

Impact study of microcredit on women's empowerment: the mediating effect of capabilities; the case of the Souss-Massa region

SAFIRI SAID, ABDALLAH SADIK

Abstract: *The main objective of our research is to examine the indirect relationship between access to microcredit and women's empowerment, via the mediating variable of 'capabilities', in the specific context of the Souss Massa region.*

From a theoretical perspective, and in order to carry out our work, we have drawn upon the capabilities approach initiated by Amartya Sen (1980) and developed by Martha Nussbaum (2000).

With regard to the methodology employed and data collection, we utilized a quantitative analysis conducted on a sample of 393 women who are beneficiaries of the services provided by the four microcredit associations operating in the Souss-Massa. For data analysis, we opted for modelling using Partial Least Squares Structural Equation Modelling (PLS-SEM) via the SmartPLS4 software.

The results of our study reveal that microcredit has a positive influence on the economic empowerment of women.

Keywords: Microfinance; Microcredit; Women's empowerment; Impact; Capabilities approach.

Introduction

Over the past forty years, the economic empowerment of women has consistently been regarded as the guiding principle in the efforts of national governments and international institutions to combat multidimensional poverty, which disproportionately affects women. The rationale is that women have always made a significant contribution to the economic and social development of societies, whether developed or underdeveloped.

It is in this spirit that the majority of developing countries, located mainly in Africa, Asia and Latin America and supported by international financial organisations such as the World Bank (WB) and the International Monetary Fund (IMF), will work together to find solutions to improve women's economic empowerment. Nevertheless, this struggle will prove to be complicated and complex. And this complexity is largely due to a general lack of understanding of the causes and dimensions of so-called female poverty, particularly in its economic, human, social and political aspects (World Bank, 2000; Destremau and Salama, 2002; UNDP, 1999; Sen, 1999). In Morocco, according to the 2024 Population and Housing Census, 37.2% of the population lives in rural areas, and women alone account for 49.2% of this group. However, their labour force participation rate does not exceed 12.4%, compared to that of men, which stands at 65% (High Commission for Planning (2014)).

It is therefore against this backdrop of deplorable conditions for women – throughout the world and particularly in Morocco – and with a view to improving the economic and social indicators for women living in precarious and vulnerable situations, and in line with the tools implemented by the United Nations to achieve the Millennium Development Goals, considerable efforts will be made, particularly with regard to the financial inclusion of women in difficulty, through what is commonly known today as microfinance or microcredit.

According to Mayoux (2001): 'When conditions for women's access to credit are flexible, they become economically and socially autonomous'.

From a theoretical and philosophical perspective, several approaches and doctrines linking microfinance to empowerment are invoked; the majority of these stem from socio-economics or economic theory.

For the purposes of this article, we have drawn upon the capabilities approach developed by Amartya Sen (1980).

With regard to the methodology employed and data collection, we conducted a quantitative analysis of a sample comprising 393 women who had received services from the four microcredit associations operating in the Souss-Massa region, with the aim of addressing our research question concerning a potential relationship between access to microcredit and women's economic empowerment in the Souss-Massa region, using a capabilities approach. For the data analysis, we opted for partial least squares structural equation modelling (PLSSEM) using the SmartPLS4 software.

Literature review and research hypotheses

This first paragraph will focus initially on examining the theoretical foundations of microfinance, namely macro-financial theories, microeconomic approaches and the capabilities approach. Secondly, we will present our conceptual research model and research hypotheses. As for macro-financial approaches, these fall within the framework of theories that have sought to elucidate the link that may exist between the development of financial systems and economic and social development. From a general perspective, the study of the link between finance and economic development pits two schools of thought against one another: the financial intermediation school (Gurley and Shaw, 1973) and the financial liberalisation school (McKinnon and Shaw, 1973).

In terms of microeconomic approaches to microfinance, we note the existence of two main approaches, namely that based on the hypothesis of asymmetry

the information theory (Akerlof, 1970), which posits that one of the two parties possesses perfect information but does not disclose it fully to the other, and the theory focused on the issue of credit rationing (Stiglitz and Weiss, 1981), according to which banks use interest rates as a tool to identify risky borrowers.

As for the capabilities approach pioneered by the Indian socio-economist Amartya Sen (1992), it is based on the logic of democratisation and on the participation of vulnerable individuals in the development process in terms of wealth and job creation. From a theoretical perspective, this approach analyses the constraints that may hinder individuals in their choices and their ability to seize the various opportunities that may present themselves. In the same vein, some authors have operationalised the concept of capabilities by listing a range of capacities that individuals must possess. Thus, the American philosopher Martha Nussbaum has presented a relatively comprehensive version comprising a list of 10 capacities known as core capabilities. Having established the theoretical framework for our study with regard to the concepts of microfinance and capabilities, we conducted a review of the main empirical studies that have examined the link between microcredit and women's empowerment (see Appendix 1).

Having reviewed the theoretical and empirical literature, we will now formulate, on the one hand, the hypotheses relating to our research question and, on the other, our conceptual model. We would like to reiterate that, in this regard, the main question of our research was as follows: To what extent does microcredit, through capabilities, promote the economic empowerment of women in the Souss-Massa region?

It should also be noted that the hypotheses to be tested econometrically are derived from the review of theoretical and empirical literature. The hypotheses are presented below:

H 1: Access to microcredit has a positive impact on women's economic empowerment (Koloma (2019), Gubert (2005)).

H 2: Access to microcredit improves women’s ability to acquire capital and generate income (Félix et al. (2019), Smahi (2012));

H 3: The capabilities to accumulate capital and generate income promote women’s economic empowerment (Félix et al. (2019), Khandker (2005));

H 4: Access to microcredit has a positive impact on women’s economic empowerment through the capabilities to accumulate capital and generate income (Capabilities Approach of Sen (1980) and Nussbaum (2000)).

The conceptual model is presented in Figure 1 below:

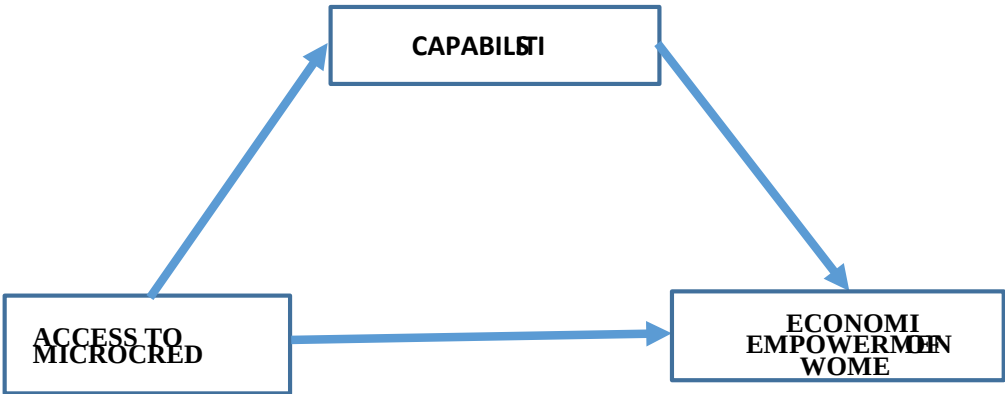


Figure 1: Conceptual research model

Source: Own work

Methodology

Our methodology is based on a quantitative study conducted among a sample of 3,932 women microcredit beneficiaries in the SOUSS MASSA region.

With regard to the operationalisation of the variables, our research model comprises three constructs: access to microcredit (independent variable), women’s economic empowerment (dependent variable) and capabilities (mediating variable). Tables 1, 2 and 3 outline our operationalisation of the variables.

Table 1: Conceptual operationalisation of access to microcredit

CONSTRUCT	INDICATORS	CODES	Measure ment scale
	Number of branches	AM1	
	Variety of costs	AM2	

Access to Microcredit	Diversity and improvement of services	AM3	Likert scale
	User confidence	AM4	
	Affordability	AM5	
	Rejection rate	AM6	
	Outstanding loans	AM7	

Source: Author’s own work

Table 2: Conceptual operationalisation of women’s economic empowerment

CONSTRUCT	INDICATORS	CODES	Measure ment Scale
ECONOMIC EMPOWERMENT WOMEN	Earning an income And Accumulating Capital	EmanEco1	Likert Li kert
	Investing in AGRs	EmanEco2	
	Acquisition of real estate	EmanEco3	
	Achieving financial independence	EmanEco4	

Source: Author’s own work

Table 3: Conceptual operationalisation of the mediating variable ‘Capabilities’

CONSTRUCT	DIMENSIONS	INDICATORS	CODES	MEASUREME NT MEASUREME NT
CAPABILITIES	Capital & Income	Ability to generate income	CAPCapRv1	Likert scale
		Ability to accumulate capital	CAPCapRv2	
		Capability to carry out AGRs	CAPCapRv3	

Source: Author’s own work

In the same vein, our research model will be analysed from two angles: the first relates to the direct impact of microcredit on women’s economic empowerment, whilst the second relates to

the indirect effect of microfinance, involving our mediating variable, which is represented by capabilities.

To process the collected data, we used structural equation modelling methods with the SmartPLS 4.0 software.

Results

Before presenting the results of our quantitative study, we will outline our data analysis protocol. The PLS4.0 protocol involved two stages: the evaluation of the measurement model and the evaluation of the structural model.

The evaluation of the measurement model will be addressed from four perspectives: item reliability, internal consistency, convergent validity and discriminant validity.

Reliability is assessed in the context of SmartPLS 4.0 using the loadings parameter. The accepted threshold for this parameter is approximately 0.70.

The results of the loadings are provided in Table 4 below:

Loadings

	Access to microcredit	Capital & Income	Economic Empowerment
AM1	0.843		
AM2	0.890		
AM3	0.601		
AM4	0.785		
AM5	0.854		
AM6	-0.298		
AM7	-0.638		
CAPCapRev1		0.932	
CAPCapRev2		0.954	
CAPCapRev3		0.925	
EmanEco1			0.861
EmanEco2			0.859
EmanEco3			0.872
EmanEco4			0.800

Source: Own work

Table 4 above shows that most of the items in our study exhibit an acceptable correlation with the construct they measure. However, the items 'rejection rate' (AM6) and 'outstanding loans' (AM7) were rejected as their loadings were approximately -0.298 and -0.638 respectively. As regards the assessment of internal reliability, this is carried out using two parameters, namely Cronbach's alpha coefficient and the Dillon-Goldstein rho index. The results are presented in Table 5 below:

Internal reliability results

Constructs & Dimensions	Cronbach's alpha	Oh by Dillon-Goldstein
Access to Microcredit	0.874	0.908
Capital & Income	0.931	0.956
Economic Empowerment	0.870	0.911

Source: Author's own work

In our study, the results for both parameters are all > 0.7 , which indicates the existence of perfect internal consistency.

For the convergent validity test, we used the average variance extracted (AVE). The results are presented in Table 6 below:

Table 6: Results of convergent validity

Constructs & Dimensions	Average Variance Extracted (AVE)
Access to Microcredit	0.529
Capital & Income	0.878
Economic Empowerment	0.720

Source: Own work

The AVE values for our study are all ≥ 0.5 , which means that the correlations between items within the same construct in our study are perfect. Consequently, all constructs are validated and the measurement validation is therefore complete.

To conclude the evaluation of the measurement model, we carried out the discriminant validity test using the Fornell and Larcker method, which is based on comparing the square root of the AVE values with the correlations of the latent variables. Thus, for this test to be satisfied, the square root of the AVE for each construct must be greater than its highest correlation with all other constructs. The results of our study using this method are presented in Table 7 below:

Table 7: Results of the discriminant validity

	Access to Microcredit	Capital & Income	Economic Empowerment
--	-----------------------	------------------	----------------------

Access to Microcredit	0.728		
Capital & Income	0.704	0.937	
Economic Empowerment	0.796	0.697	0.848

Source: Author's own work

It is now time to begin the evaluation of the structural model, in which we will focus on testing the four hypotheses formulated in this article. At this stage, it is worth recalling that the structural model: 'represents the set of one or more dependency relationships linking the variables of the hypothetical model' (Hair et al. 2014). This evaluation will be carried out by performing the following four tests:

- The explanatory power of the model: coefficient of determination R^2 ;
- The validity of the constructs: effect size coefficient f^2 ;
- Predictive validity: Q^2 coefficient;
- Hypothesis testing: correlation coefficient P-value;

As regards the coefficient of determination, it shows average values, which means that the direct effect of microcredit on empowerment and capabilities is not proven or decisive. Table 8 below illustrates the values of the coefficient of determination R^2 and the adjusted R^2 for our study:

Table 8: Results for the coefficient of determination R^2 and the adjusted R^2

	R^2	Adjusted R^2
Access to Microcredit > Capital & Income	0.495	0.494
Access to Microcredit > Economic Empowerment	0.485	0.484

Source: Author's own work

To refine the analysis of the coefficient of determination, another coefficient is used to examine the relevance of the constructs, namely the Size effect coefficient f^2 .

The results of the relative effect size coefficient for our model are detailed in Table 9 below:

Table 9: Results of the effect size coefficient

	f^2 value	Effect size
Access to Microcredit > Capital & Income	0.982	Strong effect
Capital & Income -> Economic Empowerment	0.943	Strong effect

Source: Own work

The table above shows that the various values for f^2 indicate strong effects. On the one hand, access to microcredit has a significant influence on the acquisition of 'Capital & Income'

Impact study of microcredit on women's empowerment: the mediating effect of capabilities; the case of the Souss-Massa region

capabilities. On the other hand, the acquisition of capital and income leads to significant economic empowerment for women.

Having presented the explanatory power and the effect size of the structural model, what about its predictive validity?

The Q^2 predictive power refers to a model's ability to predict one or more endogenous variables. Table 10 below shows the predictive validity values:

Table 10: Predictive validity results

Variables	Q^2 predict
Capital&Income	0.475
Economic Empowerment	0.536

Source: Own work

It is evident from the various values taken by the Q^2 coefficient ($Q^2 > 0$) that our structural model exhibits perfect predictive power.

To test the validity of the research hypotheses, two approaches will be taken. The first will examine the direct effect, whilst the second will address the indirect effect.

- Testing the hypothesis regarding the direct impact:

H 1: Access to microcredit has a positive impact on women's economic empowerment (Koloma (2019), Gubert (2005)).

Table 11: Results of the test of hypothesis H1

		Coefficients or 'Path coefficients'	Standard deviation (STDEV)	T Statistical	P- values
H1	ACCESS TO MICROCREDIT -> Economic Empowerment	0.478	0.069	6.902	0.000

Source: Author's own calculations

Table 11 above shows the following result:

The Student's t-statistic yields a value of 6.902 (greater than 1.96) and, given the P-value (which does not exceed the recommended threshold of 5%), there is a strong, positive and statistically significant relationship between access to microcredit and women's economic empowerment. To this end, we can validate the first hypothesis (H1), which states that access to microcredit has a positive impact on women's economic empowerment.

Testing the hypotheses regarding the indirect impact

Based on our research model, the analysis of the indirect effect will be conducted through two studies: the first will focus on the impact of access to microcredit on the acquisition of capabilities, and the second will examine the impact of capabilities on empowerment. However, before presenting our results, we will recap the two hypotheses concerning the indirect impact: H 2: Access to microcredit improves women's ability to acquire capital and generate income (Félix et al. (2019), Smahi (2012));

H 3: The ability to acquire capital and generate income promotes women's economic empowerment (Félix et al. (2019), Khandker (2005)).

Table 12: Results of the tests for hypotheses H2 and H3

		Coefficients or 'Path coefficients'	Standard deviation (STDEV)	T Statistical	P-values
H 2	ACCESS TO MICROCREDIT -> Capital & Income	0.686	0.057	12.063	0.000
H 3	Capital & Income -> Economic Empowerment	0.697	0.056	12.454	0.000

Source: Own calculations

Based on Table 12, we can draw the following conclusions:

- Impact of access to microcredit on the acquisition of the 'Capital and Income' capability:

The recorded estimates of Student's t-test (greater than the required minimum (1.96)) and the p-value (not exceeding 5%) confirm the existence of a strong, positive and statistically significant relationship between access to microcredit and the acquisition of capabilities relating to the accumulation of capital and income. We can therefore validate the second hypothesis (H2), which states that access to microcredit has a positive effect on women's capabilities regarding capital accumulation and the generation of regular income and resources.

- Impact of the acquisition of the 'capital & income' capability on women's economic empowerment:

The results of the Student's t-test (12.454) and the p-value (<5%) confirm the existence of a strong positive relationship between the acquisition of the 'capital and income' capability and the economic empowerment of women microcredit beneficiaries. In this regard, the third hypothesis (H3), which states that the acquisition of capabilities to build capital and income promotes women's economic empowerment, is accepted.

To summarise the results of our validity test of the three research hypotheses relating to direct and indirect effects, we refer to Table 13 below:

Table 13: Results of the tests of hypotheses H1, H2 and H3 (direct and indirect effects)

		Path coefficient	Standard deviation (STDEV)	T statisti c	P values	Decision
H1	Access to microcredit has a positively on the economic empowerment of women	0.478	0.069	6.902	0.000	Confirmed
H2	Access to microcredit improves women's ability to build capital and income	0.686	0.057	12.063	0.000	Confirmed
H3	The ability to have capital and an income promotes the economic empowerment of women	0.697	0.056	12.454	0.000	Confirmed

Source: Author's own work

Having presented the results of the hypothesis testing regarding the direct and indirect effects, what now of the mediating effect represented by capabilities, which constitutes the originality of this article?

In practical terms and within the framework of the PLS-SEM method (Baron & Kenny, 1986), the existence of a mediating effect requires the verification of three conditions, set out below: First condition: the independent variable must have a direct effect on the dependent variable; Second condition: the exogenous variable must have a significant relationship with the mediating variable;

Third condition: the mediating variable must be linked to the dependent variable. This will be verified by analysing the following four parameters: path coefficients, standard deviation (STDEV), t-statistic and p-value.

Regarding the first condition, which stipulates the existence of an effect between access to microcredit and women's economic empowerment, we shall refer to Table 14, which presents the results of the effect of the independent variable 'Access to microcredit' on the dependent variable 'women's economic empowerment'.

Table 14: Results of the effect of the independent variable ‘Access to microcredit’ on the dependent variable ‘economic empowerment of women’.

		Coefficients or ‘Path coefficients’	Standard deviation (STDEV)	T Statistical	P-values
H1	ACCESS TO MICROCREDIT -> Economic Empowerment	0.478	0.069	6.902	0.000

Source: Author’s own calculations

It can be seen from the table above that the t-statistic is greater than 1.96 and that the p-value is greater than the recommended threshold of 5%. Thus, the first condition for applying the mediation effect is met.

The second condition for mediation will be examined using Table 15 below:

Table 15: Results of the test of hypothesis H2

		Path coefficients or ‘Path coefficients’	Standard deviation (STDEV)	T Statistical	P-values
H 2	ACCESS TO MICROCREDIT -> Capital & Income	0.686	0.057	12.063	0.000

Source: Author’s own calculations

Based on the results of the effect of the independent variable on the mediating variable, there appears to be a significant link between the variables concerned by the second condition. In other words, the second condition is met.

Having verified the first and second conditions, we will now move on to the third condition, which concerns the relationship between the mediating variable and the dependent variable. This relationship is shown in Table 16.

Table 16: Results of the test of hypothesis H3

		Path coefficients or 'Path coefficients'	Standard deviation (STDEV)	T Statistical	P-values
H 3	Capital & Income -> Economic Emancipation	0.697	0.056	12.454	0.000

Source: Own calculations

Table 16 above shows that there is a link between the 'Capital & Income' capabilities and women's economic empowerment (the values for the four parameters are significant). In conclusion, we can state that the three conditions are met for the study of the relationship between the two dimensions Capital & Income -> Economic Empowerment.

Furthermore, the analysis of the three conditions indicates that the 'Capital & Income' capabilities mediate the link between access to microcredit and women's economic empowerment.

Table 17 below illustrates the results of the impact of the mediating variable on the nature of the link under investigation.

Table 17: Results of the test of hypothesis H4

		Path coefficients or "Path coefficients" »	Standard deviation (STDEV)	T statistics	P-values	Mediator effect
H4	ACCESS TO MICROCREDITS -> Capital & Income -> Economic Empowerment	0.392	0.069	6.732	0.000	Confirmed

Source: Own calculations

The results above show a Student's t-value of approximately 6.732 (higher than the required minimum of 1.96) and a p-value not exceeding 5%, which suggests that the effect of the mediating variable 'capital and income' capability is significant and positive. These results allow us to validate hypothesis (H4), which states that women's access to microcredit has a positive impact on their economic empowerment through the 'capital and income' capability.

Discussion

At this stage, we will discuss the results of the tests of our four hypotheses:

Regarding hypothesis H1: Access to microcredit has a positive impact on women's economic empowerment

This hypothesis has been confirmed by the results of the analysis of our research model. With a p-value = 0 and a t-statistic = 6.902, it is clear that microcredit plays a very important role in women's economic empowerment in the Souss-Massa region. This finding is consistent with the work carried out by Koloma (2019) in Mali, Z. Hda & F. Achour (2020) in Morocco and H. ElHadidi (2020) in Egypt. With regard to the findings of our quantitative study, we can note that women beneficiaries of microcredit have been able to create and develop income and employment-generating activities (IEGAs). These have enabled them to accumulate capital and/or generate income: for example, through the acquisition of movable and immovable property.

As for the second hypothesis, H2: Access to microcredit improves women's ability to acquire capital and generate income

The study shows that women who have received microcredit in the region have been able to develop significant capabilities in terms of capital accumulation and the generation of a stable income. According to the majority of the women interviewed: 'Microloans have enabled us to acquire property such as land and the equipment needed for production activities, primarily focused on local produce and craft activities'. For rural women, microcredit has been of great use for investments in livestock. The findings of this article are consistent with those reported by Félix and T. Belo (2019) in their study analysing the impact of microcredit in the context of 11 developing countries in South-East Asia.

Regarding the third hypothesis, H3: The ability to access capital and income promotes women's economic empowerment;

In light of the results of our econometric analyses of the hypotheses, our third hypothesis is confirmed. The capabilities of having capital and income therefore have a positive effect on women's economic empowerment. The T-statistic = 12.454 and p-value = 0.00 demonstrate the strong impact of the capabilities of having capital and income on women's economic empowerment. Our findings are consistent with those of certain empirical studies, such as those conducted by Félix and T. Belo (2019) in the context of 11 developing countries in South-East Asia and Bangoura (2016) for 52 developing countries.

As regards the argument, the comments of the women interviewed indicate that the accumulation of capital and the generation of income are a necessary and sufficient condition for economic independence. To this end, they are able to develop income-generating activities and consequently become creditworthy in the eyes of financial institutions.

Having presented the hypotheses regarding the direct and indirect effects, we will now discuss the results of the hypothesis concerning the mediating effect, which posits that access to

Impact study of microcredit on women's empowerment: the mediating effect of capabilities;
the case of the Souss-Massa region

microcredit has a positive impact on women's economic empowerment through their ability to accumulate capital and generate income.

The results show that the effect of this mediating variable is highly significant, with a p-value of 0.00. This finding is consistent with the ideas put forward by Sen (1980) and Nussbaum (2000). As regards the empirical justification, the women interviewed state that access to financing from IMCs enables them to improve their ability to build capital and generate income. Similarly, these capabilities enable them to succeed in their income-generating activities, mainly through the sale of local produce and consumer goods such as traditional pastries and baked goods. Consequently, the accumulation of capital and income mediates the relationship between microfinance and women's economic empowerment.

Conclusion

The main objective of this research was to study the impact of microcredit on women's economic empowerment: the mediating effect of capabilities.

In terms of methodology, we conducted a quantitative study using structural equation modelling (SEM) and, more specifically, the Smart PLS approach. In this regard, we evaluated two models: the external model and the structural model of our conceptual research framework.

In response, therefore, to the general research question, we can conclude that the mediating role of capabilities in the study of the link between microfinance and women's economic empowerment is validated.

The results of our study reveal that microcredit has a positive impact on women's economic empowerment. This is demonstrated by the validation of hypothesis H1. Thus, the results of our study reveal, on the one hand, that microcredit enables the acquisition of the 'Capital & Income' capabilities necessary for women's economic empowerment; this is confirmed by hypothesis H2. On the other hand, they have also enabled us to demonstrate that 'Capital & Income' capabilities have a positive impact on economic empowerment (H3 confirmed).

As regards the mediating effect, we can note that capabilities relating to capital and income mediate the relationship between access to microcredit and women's economic empowerment (H4).

References

Akerlof, GA (1970). 4. The 'lemons' market: quality uncertainty and market mechanisms. *Market Failure or Success*, 66.

World Bank. (2000). *World Development Report 2000/2001: Fighting Poverty*.

Washington, D.C.: World Bank / ESKA.

Baron, R. M., & Kenny, D. A. (1986). The moderator–mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations.

Journal of Personality and Social Psychology, 51(6), 1173–1182. doi.org.

Destremau, B., & Salama, P. (2002). Measuring and over-measuring poverty. PUF.

Félix, EGS, & Belo, TF (2019). The impact of microcredit on poverty reduction in eleven developing countries in South-East Asia. **Journal of Multinational Financial Management**, 52, 100590.

Gubert, F., & Roubaud, F. (2005). Analysing the impact of a microfinance project: the example of ADéFi in Madagascar. Paris: French Development Agency.

Gurley, J. G., & Shaw, E. S. (1973). Money in a theory of financial assets.

Hair Jr, J. F., Sarstedt, M., Hopkins, L., & Kuppelwieser, V. G. (2014). Partial least squares structural equation modelling (PLS-SEM): An emerging tool in business research. *European Business Review*, 26(2), 106–121.

High Commission for Planning. (2014). Key findings of the 2014 multidimensional poverty mapping: Territorial landscape and dynamics.

Khandker, S. R. (2005). Microfinance and poverty: Evidence using panel data from Bangladesh. *The World Bank Economic Review*, 19(2), 263–286.

Koloma, Y. (2019). Microfinance and gender-based poverty reduction in Mali: a reexamination of data from 2007–2008.

Mayoux, L. (2001). Tackling the downside: Social capital, women's empowerment and microfinance in Cameroon. *Development and Change*, 32(3), 435–464.

Nussbaum, M. C. (2000). Women and human development: The capabilities approach.

Cambridge University Press.

United Nations Development Programme. (1999). Human Development Report 1999:

Globalisation with a human face. De Boeck Université.

Sen, A. (1980). Equality of what? In S. M. McMurrin (Ed.), *The Tanner lectures on human values* (Vol. 1, pp. 195–220). Cambridge University Press.

Sen, A. (1990, 20 December). More than 100 million women are missing. *The New York Review of Books*, 37(20), 61–66.

Sen, A. (1992). *Inequality reexamined*. Oxford University Press.

Smahi, A., Maliki, S., & Eddine Arif, S. (2012). Microfinance and subjective poverty in Algeria: An analytical study. *La Revue des Sciences de Gestion*, (3), 133–141.

Impact study of microcredit on women's empowerment: the mediating effect of capabilities;
the case of the Souss-Massa region

Stiglitz, J. E., & Weiss, A. (1981). Credit rationing in markets with imperfect information. *The American Economic Review*, 71(3), 393–410

Appendix 1: Summary of key studies addressing the link between microfinance and women's empowerment

AUTHOR	FINDINGS
H. Laroussi (2009)	In Tunisia, microcredit has a positive influence on solidarity and family support, and consequently it enhances women's empowerment.
Copstake (2007)	Microcredit programmes in Zambia have a positive impact on very poor women, but only from the second loan onwards (e.g. improved housing).
Soulama (2005)	Microcredit has had a positive impact on the degree of women's empowerment. In this regard, the income generated from activities financed by microcredit constitutes the sole source of wealth for beneficiaries in Burkina Faso.
Imai (2012)	Poverty reduction at the macroeconomic level in Mali, and this reduction has had on empowerment
Engozogo (2011)	No significant impact on improving the living conditions of women in southern Gabon (Tchibanga experiment).
Gubert (2005)	Positive impact on the activity of micro-enterprises run by women, as well as on their well-being.
Dahoun (2013)	Significant impact on the empowerment of women acting as heads of households in Benin: this impact was reflected in improved living conditions, participation in decision-making, cultural rights and a strengthening of the economic capacities of these women.
Smahi (2012)	Microcredit offers Algerian women the opportunity to set up AGREs, but the lack of targeting of beneficiaries is a barrier to achieving this objective.
Garcia (2020)	The study carried out in Sierra Leone demonstrated that microcredit plays an important role in reducing the internal psychological constraints that prevent the empowerment of
Wangani (2016)	The case of the Congo shows that MFIs contribute, on the one hand, to the financing of socioeconomic activities (agriculture) and, in particular, those developed by women, and, on the other hand, to the creation by micro-enterprises.
Hda (2020)	In Morocco, women's participation in MFI programmes empowers them.

Bangoura (2016)	Microfinance contributes significantly to improving the incomes of poor —primarily women—and to reducing gender inequalities.
Bayo (2017)	Microcredit is not a miracle solution for reducing poverty among women and gender-related inequalities. It can have the opposite effect by exacerbating the socio- women's economic situation (divorce, excessive debt, prostitution, poverty, etc.)
Koloma (2019)	In Mali, microcredit helps to reduce poverty among women.
Uwizeyimana (2016)	In Rwanda, only women with a certain level of education and some experience can carry out projects that generate income and employment. Furthermore, microcredit is not accessible (due to cost and distance) for most poor women.
Bzeouich (2019)	Positive impact on female beneficiaries in Tunisia (education, food, health and housing).