loans from Micro Finance Institutions

The binomial Logit econometric model was used to identify the socio-economic determinants of producers' access to loans from Micro Finance Institutions. Logit is based on logistics law. The dependent variable has two methods: either the producer has access to credits from Micro Finance Institutions or he does not have access. Referring to Rakotomalala (2015), the equation of the model is presented in the following form:

$$\ln\left(\frac{\pi}{1-\pi}\right) = \alpha + \beta X \tag{2}$$

The linearization of equation (2) gives equation (3):

$$\pi = P(Y) = \frac{e^{\alpha + \beta X_i}}{1 + e^{\alpha + \beta X_i}} \tag{3}$$

Where π is the probability that the producer has access to MFI loans ($Y = 1$), X_i = vector of the explanatory variables, α is the constant of the equation, β represent the regression coefficients of the explanatory variables to be estimated.

The dependent variable $Y_i = \begin{cases} 1 & \text{if the producer has access to financial products} \\ 0 & \text{if not} \end{cases}$

When we take the log of equation (3), we obtain the following Logit model with the coefficients to be estimated:

$$\ln\left(\frac{P(Y=1)}{1-P(Y=1)}\right) = \alpha + \beta_1 X_1 + \beta_2 X_2 + \dots + \beta_k X_k + e_i \tag{4}$$

e_i are the error terms and $i = 1, 2, 3, 4, \dots, k$ are the observations.

Then, we estimate equation (3) by estimating the coefficients $\alpha, \beta_1, \beta_2, \dots, \beta_k$ and finally the interpretation of the results of the model.

STATA 13 software was used to analyze the data. The validation of the binomial logit model was done with the likelihood ratio, the probability of which must be less than the 5% threshold. The variables retained for this purpose in the model are those which were significant at the 1%, 5% or 10% threshold.

Table 2 presents the definition of the explanatory variables of the model and their expected signs. The explanatory variables used can be grouped into 3 categories: variables which express the capacities of the producer, variables which express his preferences and variables with fixed effects. The level of education, the age, the number of years of experience, knowledge of the MFIs, the farmer's agricultural income capture the producer's ability to access the credits provided by the MFIs. The level of education and the number of years of experience improve the producer's "technological absorption" capacity. In addition, a high level of education makes it possible to quickly seize economic opportunities. Gender, farm status (individual farm or group), the perception of the interest rate charged by MFIs on the loans granted, the possession of formal documents (Identity card, passport, Lepi card) and guarantees express the producer's preferences for contracting credit at the MFI level. The work of Mbétid-Bessane (2010), Agbahey et al (2011), Yabi et al (2016), Issoufou et al (2017), Rabe et al (2017), Ouedraogo et al (2017) and Babatounde et al (2018) used these socio-economic variables in their analysis model.

Table 2. Definition of Logit model variables

Variables	Description	Type of variable
Dependent variable		
ACCESCRED	Producers' access to MFI loans	Binary: 1 = Yes and 0 = No
Explanatory variable		
AGE	Producer age	Continue
EXP	Number of years of experience in agricultural production	Quantitative continues
COIMF	Knowledge of MFIs	Mute: 1 if the producer knows the MFIs

REVAN	Annual agricultural income of the producer	Quantitative continuous
SEXE	Sex of producer	Mute: 1 if producer is male
STATUTEXPL	Farm status (individual or group)	Mute: 1 if the farm is individual
PRIM	Primary education	Mute: 1 if the producer has reached the primary level
SECOND	Secondary education	Mute: 1 if the producer has reached secondary level
INTERET	Credit interest rate deemed high by producers	Mute: 1 if the producer perceives that the interest rate is high
PIECEFOR	Possession of formal documents (identity card, passport, Lepi card)	Mute: 1 if the producer has one of the formal papers
POSSEGARAN	Possession of guarantees requested by MFIs when requesting loans	Mute: 1 if the producer has guarantees requested by the MFI

3. Results and Discussions

3.1. Sociodemographic and economic characteristics of producers

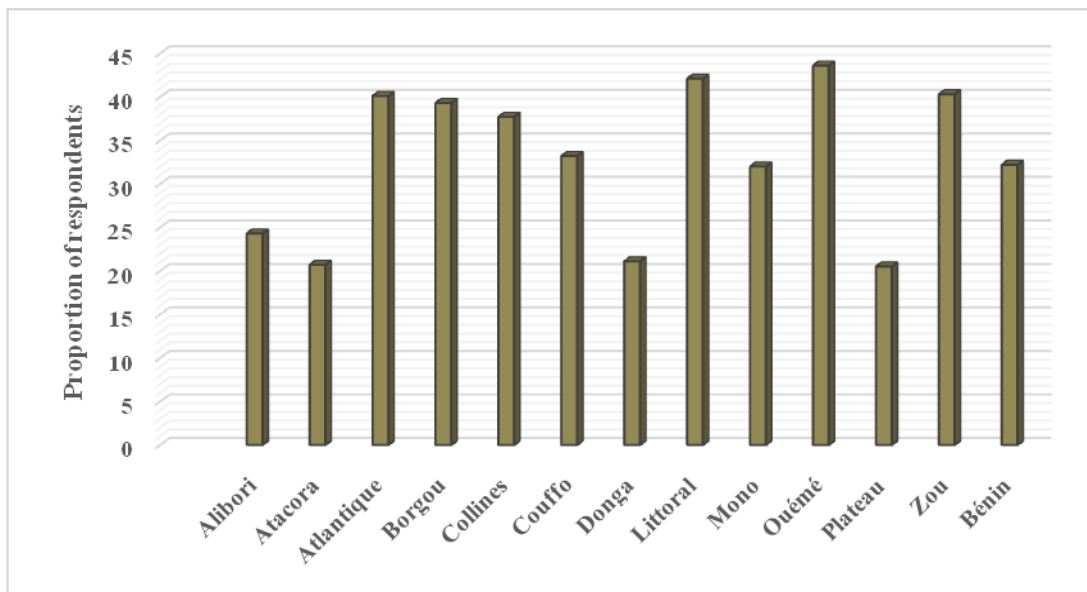
Table 3 relating to the socio-economic characteristics of agricultural producers shows that their average age was 44 years and that these producers are mostly young and open to innovations to improve the productivity of their agricultural holdings. They had an average of 32 years of experience in agricultural production. They were therefore for the most part very experienced in the agricultural field to be sufficiently imbued with the difficulties of access to agricultural finance and the experiences practiced in this field in recent years. Average income from agricultural production averaged 750 850 FCFA. The results also showed that 32% of producers in the sample had access to agricultural credit in the past five years. The majority of producers who received it (90%) were women. This has shown that women have more credibility with microfinance institutions for agricultural production in Benin. In addition, 67% of producers were aware of the existence of Micro Finance Institutions in their areas of activity. The formal education rate remained low in the survey population because 63% of respondents have no education. The majority of farms owned by producers were individual (81%) and revealed that community-type farms are tending to disappear in rural areas. Each producer has his farm which he takes care of to get the maximum profit. To this end, it is able to find the resources and factors of production that will allow it to improve the productive performance of its operation. The results also revealed that 72% of producers had individual identification documents (Identity Card, RAVIP Card, Lepi Card) which were documents required for any financial transaction with microfinance institutions or commercial banks. 80% of the producers had guarantees requested by the MFIs when applying for loans. In total, 78% of producers considered the interest rates on loans charged by MFIs to be too high.

Table 3. Socio-economic characteristics of agricultural producers

Quantitative variables	Average	Standard deviation
Age (years)	43.81	12.51
Experience in agricultural production (years)	32.26	10.51
Agricultural income (FCFA)	750 850.30	345 780.62
Qualitative variables	Percentage (%)	
Access to credits	Yes	32.20
	No	67.80
Sex	Male	90.57
	Female	9.43
Knowledge of MFIs	Yes	67.16
	No	32.84
Producer education level	No	63.41
	Primary	21.39
	Secondary	15.20
Farm status	Individual	81.41
	Group	18.59
Possession of formal documents (Identity card, RAVIP card, LEPI card)	Yes	72.53
	No	27.47
Credit interest rate deemed high by producers	Yes	78.26
	No	21.74
Possession of guarantees requested by MFIs when requesting loans	Yes	80.13
	No	19.87

3.2. Access of agricultural producers to credits / loans from Micro Finance Institutions in Benin

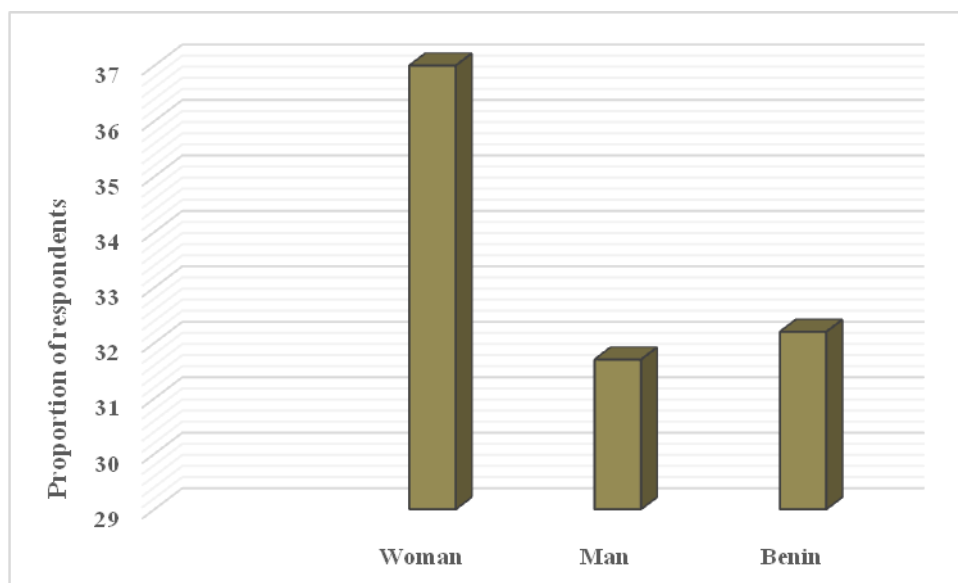
The access rate of agricultural producers to financial products was 32% and remains low across the country. Access to financial products has varied from one department to another in Benin (Figure 1). The high rates were recorded at the level of the departments of Ouémé and Collines. Disaggregated by gender, Figure 2 shows the extent of women's access to financial products. For Klasen (2002), women's access to financial products is essential to economic growth because this access enables them to play their role in the economy more effectively. The majority of women who have access to financial products often make good decisions to properly control and use these financial products wisely. With substantial loans, these women increase their income and become very good long-term clients for microfinance structures (Mayoux, 2001). Under these conditions, they save considerably and use a whole range of insurance and other financial products. They are also willing to pay fees if the services provide them with benefits (Kantor et al., 2000; Mukhopadhyay et al., 2006). On the other hand, other studies have shown that financial products are less accessible to women than to men when NGOs mature and become formal for-profit institutions (Kabeer, 2001; Cheston, 2006; Frank et al., 2008). The ability of women to take advantage of minimalist financial services that do not explicitly take gender into account depends to a large extent on their context and situation, and can change. However, none of the predicted relationships between women's access to financial services and empowerment can be taken for granted.



χ^2 de Pearson = 51,251 ; p-value = 2,637 E-09 *

*: signification at the 10% level.

Figure 1. Access rate of agricultural producers to MFI loans by department in Benin



χ^2 de Pearson = 42,548 ; p-value = 1,433 E-07 ***

***: signification at the 1% level

Figure 2. Access rate of agricultural producers to MFI loans by sex in Benin

3.3. Covering the demand for loans/credits from agricultural holdings

Analysis of the rate of coverage of the demand for loans/credits from agricultural holdings with Micro Finance Institutions shows that more than 40% of respondents declared that their requests for credit / loan were covered at least at 80% (Table 4). This coverage rate is also interesting at the departmental level of Littoral where all the interviewees of this department declared that their requests for credit/loan were covered at least at 80%. This situation is explained by the fact that there is a varied range of microfinance structures in this department operating in the formal and informal sectors and providing diversified financial services to most social strata. For Edson et al. (2012), the proximity of Micro Finance Institutions to local populations allows them to know their customers well and to meet their demands for financial services.

Table 5 analyzes the coverage rate of the demand for loans / credits of agricultural holdings by sex. Analysis of Table 5 shows that 40% of men said that their credit / loan requests were at least 80% covered. This coverage rate is roughly the same rate for women (41%). On the other hand, 33% of women against 30% of men declared that their credit / loan requests were covered at least at 60%. This small difference shows how Micro Finance Institutions like to easily grant loans / loans to women than to men because they feel that women do not often request large amounts of loans and repayment at their level is always uncomplicated. (Mayoux, 2001).

Table 4. Coverage rate of demand for loans/credits from agricultural holdings by department

Department	[0-20% [	[20-40% [	[40-60% [	[60-80% [	[80-100%]	Total
Alibori	3.66	4.88	25.61	18.29	47.56	100
Atacora	-	8.77	26.32	38.60	26.32	100
Atlantique	-	-	22.22	30.56	47.22	100
Borgou	-	5.81	22.09	27.91	44.19	100
Collines	2.7	2.70	18.92	27.93	47.75	100
Couffo	-	-	15.38	53.85	30.77	100
Donga	-	-	13.04	30.43	56.52	100
Littoral	-	-	-	-	100	100
Mono	-	11.76	17.65	29.41	41.18	100
Ouémé	-	1.69	23.73	50.85	23.73	100
Plateau	-	-	19.57	41.30	39.13	100
Zou	2.17	21.74	19.57	21.74	34.78	100
Total	1.21	5.20	21.49	31.37	40.73	100

Table 5. Coverage rate of demand for loans/credits from agricultural holdings by sex

Sex	[0-20% [	[20-40% [	[40-60% [	[60-80% [	[80-100%]	Total
Woman	1.04	5.21	18.75	33.33	41.67	100
Men	1.25	5.20	22.04	30.98	40.54	100
Total	1.21	25.20	21.49	31.37	40.73	100

3.4. Socio-economic determinants of producers' access to loans from Micro Finance Institutions

The results of the binomial logistics model (Table 6) have shown that producers' access to loans from Micro Finance institutions is influenced by certain socio-economic variables such as agricultural income, knowledge of the MFI, average educational level (secondary) and the perception of the high interest rate by producers. The coefficient of the agricultural income variable is positive and significant at the 1% threshold. The higher the farm income or turnover of the producer or farm, the more the probability of acquiring financial products from MFIs. For Delcoure (2007), the more the farm has a good income, the more it will have to resort to debt in order to benefit from tax advantages. The producer's income is defined by his ability to meet his deadlines. This is a significant aspect for lenders but also for the entire financial market. Thus, an unstable income operator is not fortunate enough to have access to financial services (Gonzalez et al., 2007; Kacem et al., 2013; Sossou et al., 2014). Unlike these authors, some empirical work has revealed a negative correlation between income and access to financial products. These are: Fakhfakh Ben Attitallah, (2006); Huang and Song (2006); Colot and Croquet (2007). Producers' knowledge of MFIs is a determining factor in their access to MFIs because the coefficient of this variable is positive and significant at the 5% threshold. The more producers know about the MFI, the easier it is for them to access loans. This knowledge of MFIs requires mastery of the financial products and services they provide. Knowledge of MFIs enables producers to develop relationships of trust with the MFIs, which will enable them to successfully carry out financial transactions (Huang and Song, 2006).

The level of secondary education of producers is a variable whose coefficient is positive and significant at the 1% threshold. Producers with secondary education have easy access to MFIs and take out more credit than those with no education or primary education. The more educated the producer, the greater their ability to manage financial products contracted from microfinance institutions. This result confirms those of Delcoure (2007) and Sossou et al., (2014) who demonstrated that the low level of education influences the decision to grant credit at the level of microfinance institutions. Other results such as Ondel'ansek (2010), Pham et al. (2009) and Edson et al. (2012) found that managers of funded farms have more education than those with less education. Finally, the perception of the high interest rate by producers is a variable whose coefficient is negative and significant at the 10% threshold. The more producers perceive that the interest rates charged by MFIs on the credits granted, the less they go to these MFIs to take out loans.

The possession of guarantees requested by MFIs when requesting loans is also a variable whose coefficient is significant at the 10% threshold but positively correlated with the dependent variable. In fact, the possession of tangible fixed assets gives the producer or the farm a comfortable position vis-à-vis MFIs, thereby promoting their access to financial products (Carter and Tagg, 2007). Therefore, the real value of these tangible fixed assets presents an appreciable guarantee to the creditors and consequently, producer or farm can face information asymmetries and easily access bank loans. Delcours (2007) confirms that the tangible assets owned by the producer or the farm represent an asset for the latter insofar as the MFIs will carry out the transaction peacefully because the risk of moral hazard will be minimized.

Table 6. Results of the binomial logistics model

Variables	Coefficients	Standard Error
Producer age	0.03	0.06
Experience in agricultural production	-0.02	0.08
Farm income	0.01***	0.63
Sex of producer	-1.57	1.42
Knowledge of MFIs	1.61**	1.05
Primary education	3.45	2.01
Secondary education	1.89*	1.61
Possession of formal papers	-1.87	1.57
Credit interest rate deemed high by producers	-2.79*	1.41
Possession of guarantees requested by MFIs when requesting loans	3.28*	2.04
Constant	45.46	161.67
NUMBER OF OBSERVATIONS		4480
F(10, 4480)		24.16
PROB >F		0.0007***
R ²		0.4257

***: signification at the 1% level, **: signification at the 5% level and *: signification at the 10% level.

3.5. Satisfaction of farms in financial services

Table 7 on the satisfaction rates of agricultural producers with the financial services provided by Micro Finance Institutions shows that over 70% of agricultural producers are completely satisfied with these services. This satisfaction rate is more interesting at the level of the Couffo department (100% of agricultural producers). The department of Couffo is one of the departments of Benin where we note the existence of support systems, in particular of the Alafia Consortium, which offer good quality training and advisory support services to MFI clients. Analysis of the satisfaction rate of agricultural producers with financial services by sex (Table 8) shows that more than 100% of women are completely satisfied with financial services from Micro Finance Institutions, unlike men (86%). Analysis of this difference shows that, when women request financial services from Micro Finance Institutions, they often benefit from support-advice and follow-up from these MFIs in the management of financial services (Mayoux, 2001; Frank et al., 2008).

Table 7. Satisfaction rate of agricultural producers in financial services by department

Department	Overall satisfaction with financial services		Total
	Yes	No	
Alibori	76.83	23.17	100
Atacora	54.39	45.61	100
Atlantique	77.78	22.22	100
Borgou	89.53	10.47	100
Collines	69.37	30.63	100
Couffo	100	-	100
Donga	78.26	21.74	100
Littoral	100	-	100
Mono	88.24	11.76	100
Ouémé	79.66	20.34	100
Plateau	86.96	13.04	100
Zou	45.65	54.35	100
Total	74.70	25.30	100

Table 8. Satisfaction rate of agricultural producers with financial services by sex

Sex	Overall satisfaction with financial services		Total
	Yes	No	
Woman	100	-	100
Man	86.67	13.33	100
Total	87.50	13.33	100

4. Conclusion

Improving the productive performance of farms in developing countries like Benin requires access to suitable financial products. The study carried out nationwide shows that access to agricultural financial services remains low despite numerous initiatives in recent years to improve the supply of financial services to producers. Women are more in demand for agricultural credit in rural areas. Applications for credits/loans from agricultural producers remain partially covered by Micro Finance institutions. The main determinants of the supply and demand of financial products at the producer level are their agricultural income, the level of education, knowledge of the MFI and the possession of guarantees requested by MFIs when requesting loans which have a positive effect. On the other hand, the perception of the high interest rate by the producer remains one of the barriers to access to and demand for agricultural credit. All women are satisfied with the financial services of Micro Finance Institutions to the detriment of men who are not completely satisfied. The operationalization of agricultural credit offers from public authorities, the establishment of other formal microfinance structures and the official recognition of MFIs operating in the informal sector on the national territory will make it possible to improve the supply of agricultural credits to producers.

References

- Carter, S. & Tagg, S. (2007). The happy story of small business financing. *Journal of Banking and Finance*, 31, 2648-2672.
- Cheston, S. (2006). Just the facts, Ma'am: Gender stories from unexpected sources with morals for microfinance. Campagne du Sommet du microcrédit, Washington, DC. www.microcreditsummit.org/papers/Workshops/28_Cheston.pdf.
- Colot, O., & Croquet, M. (2007). Les Déterminants de la structure financière des entreprises Belges. Dans O. Colot, & M. Croquet, Reflets et perspectives de la vie économique, Tome XLVI. pp :177-198.
- Delcour, N. (2007). The determinants of capital structure in transitional economies. *International Review of Economics & Finance*, 16, 400-415.
- Djimasra, N., Djal-Gadom, G., Abba Danna, A. & Djam'angai L. (2013). Entreprises tchadiennes à l'ère pétrolière. *Annale de l'Université de N'Djamena*, Tchad. Rapport de Recherche du FR-CIEA N° 74/13.
- Edson, S. N. & Henri, T. N. (2012). Accès au crédit bancaire et survie des PME Camerounaise: Le rôle du capital social. 12 p.
- Fakhfakh, H., & Ben Atallah, R. (2004). Déterminants et dynamique de la structure du capital des entreprises tunisiennes : validation empirique de la théorie du Trade-off. *AFFI, 21ème Conférence Internationale en finance*, Université de Cergy-Pontoise, 24, 25 et 26 juin (pp. 1-27). [en ligne], disponible sur World Wide Web : <http://www.u-cergy.fr/AFFI>.
- Frank, C., Lynch, E. & Schneider-Moretto, L. (2008). Stemming the tide of mission drift: Microfinance transformations and the double bottom line, Women's World Banking, New York. *China Economic Review*, 17 (1), 14-36.
- Gonzalez, R. L., Lopez, J. A., & Saurina, J. (2007). Determinants of Access to External Finance: Evidence from Spanish Firms. *Federal reserve bank of San Francisco*, 3-42.
- Gorstein, J. L., Dary, O., Pong, T. & Shell-Duncan, B. (2007). Feasibility of using retinol-binding protein from capillary blood specimens to estimate serum retinol concentrations and the prevalence of vitamin A deficiency in low-resource settings. *Public Health Nutrition*. 11 (5): 513-520. DOI: <https://doi.org/10.1017/S1368980007000821>.
- Huang, G., & Song, F. M. (2006). The determinants of capital structure: Evidence from. 13 p.
- Ikiemi, C. S. (2018). Déterminants de l'accès au crédit-bail dans le secteur agricole en république du congo. *Annales de l'Université Marien N'GOUABI. Sciences et Economiques et de Gestion*. 18 (2): 300-312.
- INSAE. (2018). Statistiques agricoles, Bénin. 47p.
- Kabeer, N. (2001). Conflicts over credit: Re-evaluating the empowerment potential of loans to women in rural Bangladesh. *World Development*. 29 (1): 63-84.

- Kacem, S. & Zouaril, S. G. (2013). Analyse des déterminants d'accès aux services financiers des associations de microcrédit dans la Tunisie rurale. *Université Sfax*. 15 p.
- Kantor, P. (2000). Promoting women's entrepreneurship development programmes: Some experiences from the North to the South. *Organisation internationale du travail (OIT)*, Genève, 56 p.
- Klasen, S. (2002). In search of the Holy Grail: How to achieve pro-poor growth?, *Département d'économie, Université de Munich*, Munich, Allemagne. 27 p.
- Kodjo, K. Z. M., Abiassi, E. H. & Allagbé, M. C. (2003). Le financement de l'agriculture béninoise dans un contexte de libéralisation : Contribution de la microfinance. *Faculté des Sciences Agronomiques (FSA), Université d'Abomey-Calavi, Bénin*. 53 p.
- Kouako J. M., Okiemy M. & Lékana H C. (2017). Les effets de la croissance du secteur agricole sur la réduction de la pauvreté au Congo. *Annales de l'Université Marien NGOUABI*. pp. 1-14.
- Lesaffre, D. (2000). Quels financements pour l'Agriculture des Pays en Développement ? *Revue Grain de Sel*. 16, pp.12-18.
- Mayoux, L. (2001). Tackling the down side: Social capital, women's empowerment and microfinance in Cameroon. *Development and Change*, 32 (3) 435-464, www.microfinancegateway.org/p/site/m//template.rc/1.9.27246.
- Medjigbodo, R., M. P. (2005). La politique de crédit des banques face à l'avènement des systèmes financiers décentralisés ou des institutions de micro-finance. *J. Rech. Sci. Univ. Lomé (Togo)*, 7 (1): 23-31.
- Mukhopadhyay, M., Steehouwer, G. & Wong, F. (2006). Politics of the possible: Gender mainstreaming and organizational change – experiences from the field. *Institut royal tropical et Oxfam Novib, La Haye, Pays-Bas*, 35p.
- Neuberger, D. & Rathke-Döppner, S. (2012). Leasing by small enterprises. *Universität at Rostock*. 122p.
- Ondel'anké, K. (2010). Les contraintes de financement des PME en Afrique: le rôle des registres de crédit. 12 p.
- Pham, V. H. T., Audet, J. & St- Pierre, J. (2009). Les déterminants de l'accès au financement bancaire des PME dans un pays en transition : Le cas du Vietnam, la vulnérabilité des TPE et des PME dans un environnement mondialisée. *11^{ème} Journées Scientifique du réseau entrepreneuriat, Trois-Rivières, Canada*.
- Silivestru, D. (2011). Bank loans and small firm financing in Romania. *Annales universitatis, Apulensis Series Oeconomica, Faculty of Sciences*. 1(14): 1-15.
- Slotty, C. (2009). Financial constraints and the decision to lease: Evidence from German SME, Johann Wolfgang-Goethe-Universität Frankfurt am Main. *Fachbereich Wirtschaftswissenschaften Finance and accounting*, No. 205.
- Sossa, T. (2011) .Microfinance et inclusion financière au Bénin, in *La microfinance au Bénin. eCahiers*. 10. <http://iheid.revues.org/355> ; DOI : 10.4000/iheid.355.
- Sossou, C. H, Dogot, T., Adjovi, G., Lebailly, P. & Coulibaly, O. (2017). Analyse des déterminants de l'accès au crédit des exploitations agricoles au Bénin. *Bulletin de la Recherche Agronomique du Bénin (BRAB)*. ISSN sur papier (on hard copy) : 1025-2355 et ISSN en ligne (on line) : 1840-7099. 14 p.