MICROCREDITS: INDICATORS AND SOCIO-ECONOMIC IMPACT

Bachelor's Degree in Finance and Accounting
Final Degree Project

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ABSTRACT

Poverty reduction plans have included microcredits as an important tool to improve the social and economic development of a region. This project will try to explain what impact indicators are most commonly used in the field of microcredits. Next, the characteristics of those indicators will be analysed and also their usefulness in every area of measurement.

It will also be observed, through several microcredit programmes impact studies carried out in Rwanda, Brazil and Chile and Malaysia, the indicators that have been used in these programmes, what aspect each indicator tries to measure and, finally, whether they have results with sufficient empirical evidence on its usefulness in the fight against poverty.

Finally, the cases which have been analysed will be compared in order to draw enough conclusions to propose a simple model that enables to standardize the way of measuring the impact of microcredit programmes through the use of common indicators.

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1 INTRODUCTION

This   study is about the field of sustainable finance,   more   specifically   about microcredits. They are considered by authors such as Hossain (1989), Khandkar, Khalily and Khan (1993) or Hulme and Mosley (1996), as a means of combating extreme poverty with sufficient statistical evidence as to assert that it has had a positive impact on important subjects for the socio-economic development such as welfare of the poor, empowering women, social cohesion and of course, employment creation.

On the other hand, authors like, Yunus (1998), Jonson and Rogaly (1998, Hatch and Frederick (1998) or Lacalle (2005), state that there is still a long way to go until being able to state the success of microcredits, since there is still the need to define appropriate indicators to assess the impact of microcredits in a particular economy, in order to define how the emergence of a microcredit programme has influenced on the generation of economic, social and productive value.

In this way, now, it will be explained what indicators are used to measure the impact of microcredits in an economy, the characteristics of these indicators will also be analyzed and to end with, based on several studies of the impact of a microcredits programme, it will be observed what indicators have been used, whether there is empiric evidence or not and what they attempt to measure.

Poverty and financial exclusion are problems which are obviously negative for an economy, by diluting its development and slowing down its economic growth. The financial exclusion, so as to say, the negation of credit to the lower echelons of society, is a clear obstacle to the economic development and therefore a locking of poverty. Because of this, these two concepts, poverty and financial exclusion, are tightly linked. Besides, financial exclusion creates another problem in society, the figure of the predatory lender. This individual responds to the profile of the one who lends capital to the social classes in exclusion, at very high interest rates compared to those ones of the commercial banking. Thus, the microcredit is born as a tool to combat financial exclusion, supporting   microentrepreneurs and helping to reduce poverty (San Buenaventura de Cali University , Centeno and Bilbao, 2015).

According to the International Microcredit Summit, the microcredit is defined as "small financial loans to poverty-stricken individuals seeking to start their own business". "These individuals do not have the usual guarantees and these ones are replaced by measures of training, technical support, group loans and support from social organizations" (Amelec, 2011).

Authors who have taken part in studies on the impact of microcredits, such as, (Al-Mamun *et al.*, 2012) or (Lacalle, 2008), have shown that they allow impoverished people to take advantage of certain investment opportunities, promoting self-employment and reducing the number of unofficial lenders or predatory lenders. At the same time, entrepreneurship improves the management skills of loaners, which results in an enhancement of the family income and above all its sustainability. This improves the quality of life of households, making the descendants education better and promoting consumption, which will generate a reaction chain increasing the income of local families and the cycle will start once more.

The main differences between a traditional credit and a microcredit are the following ones:

According to the microcredits programme we talk about, the amount which can be considered in this scope varies to some extent. But, in general terms it could be considered that it ranges between US $ 50 and US $ 5.000. A survey conducted among more than 230 microfinance entities all around the world showed that the amounts granted fell within an approximate range of US $ 100 and US $ 600 (Ángel Velásquez González, 2007).

Some authors like (Berezo, 2005) state that the loans which are aimed at women have a major impact on the rest of the family. Likewise, the same author considers that 60% of the micro borrowers are female.

Besides, professor Muhammad Yunus, claims that women incorporation into the Indian labor market, in this case, has increased the family planning. Looking at the data offered by (*India - Natality 2015 | datosmacro.com*) the number of children per family has decreased from 4,8 children in the 80's to 2,35 in 2015.

When it comes to the interest rates, they range from 20% to 80% in the case of the microcredits, due to the high cost that the granting of this financial product represents. However, the interest rates, despite being high, are lower than the ones of the predatory lenders and this does not result in reluctance among the borrowers, due to the fact that the earnings of the microcredits usually exceed the 100%.

It is worth stressing that, although this is what is supposed in theory, the interest rate will range according to the microcredits programme it is referred to, and it may be as low as zero in some cases due to the non-profit character of some entities.

The institution which grant this type of loans should know to detail their customers' limitations and abilities. The precise reasons why the microcredit is asked for should be

known and based on them the conditions should be set. Due to the fact that the poor have no property, we talk about credits without collateral security. Therefore, the MFI have developed different social guarantee methods so as to alleviate the effects of asymmetric information:

1. Solidarity Groups.
2. Community Banks.
3. Individual loans with a testimonial endorsement.
4. Credit unions.

As it has been said, the microcredit is not only a financial instrument, but it is also a social instrument which tries to promote the use of financial inclusion, being understood as the possibility and the facility an individual has got to access to the credit and other financial instrument such as, saving accounts, credit cards, insurance, etc.

The financial inclusion promotes entrepreneurship, which, at the same time, generates economic independence on the borrowers' part, which stimulates self-confidence when the borrower finds out that he is able to invest and give back the money he has been lent (Lacalle, 2002; Berezo, 2005).

The low default rate of 1% in Asia may be surprising despite the high interest rates and the poverty of the users. Likewise, professor Yunus claimed in the conference "Palabras de Venezuela" the 12th of May 2007 that "*currently the Grameen Bank recovery rate stands at about 98%*".

The present is a bibliographic research project which takes as a reference the work done by other authors with regard to the area of sustainable finance and microcredits and the fight against poverty. For this reason, the conclusions reached by researchers in this field about what kind of indicators are needed to assess the impact of microcredit on an economy are analyzed. Then we have tried to find various impact studies of microcredits in order to find the one that suits the indicators considered as ideal. For this purpose, the results obtained by different microcredits programmes will be shown in detail, as well, making a comparison between them.

2 RESULTS

2.1 TYPES OF INDICATORS TO MEASURE THE IMPACT OF A MICROCREDIT PROGRAMME

Experiences resulting from implementing a microcredit programme have proved to be positive in terms of the results that they have returned, but the search for a system that values the real impact on poverty is still pursued, so as to say, the specific cases observed one by one which allow to observe the impact of microcredits in a specific and individualized area but a system that allows to evaluate this impact in a more homogeneous manner allowing to compare the effects on a region and another more accurately still has not been found. This is due to the fact that most of the indicators which intend to do a tracking in order to assess the results of the microcredit programmes do not have parameters that allow to quantify the social value (Fernandez, 2007).

Below, the classical fields of measurement and assessment commonly used by the financial entities are shown in *Table 1*, while in *Table 2* the indicators proposed by (Navajas, 2006) for microcredits programs are shown. As it can be observed, in both of them, emphasis is placed on the economic aspect and they do not explain anything about the social impact of a microcredit programme. The present predominance of these models is that the economic-financial performance indicators are less costly, both economically and work, while, as it will be seen later, implementing a system that measures the social impact requires more resources, both labour and capital.

Classical measurement	CRITERIA
Scope scale	*How many clients does the microcredit serve? How many of them meet the payment?*
Scope depth	*What poverty level do the beneficiaries of a microcredit have?*
Quality of the portfolio	*How easily does the financial entity charge the loan?*
Financial self-sufficiency	*Is the financial entity profitable enough to keep or expand its services without continuous injections of subsidiary funds by donors?*
Eficiency	*Is the financial institution providing services to customers at the lowest possible cost?*

Table 1: classical field of measurement and assessment of microcredits programmes. Source: (Amelec, 2011).

INDICATOR	DEFINITION
Return on assets (ROA)	*It measures the efficiency of the administration of the institution in the generation of utilities from operating active averages. (% = operating profit / average operating assets).*
Return on equity (ROE)	*It measures the efficiency of the administration of the institution in the generation of profits from the amount invested by the shareholders. (% = net income / average equity).*
Indicator of provisions as a percentage of the total portfolio	*It is the participation of the provisions on the total of the loan portfolio.*
Indicator of overdue portfolio as a percentage of the total portfolio	*It is the participation of the expired credits on the total of the loan portfolio.*

Table 2: indicators with the greatest recognition and easy interpretation for microcredit programmes. Source: (Amelec, 2011).

All of this does not mean that efforts are not carried out in order to measure the social impact of microcredit programmes accurately and in a unified way. As it can be seen through *Table 3* (Cheston and Kunh, 2002), the mechanisms to measure the social impact are multiple.

TOOLS	DESCRIPTION	POSITIVE ASPECTS
Integrated instruction system	Internal, decentralized and integrated monitoring, assessment, administration, and training system.	*It collects data from customers, managers, and administrators.* *It is based on illustrations in such a way that it can be used with illiterate clients.*
System of clients supervision	Created with the Access programme , it provides basic data on health, education and the financial status of the customers before and after the credit.	*Low cost system* *Database used to produce comparisons between economic factors and social impact.*
Impact assessment by the professionals	Impact analysis with various components including a cross comparison of customers and non-customers, interviews with customers and several years former customers.	*Use of control groups to help in the attribution of impact.* *Combination of tools in various aspects of the impact.*
Final survey to borrowers	A standard interview for a group of clients who obtained loans when taken out of the borrowing programme.	*Data on changes that occurred in terms of income from customers, use of loans and their amounts are obtained.*

Table 3: tools for measuring the social impact of microcredits. Source: (Amelec, 2011).

The tools set out in *Table 3* present, according to (Cheston and Kuhn, 2002), certain negative aspects which, as described above, have prevented that a model which allows to compare the impact on different countries or zones unless these are very similar or even identical, aspect which rarely will be in reality, has not been proposed yet.

Negative aspects related to the tools in *Table 3*:

- The information provided is useful at a given moment and whether the impact increases or decreases with the pass of the time is not indicated.
- Professionals with specific training are required and besides, they will have to get around to the place they have to assess.
- Based on short periods of time.
- Data and methodology are very specific and therefore it is not very advisable to use data provided by an institution to conduct a further study.

All this shows, as (Denis, 2004) says, the need to find a unique and universal measure that allows to measure the state of poverty in a reliable and homogeneous way, since the measures used so far generate confusion and they are inadequate.

ECLAC in 2007, stated that the indicators used were mostly economic, and that aspects such as, the return on assets (ROA) or the return on equity (ROE), help to measure the effectiveness and the financial viability of the microcredit entity. On the other hand, other indicators like the project scope or the default rate give some information about the impact, but it is still difficult to measure the real effects on the individuals in a settlement where a microcredits programme operates. The reason for this is because high recovery rates do not necessarily refer to a positive effect on the beneficiaries, besides, a maximum scope does not necessarily imply that the programme has been implemented properly and that the beneficiaries have maximized their investment.

Muhammad Yunus, father of microcredits and founder of the Grameen Bank, says that "*special performance indicators which are not limited only to measure the profitability and sustainability of the financial institutions that lend them are needed, but rather, the impact caused on the borrowers' well-being and on the social development of the country, in areas such as education, health, housing, quality of life, job creation and others*".

According to ECLAC and related to Yunus' statement, this organization claims that such indicators can be achieved but individually, so as to say, data on education, health, housing, quality of life and job creation can be obtained, but their collection is difficult and the standardization of these indicators to implement different programs and contexts is troublesome, since, due to the individual implementation, we could say that they are configured "tailor-made".

After this introduction about the indicators used by microfinance institutions to measure economic, social, and financial performance as well as, the opinion of the authors, experts in the field of microfinance, when it comes to the importance of the various methods, advantages and disadvantages of these, three studies on the impact of a microcredit programme are carried out, in which we will try to observe what methodology has been used, what indicators have been taken into account, measuring tools, and of course through data thrown in the study, the impact on the economy which is referred to.

2.2 A MICROCREDITS PROGRAMME IN RWANDA: ECONOMIC IMPACT

Rwanda is a country of 26.338 km^2 in the Sub-Saharan Africa, whose population is about 12.2 million in 2017, its capital is Kigali and its currency is the Rwandan franc. The bordering territories are Uganda to the North, Burundi to the South, Tanzania to the East and the Democratic Republic of the Congo to the West.

The Rwandan political situation is marked by the genocide of 1994, which was the extermination of 75% of the Tutsi population, besides, nearly all the Tutsi women were raped. After the 1994 genocide the following presidential elections took place on 25 August 2003. In these elections, 80 per cent of the 4 million potential voters participated; this fact was qualified by the electoral commission of success. Paul Kagame was elected President of Rwanda with 95% of the votes.

After the 1994 genocide, Rwandan exiles returned to their homes and found empty fields, burned houses and destroyed properties, i.e. 25% of Rwandans did not have anything. It is, as of this date, when microcredits in Rwanda arise, through the foundation of Microfinance Institutions (MFI).

In 2006, the Rwandan Government, led by Paul Kagame identified microcredits as a "*useful and effective tool for agricultural and rural development*" in its Poverty Reduction Strategy Plan. Despite this, the International Monetary Fund (IMF) stated in 2006 that "*there is still much to be done in the field of microfinance in Rwanda*", as a result, the Government approved the development of a Strategic Development Plan which pays special attention to microcredits.

2.2.1 Objective of the assessment study

The present study was carried out by Lacalle Calderón, Garrido and Navarro (2008), in order to assess the impact of microcredits programme carried out by Spanish Red Cross in Rwanda, which consisted of a transverse study with a sample of 30 families and a control group with other 30 families of a countryside devastated by the conflict mentioned above, namely the area encompassed Mutura, Cyanzarwe and Nyamiumb districts.

The hypothesis which was intended to be checked through the assessment study was as follows: "*there is a plausible relationship between the participation in the ICRC microcredit programme and the improvement in the standard of living of the beneficiaries' families*".

2.2.2 The programme strategy

The strategy of the microcredits programme is based on three main pillars: a basis of assignment, a steering committee, the revolving fund.

A. A basis of assignment: microcredits were assigned based on vulnerability criteria, but also on the ability to carry out the entrepreneurship activities. These abilities were assessed by the community itself which chose its most capable members in order to ensure the effectiveness of the capital received. The requirements a beneficiary should have were the following ones:

   1. Individuals known by the community.
   2. Willingness to work.
   3. Belonging to vulnerable sectors.
   4. Willingness to work in a team.

   In addition to these requirements, it should be pointed out that it was not an only beneficiary, but a group of individuals, so as to say, the supportive groups methodology was used.

B. Steering committee: institution established in the rural district where the programme was implemented in order to keep track of the activities undertaken by the beneficiaries, as well as, to help and advise them on the problems that may arise.

C. The revolving fund: this was the mainstay of the programme since it was intended to create a multiplier effect of the impact of microcredits, which were given part in cash, 20% and part in species, 80%, the latter part consisted of between 10 and 21 goats, which allowed to assure that microcredits were used for what they were provided, i.e., livestock farming. The continuity of the revolving fund could be assured, since the return of what was lent was required from the borrower in the same quality and species instead of its equivalent in currency. This could mitigate the effects of inflation and avoided decapitalization of the fund, in addition, the other 20% served to cover the cost of the activity itself.

Finally, it should be noted that this programme interest rate was zero, so the only wear of the programme was the inflation affecting only the part of microcredit delivered in cash.

2.2.3 Indicators of measurement

The indicators used by the Spanish Red Cross in Rwanda microcredit programme to measure the impact are, citing the article itself, the following ones:

A. Percentage of school children.
B. Percentage of families who pay all their children's school fees.
C. Percentage of families who have at least one child in high school.
D. Percentage of families that have paid the mutual health during the last twelve months.
E. Percentage of families that consume meat once a month.
F. Number of times they have purchased clothing or shoes during the last twelve months.
G. Number of times they have purchased soap during the last three months
H. Percentage of families that have upgraded their houses in the past two years.
I. Percentage of families whose economic situation has improved or has been maintained during the past twelve months.

It can be observed that, the indicators used by the present study fit into the description of Yunus, cited in this project, about how the indicators to measure the impact of a microcredit programme should be.

2.2.4 Characteristics of the sample

As described above, the composition of the sample consisted of two groups of 30 families, one of them composed by beneficiaries of a microcredit and the other one composed by nearby families with similar socio-economic features who did not participate in the programme as a control group.

VARIABLES	BENEFICIARIES	CONTROL GROUP	P-VALUE
Average age	43,47	38,17	0,08
Sex			
Male	76,70%	63,30%	0,26
Marital status			
Married	96,70%	83,30%	0,08
Widow	3,30%	13,30%	0,15
Avarage household composition			
Number of children	5,07	4,33	0,21
Number of women	4,13	3,37	0,13
Number of men	4,07	3,23	0,85
House owner	96,70%	93,30%	0,55
Small farmers (< 0,5 Ha)	86,70%	73,30%	0,2

Table 4: characteristics of the sample. Source: Revista de economía mundial (Lacalle Calderón, Garrido y Navarro, 2008).

2.2.5 Programme results

To achieve the results that are presented below, three of the tools presented in T*able 3* were used, so as to say:

A. Customers supervision system: the data were stored by Access database and processed through the statistical programme SPSS 15.0. This tool involves a low cost and allows to assess the difference before and after receiving the microcredit.

B. Assessment of the impact carried out by professionals: the people responsible for the study moved to Rwanda to carry out the selection of the sample and data collection *in situ.* In addition, they established comparisons between customers and non-customers.

C. Final survey to borrowers: the data were stored in Access but collected through the survey method.

Lacalle, (2008), points out that "*continuous variables are expressed in descriptive analysis as the means and their corresponding standard deviation and the categorical ones as a percentage. A statistical bivariant analysis was performed using as an independent variable the fact of being a beneficiary of a microcredit. The comparison between categorical variables was performed with the x^2 test. Student-t test was used for the comparisons between the means of continuous variables. In the event of unequal variances (heteroscedasticity) nonparametric test were applied. All contrasts were two-tailed and a p-value < 0,05 was considered statistically significant*".

The results of the study of the microcredit programme, *Table 5*, were as follows:

VARIABLES	BENEFICIARIES	CONTROL GROUP	P-VALUE	DIFFERENCE	DIFFERENCE %	IC 95%
A. Percentage of school children	67%	44%	0,007	23%	52%	(6%;39%)
B. Percentage of families who pay all their children's school fees	46,70%	20%	0,028	27%	134%	(1,11;11,01)
C. Percentage of families who have at least one child in high school	26,70%	13,30%	0,2	13,40%	101%	(0,63;8,92)
D. Percentage of families that have paid the mutual health during the past 12 months	23,30%	26,70%	0,77	-3,40%	-13%	(0,26;2,7)
E. Percentage of families eating meat once a month	96,70%	36,70%	0,0001	60,00%	163%	(5,9;420,3)
F. Number of times that they have purchased clothing or shoes during the past 12 months	6,70	2,03	0,016	4,67	230%	(0,92;8,42)
G. Number of times that they have bought soap during the last three months	14,57	9,77	0,033	4,8	49%	(0,4;9,2)
H. Percentage of families who have upgraded their houses in the last 2 years:	43,30%	20%	0,052	23%	117%	(0,97;9,65)
I. Percentage of families whose economic situation has improved or has remained constant during the past 12 months	63,30%	36,70%	0,039	26,60%	72%	(1,04;8,52)

Table 5: study results. Source: Revista de economía mundial (Lacalle Calderón, Garrido y Navarro, 2008).

With regard to *Table 5*, the results obtained by the Red Cross Microcredit Programme in Rwanda will be discussed:

A. Percentage of school children: the percentage of school children among the families of beneficiaries is 67%, while the same percentage referred to the control group was 44%, or what is the same, among the beneficiaries the percentage of school children was about 23% greater than in the case of families who were taken as a control group. If we put attention to the p-value, it is observed that the difference is significant, because *p-value* = 0,007 < 0,05.

B. Percentage of families who pay all their children's school fees: among the group of beneficiary families, 46,7% was able to pay all the expenses of their school children while only 20% of those who did not receive a microcredit was able to face this payment. At this point it should be noted that the difference is 27%, or what is the same, the number of families that was able to pay the school fees of their children was 134% higher than in the control group. Concluding that the difference is statistically significant, because *p-value* = 0,028 < 0,05.

C. Percentage of families who have at least one child in high school: before showing the results, note that they are not statistically significant, because *p-value* = 0,2 > 0,05, this is because, as the studio states "*the data are difficult to access due to their higher cost*". However, the data, although statistically nonsignificant, show differences between the control group and the beneficiaries.

D. Percentage of families that have paid the mutual health during the past 12 months: data collected for the study in relation to this indicator are not statistically significant since, as shown in *Table 5*, *p-value* = 0,77 > 0,05.

E. Percentage of families consuming meat once a month: this is a very significant data from the point of view of the impact of the programme, since the consumption of meat in such an impoverished country as it is the case of Rwanda, is a clear indicator of the improvement in the nutrition of its population.

97,7% of the families who obtained a microcredit consumed meat at least once a month, while in the case of families who were in the control group, only 36,7% could enjoy the consumption of this food. At this point it should be noted that the difference is 60%, or what is the same, the percentage of families who consumed meat was 163% higher than in the control group. The difference is statistically significant, since, *p-value* = 0,0001 < 0,05.

F. Number of times that they have purchased clothing or shoes during the past 12 months: the beneficiary families bought clothing 6,7 times last year, while the families belonging to the control group did it 2,03 times, i.e. 4,67 times more in absolute terms or 230% more in relative terms. In this case, *p-value* = 0,016 > 0,05 and therefore it slightly exceeds the limit of significance.

G. Number of times that they have bought soap during the last three months: in relation to this indicator, it is observed that the beneficiary families bought soap 14,57 times in the past 3 months while only 9,77 times this purchase was done in the control group. Beneficiaries bought soap 4,8 times more than those who did not receive a microcredit, however, with the significance level set by the study, we obtain that the difference would not be statistically significant, because *p-value* = 0,033 > 0,05.

H. Percentage of families who have upgraded their houses in the last 2 years: the difference would not be statistically significant being strict with the significance level set by the study because *p-value* = 0,052 > 0,05. However, it should be noted that the percentage of families that upgraded their houses, was 117% higher in the case of those who were beneficiaries of the programme with respect to the control group.

I. Percentage of families whose economic situation has improved or has remained constant during the past 12 months: like in the previous two cases, due to the level of significance of 5% set by the study, it cannot be said that the differences are statistically significant since, *p-value* = 0,039 > 0,05. However, note that the families who were asked about this issue the 63,3% of the beneficiaries responded affirmatively, while 36,7% of the control group did so.

2.3 A MICROCREDITS PROGRAMME IN CHILE AND BRAZIL: ECONOMIC IMPACT

2.3.1 Objective of the study assessment

Microfinance is a sector that has grown in Latin America since the 1990s and, in particular, it has been like this thanks to the introduction of microcredits as a financial tool against poverty. Writers like (Martinez, 2006), state that microcredits are an essential tool for the fight against poverty and to reduce the levels of lack of population.

However, the lack of an appropriate legislation, the high financial costs, the uncertainty generated by the lack of collateral security, the high transaction costs and the lack of information about its impact on the poorest social scales generate distrust in Government to definitely bet on policies of microcredit programmes.

In this political-economic position, a study on microcredit programmes carried out in Brazil and Chile is designed by the University of Illinois (USA), together with the Catholic University of the North (CHILE). This study aims to assess the impact that a multiplicity of microcredit programmes has had on the economy in general and on the beneficiaries of these programmes in particular (Aroca, 2002).

Hypothesis: "*policies that are committed by the introduction of microcredit programmes contribute to an increase in the income of the poorest*".

2.3.2 Methodology of the study

The study of impact of microcredit programmes on Brazil and Chile was divided into two phases.

2.3.2.1 First phase

The first phase consisted mainly of collecting information, through open surveys, through which financial institutions had to provide information about the policies of microcredits that they were following, as well as a random selection of customers, from among those who had been beneficiaries of a microcredit. A second questionnaire for these customers was designed through the relation of customers provided by seven financial institutions.

In Chile there was a total of 81 surveys properly conducted and 51 of them belonged to traditional commercial banks and 30 NGOs. In the Brazilian case 198 surveys were correctly conducted, and 146 of these surveys were completed by users of 3 different NGOs and the other 46 belonged to traditional banking customers.

	BRAZIL	CHILE
Completed surveys	220	86
Correctly completed surveys	198	81
Commercial Bank	46	51
NGO	152	30

Table 6: sample selection. Source: own preparation based on Aroca (2002) data.

However, to really assess the effect of microcredits on beneficiaries, a group of control with data provided by CASEN was used in the Chilean case and in the case of Brazil by PNAD. Both had a total of 606.141 records, 58% of which belonged to the PNED and 41% to the CASEN.

2.3.2.2 Second phase

In the second phase, we proceeded to create the control groups through data provided by PNED and CASEN. Therefore, the technique of propensity score was used, so as to say, detecting those susceptible subjects of being beneficiaries of a microcredits programme, according to their characteristics but which finally they did not have them. This allows, through matching techniques, to relate a particular subject who belongs to the group of control with another one who has been granted by the programme.

Once the pairings were done, we proceeded to compare the middle-income group of recipients with those ones of the control group. It was, finally, the difference between the average income of a group and the other one the only indicator used by the present study to assess the impact of the microcredit on the beneficiaries of the programmes.

2.3.3 Scope of the microcredits programme

According to the microcredit programmes carried out in Chile and Brazil, the beneficiaries should be those individuals below the poverty line and moreover, those who were experiencing financial exclusion before becoming beneficiaries of the programme.

Therefore, the study of microcredit programmes carried out by the University of Illinois and the Catholic University of the North had to verify if the microcredit programme had indeed complied with the premise of the previous paragraph. To do so, the study compared the income distributions of beneficiary individuals of a micro-credit with the same distribution of the whole population, as well as the entrepreneurs', salaried workers' and those who belonged to the group of control mentioned in the previous point.

1. Chilean case: *Chart 1* and *Chart 2* show a comparison of the income distributions referred to in the preceding paragraph. In *Chart 1*, it is compared with the beneficiaries of a microcredit who obtained funding through a commercial bank, while in *Chart 2*, the comparison is done with those who benefited from a microcredit via NGO.
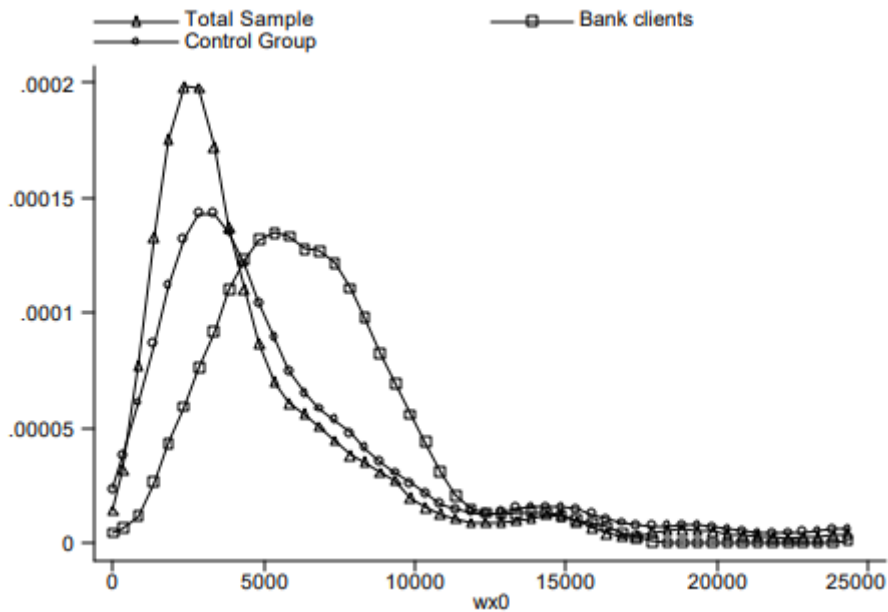
Chart 1: distribution of income per hour for customers of Chilean banks. Source: (Aroca, 2002).
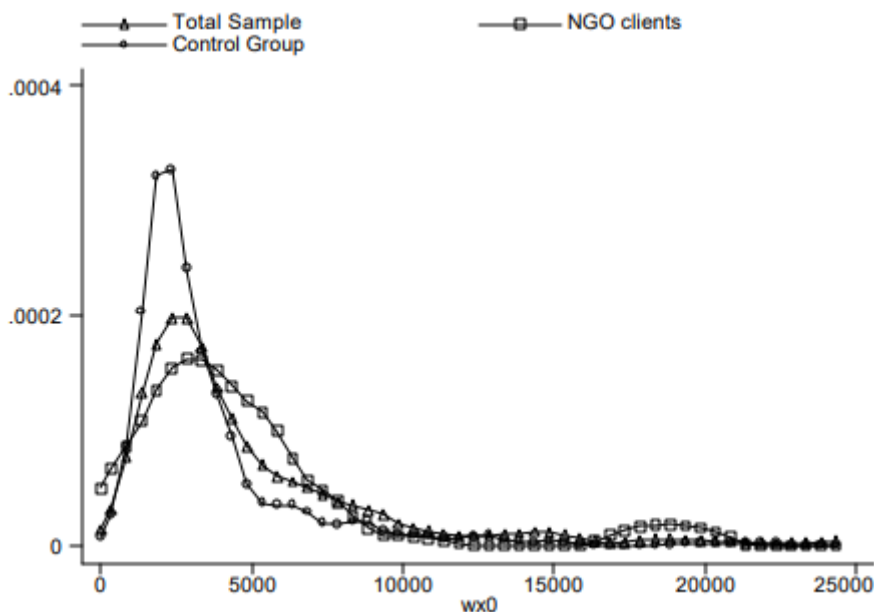

Chart 2: distribution of income per hour for customers of Chilean NGOs. Source: (Aroca, 2002).

If we superpose the income distribution of those beneficiaries of a microcredit who obtained financing through commercial banks (*Chart 1*), with those beneficiaries who got the microcredit through an NGO (*Chart 2*), we obtain *Chart 3*, which allows us to

compare the income distributions of the two previous groups among them and with the total sample.
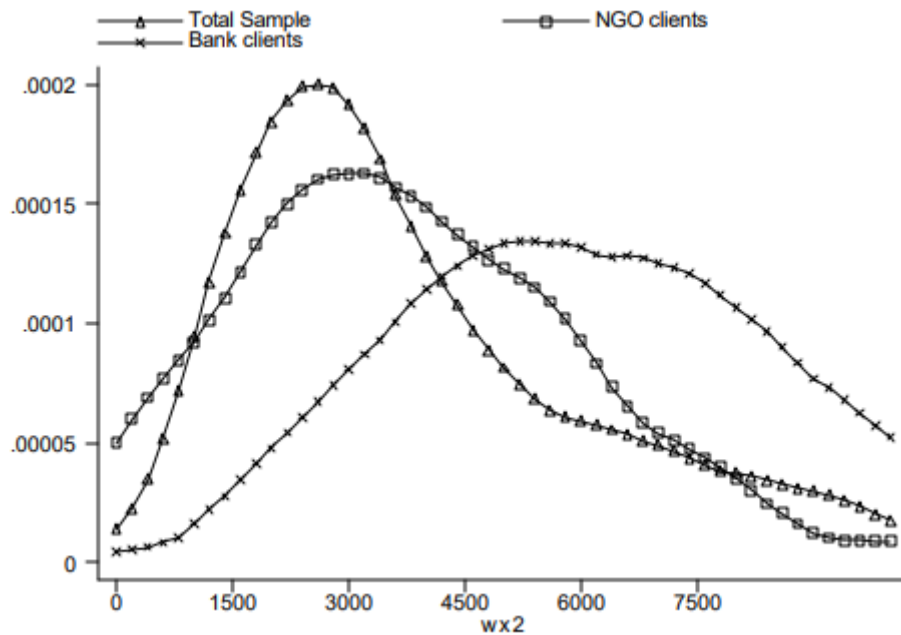
Chart 3: distribution of income per hour in Chile, banks versus NGOs. Source: (Aroca, 2002).

Chart 3 allows us to observe that, banks are not working with the most impoverished social scales of Chile, while on the other hand, NGO are doing so.

2. Brazilian case: the results for the case of Brazil were similar to the Chilean case, but with a special feature, according to the own studio in Brazil there was a high proportion of individuals who had more than a paid employment, which created some bias in the sample. Therefore, when making comparisons the total income was taken rather than the income per hour.

Chart 4: distribution of total income in Brazi. Source: (Aroca, 2002).

Chart 4 shows that the income distribution of beneficiaries who were clients of commercial banks is to the right. According to the studio itself, this is because they had already received a microcredit beforehand, but once again citing the studio itself, it 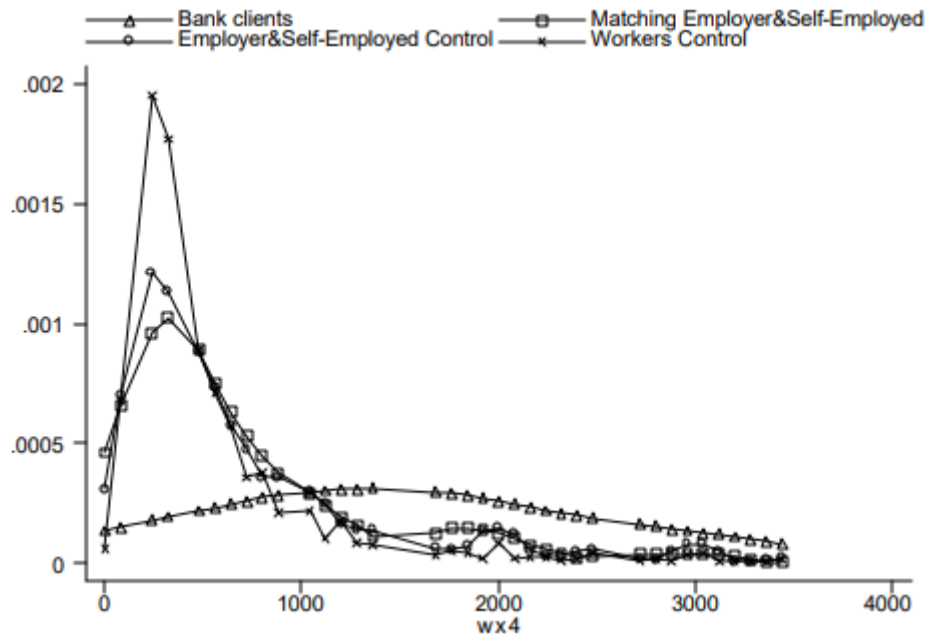was observed that "*before receiving the first microcredit they were poor*". Therefore, matching techniques were used, through which it was noted that, although the control group has a lower income than the one who was the beneficiary of a microcredit, both remain below the average of self-employed workers and entrepreneurs.

2.3.4 Study results

In the case of the Chilean case, it was noted that the beneficiaries of the microcredit programmes were not necessarily individuals belonging to the poorest scale of society, except for the case of non-governmental organizations (NGO). Since in this case only 30 surveys carried out correctly were available, it was concluded that the results were not statistically significant.

On the contrary, in the Brazilian case, the results were really positive, thanks to the depth of the sample, and because in this country the beneficiaries of the microcredits were truly poor individuals. All of this resulted that, in this case, the results were statistically significant, according to the studio itself.

	COMMERCIAL BANK		NGO	
	Entrepreneurs	**Employees**	**Entrepreneurs**	**Employees**
Sample	9.232	25.747	9.338	25.853
Average income				
Beneficiaries	$ 2.428,00	$ 2.428,00	$ 2.024,00	$ 2.024,00
Control group	$ 934,00	$ 516,00	$ 860,00	$ 1.053,00
Diference	$ 1.494,00	$ 1.912,00	$ 1.164,00	$ 971,00
t-stat to Ho: impact	2,59	3,48	4,14	2,94

Table 7: results of the microcredits programe in Brazil. Source: (Aroca, 2002).

The subjects of the study as it has been seeing, were subdivided into two major groups, those who had obtained a microcredit from commercial banks and those who were beneficiaries of the same product through an NGO. In addition, the study of the microcredit programmes thought that another subdivision should be performed, between those who were entrepreneurs and those beneficiaries who were not acting on their own after the concession of microcredit.

As it can be seen in *Table 7*, there is a difference of $ 404 between the average incomes of those individuals who obtained funding through a commercial bank and those who did it through a NGO, being the first ones those who benefited the most. In addition, there were no differences between entrepreneurs and self-employed workers for either of the two cases.

However, the most remarkable aspect in the data obtained by the study is the significant difference which can be seen between those individuals who were beneficiaries of a microcredit, whatever their status, and those ones who belonged to the control group, observing the greatest differences in those who were clients of a commercial bank.

Finally, it is important to note, citing the studio itself, that "*in all cases a substantial and statistically significant impact has occurred*" (Aroca, 2002).

2.4 A MICROCREDITS PROGRAMME IN MALAYSIA: ECONOMIC IMPACT

Malaysia is a country located in Southeast Asia. Its population consists of 32.050.000 inhabitants, being thus in the position 41 of the countries with the largest population in the world. This country is the economy 41 in the world in terms of Gross Domestic Product (GDP), but its inhabitants have a low standard of living and it is the economy number 68 in the ranking of GDP per capita (Malaysia: Economics and demographics 2018 | datosmacro.com).

In Malaysia, diverse sources and strategies through which to develop the economy, increasing productivity and diversifying the business are proposed with the intention of improving the quality of life of certain groups which are in situation of financial exclusion. To this end, the Malaysian Government, works encouraging certain organizations and the private sector to promote the eradication of poverty, through social-economic programmes. Some of these organizations are: Tabung Ekonomi Kumpulan Usahawan National (hereinafter TEKUN), Agrobank, Lembaga Kemajuan Ikan Malaysia (hereinafter LKIM), Yayasan Basmi Kemiskinan (hereinafter YBK) and Amanah Ikhtiar Malaysia (hereinafter AIM).

The five organizations of the previous paragraph are microfinance institutions, since, in all of them, the activity that is developed fits into the definition of the concept of microfinance, which has been explained in the introduction of this text, but the variety of both the selection of customers and the credit risk management processes and the services offered, makes the loans offered by some of them be more approximate to the concept of microcredits than the ones offered by others. Because of this situation, it is important to briefly explain each of the organizations.

1. TEKUN, was founded in 1998 as an institution under the direction of the Ministry of Enterprise, Development and Cooperatives. TEKUN only offers loans to the *bumiputras* [1] who currently possess and are directly involved in the business. TEKUN provides capital to a concrete collective promoting its socio-economic development, but it does not include among its selection requirements that the customer is under the poverty line.

2. Agrobank, is another entity that offers microcredits, but, like TEKUN, it does not only focus on the poor, but it also offers its services to all those micro entrepreneurs from Malaysia, without the requirement of being poor. The programme which was launched by Agrobank is "Entrepreneur Capital 1 Malaysia".

3. Similar to the two previous ones, LKIM, was founded to provide financial services to small-scale, but this time only to the fisheries sector, in order to improve the socio-economic development of coastal areas, especially the least developed ones, but being poor was not a requirement to receive funding.

4. YBK was founded by the Government of Selangor, the most populous state in Malaysia, and whose capital is Kuala Lumpur, which is also the capital of the country. YBK has as main objective improving the quality of life of disadvantaged

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[1] Bumiputera or Bumiputra is a Malay term used to designate the different ethnic groups which are considered as indigenous peoples in Malaysia, besides including the Javanese ethnic and Bugis Minangkabaus, as well as some small ethnic groups such as the Orang Asli and Dayak. This term comes from the Sanskrit Bumiputra, which literally means "son of the land".

classes of Selangor, as well as, promoting self-employment. This company still does not conform to the specific microcredit concept, since, although it is certainly focused on the poor, the mere fact of being so is still not required. The only requirement to receive a credit of small scale is to be resident of Selangor.

5. Finally, we have AIM, whose database uses the study presented here to demonstrate its hypothesis. This organization was founded in 1987 to provide financial services to small-scale and training only for the social classes which are under the threshold of poverty (PLI)[2] in order to improve the Malaysian socio-economic situation. For the risk management AIM uses the methodology of "Solidarity Groups" and select its clients on the basis of the average family income per month. Those families that are below the PLI will be considered poor by the AIM and, therefore, will make up its target audience. In addition, it provides education and financial training to those individuals who have been granted a microcredit, giving courses on basic accounting, basic finance, business administration, communication, and marketing and besides, development workshops are also organized for those who receive the course.

Finally, it should be noted that AIM undertakes not to take legal action against those lenders that fail to meet their payments regularly.

2.4.1 Initial hypothesis and objective of study

The study was carried out by Abdullah Al-Mamun, Malarvizhi, Sayed Hossain y Siow-Hooi Tan. It is based on the assertion made by Hulme in 1997, "*behind all microcredits programmes the fact that microcredits intervention will modify human behavior towards behaviors that lead to the achievement of desired results should be supposed*".

This study on the assessment of microcredit programmes in Malaysia refers to a concept that we hadn't seen so far: the impact chain. So as to say, the authors claim that a microcredit programme presents a complex network of links in which every effect produced by the programme becomes a cause itself, thus generating additional effects on individuals who did not participate directly in the programme. To carry out the assessment of the impact of microcredit programmes in Malaysia, the authors decided to use the HHEP model, which measures consumption, production and investment of the members who have been beneficiaries of a microcredit. It is noteworthy that in this research in particular, only a part of the implications of the model was used, since the objective of this study is to measure the impact of microcredits programmes carried out by the AIM on the most impoverished households in the Malayan peninsula in terms of

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[2] Since 1976, the Malaysian Government has calculated the PLI based on the necessities of life and other basic needs, which include food, clothing and hygiene

reducing family poverty and income growth. To check if the programmes had a positive impact on poverty and income, the following assumptions were made:

- Hypothesis 1: "*taking part in a microcredit programme leads to an increase in family income*".

- Hypothesis 2: "*taking part in a microcredit programme leads to a reduction of the ratio of poverty*".

2.4.2   Methodology and scope

In Malaysia, AIM provides financial services to 82% of the poor population, for this reason, this study takes the databases on customers of this entity to assess the impact of microcredit programmes. This study, finally, decided to use a cross-sectional design to measure the impact of the microcredit programmes carried out by this organization in the Malayan peninsula, since, in addition to requiring relatively little time for its implementation and be low cost, it allows to check the programme impact capacity more accurately.

The methodology described in the previous paragraph was designed to, from the data provided by AIM, create two groups: new customers (less than 24 months participating in the programme) and older clients (between 48 and 62 months participating in the programme). From these two groups, the new clients set was selected as control group. In this way, instead of having a control group that has not been beneficiary of microcredits and external to the programme, we have a control group that lies within this one, so as to say, the study will assess the impact based on the number of months that the user is involved in the programme.

2.4.3   Indicators of measurement

Family income and the poverty rate are the indicators chosen by Al - Mamun et al. (2012) for study of assessment of microcredit programmes carried out in the Malayan peninsula.

1. Family income: family income is the most widespread indicator of welfare and financial security. In this study, family income refers to income from wages and salaries, net profits, leases and cannons, performance of investments and donations. The measurement of this indicator was carried out using the average monthly income for the last 12 months.
2. Poverty ratio: The poverty ratio is an economic indicator calculated through certain statistical variables which was developed by the United Nations in 1997, through

this ratio, we can study the standard of living and social well-being of the country to which it refers, in our case Malaysia (ECLAC, 2010).

2.4.4 Study results

2.4.4.1 Hypothesis 1

In this study, it is expected that the participation in a microcredit programme will contribute to an increase in household income. *Table 8* shows the results obtained on the effects on the family income distinguishing between new and old clients. As shown in this table, in the total of 333 beneficiaries of the programme, both new and old, it was observed that in 46,25% of cases no substantial variations in average incomes were obtained, 45,35% of beneficiaries increased their income and only 5,41% reduced their capital inflows. Also, new customers increased their average income in 42,44% of cases while those who were more time within the programme increased them in a 48,45%.

INCOME	NEW CLIENTS		OLD CLIENTS		TOTAL CLIENTS	
	Count	%	Count	%	Count	%
Decreased greatly	2	1,16%	2	1,24%	4	1,20%
Decreased	10	5,81%	8	4,97%	18	5,41%
Stayed same	85	49,42%	69	42,86%	154	46,25%
Increased	73	42,44%	78	48,45%	151	45,35%
Increased greatly	2	1,16%	4	2,48%	6	1,80%
Total	172	100%	161	100%	333	100%

Table 8: results on the family income differenciating between new and old clients. Source: (Al-Mamun et al., 2012).

Chart 5 allows to observe the differences between new and old clients. In it, we can see as increases and large increases are more pronounced for older clients than for new customers and, on the contrary, decreases and large decreases are greater in the case of new customers.

Chart 5: comparative of average incomes. Source: own preparation based on (Al-Mamun et al., 2012) data.

The mean and the standard deviation of the average earnings of the last 12 months for new and old customers is shown in *Table 9*. It shows for both the new and the oldest customers that the earnings after participation in the programme were substantially higher than before participating in the programme.

	New clients		Old clients	
N	172		161	
	Before participation	After participation	Before participation	After participation
Mean	357,3	543,34	234,62	1080,34
Standard Deviation	72,3	288,809	49,57	609,359
Coefficient of variance	0,2	0,53	0,21	0,56
Shapiro Wilk Test (*p-value*)	0	0	0	0
Levene´s Test (*p-value*)	0		0	
Wilcoxon signed Ranks Test (Before and after participation)				
Positive Differences (N)	150		160	
Negative Differences (N)	17		1	
p-value	0,00 < 0,05		0,00 < 0,05	

	Before participation		After participation	
Mann-Whitney U Test	New clients	Old clients	New clients	Old clients
Mean Rank	230,49	99,18	107,46	230,61
Mann-Whitney U	2926,5		24087,5	
p-value	0,00 < 0,05		0,00 < 0,05	

Table 9: average and standard deviation of the average earnings of the last 12 months for new and old customers. Source: (Al-Mamun et al., 2012).

To finish with this point, it is worth mentioning that, out of the 172 new clients, 150 were those who increased their average income and out of the 161 old customers 160 were

those who increased their average income. This fact actually gives a clear idea of what the participation in the AIM's microcredit programme implies, since it is a clear indicator that the longer an individual within the programme remains it is more likely that his average income of the past 12 months increases. Finally, it is important to note that data from the study have statistical significance, since in all cases, *p-value* = 0,000 < 0,05. All the above enables us to confirm the *Hypothesis 1*, so as to say, it can be said with sufficient statistics evidence that the participation in AIM-driven microcredits programmes help increase average family incomes.

2.4.4.2 Hypothesis 2

As mentioned in the point that makes reference to the AIM, the present study only selects customers who were under the poverty level before receiving a microcredit, more specifically, whose average earnings were less than half of the PLI. Therefore, all participants in the programme were the furthest below within our scale of poverty, that is, in the hierarchy which we call "hardcore poor".

POVERTY STATUS	NEW CLIENTS		OLD CLIENTS		TOTAL CLIENTS	
	Count	%	Count	%	Count	%
Hardcore poor	79	45,93%	10	6,21%	89	26,73%
Poor	74	43,02%	51	31,68%	125	37,54%
Not Poor	19	11,05%	100	62,11%	119	35,74%
Total	172	100%	161	100%	333	100%

Pearson Chi-Square test, r = 1,126E2, *df* = 2, *p-value* = 0,000 < 0,05

Table 10: Results on the state of poverty, distinguishing between new and old clients. Source: (Al-Mamun et al., 2012).

Table 10 shows that, of the total of 333 beneficiaries of the programme, both new and old ones, in 26,73% of cases the participants were still within the extreme poverty, 37,54% of beneficiaries managed to get out of extreme poverty but continued to be poor and a 35,74% managed to stop being poor for the purposes of the PLI. Also, among new customers only 11,05% of the beneficiaries managed to stop being poor, while the 45,93% remained in extreme poverty and a 43,02% came out of extreme poverty although it continued to be poor. In the case of the oldest clients of the programme, data that are shown in the table are more encouraging, since, in this case only 6,21% of the beneficiaries continued being poor, a 31,68% remained poor but they improved their previous situation and a 62,11% managed to escape poverty for the purpose of the PLI.
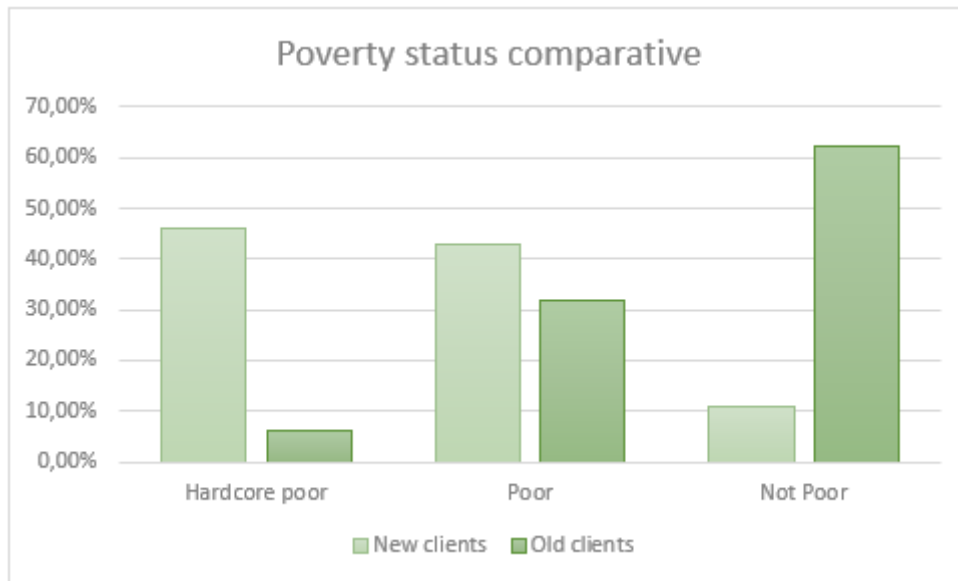
Gráfico 1, Fuente: Elaboración propia con datos de (Al-Mamun et al., 2012).

Chart 6 allows to observe the differences between new and old clients. In it, we can see how those who have been more time in the programme have managed to get out of poverty at a higher percentage than those who recently joined the programme.

Finally, the statistical significance of the data obtained should be emphasised. ChiSquare statistics tab indicates that the rate of poverty among old and new customers differed statistically significantly. In addition, the poverty rate was higher among new clients than among the old ones. Therefore, based on the data obtained after the study and their statistical significance, it can be said that the *Hypothesis 2* is true and that, in conclusion, the AIM-driven microcredit programme significantly reduced the levels of poverty of the participants and, therefore, the rate of extreme poverty.

3 DISCUSSION

Based on the information gathered in the previous article, a comparison among the three studies of microcredit programmes implemented in Rwanda, Chile, Brazil and Malaysia will be done. To do this, the aspects I consider most important will be analyzed: the methodology used by each programme in order to reduce the risk of credit, the tools used by each study and the indicators which are used both to measure the scope and the results on borrowers.

The three cases reveal that microcredit programmes use the same methodology to control risk, the solidary groups methodology. This method was developed by Grameen Bank in the mid-1970's, giving rise to what today is known as microcredit.

This method has advantages similar to the ones in economies of scale, since administrative and grant of capital costs are reduced, since a single loan to a group of customers is granted, so the costs are shared in the group.

Another advantage, also related to the concept of economies of scale, is that it has been proven that late payment costs decrease, due to the pressure from the members of the group on each member to make them pay. In addition, the fact of being part of an association reinforces group values and encourages members to collaborate, promoting ties and synergies in the economy of the area (Gutierrez, 2009).

In terms of the tools used by the studies, referring to those presented in *Table 3*, we see that in this aspect some studies are similar to others, since they all used systems of instruction formed by control groups, in the order to develop cross-cutting studies comparing customers and non-customers (case of Rwanda and Brazil and Chile) or comparing old and new customers (in the case of Malaysia), in addition, the assessment of programmes is made by independent professionals of institutions that have launched the programmes. Also, to carry out data on changes that occurred in customers and not customers or new customers and old customers, referring to income (case in Malaysia and Brazil, Chile) or in measures of social well-being (Rwanda) the survey was the tool.

Finally, to make a comparison of the measurement indicators used, a classic field of measurement is used; it is set out in *Table 1*. In it, five classic indicators of measurement are exposed: scale of scope, depth, quality of the portfolio, self-sufficiency of the portfolio and efficiency.

1. Scope scale: in the case of Rwanda, the microcredit programme carried out by Spanish Red Cross covered the area bounded by the districts of Mutura, Cyanzarwe, and Nyamiumb, among the potential beneficiary population of a microcredit located in any of these three districts, the study carried out by Lacalle Calderón, Garrido and Navarro (2008) examines a sample of 60 individuals, including 30 belonging to the group of beneficiaries and many others to the control group. Regarding the case of Brazil and Chile, the 7 major financial institutions in these two countries were consulted to elaborate the study, in addition to 30 NGOs. Finally, in the case of Malaysia the study focuses on the microcredit programmes carried out by AIM, which covers the credit needs of 82 per cent of the population that is below the PLI, this does not necessarily mean that AIM grants credit to the 82% of the poor population of the country, but of all the microcredits granted in Malaysia, AIM boasts this quota.

As it can be seen, the three studies give an idea of the scale of scope of microcredits in their respective countries, but the measure is not homogeneous, making it difficult to make a latter comparison of the results.

2. Depth of scope: the study launched in Rwanda says that the beneficiaries of the programme had to be in a situation of vulnerability, as well as meeting a series of requirements that are not directly related to the level of poverty. It is striking that no reference is made to a particular level of vulnerability. In the case of Brazil and Chile there is reference to the level of poverty of the beneficiaries of the programme, making also a comparison between the levels of poverty according to the origin of the microcredits, distinguishing between those who obtained it through a NGOs and those who made it through commercial banks. This is shown in *Charts 1, 2, 3 and 4*. Finally, in the study conducted in the Malay peninsula, it is said that the beneficiaries, before receiving micro-credit, should be under the PLI, so as to say, their income should not cover basic needs of subsistence, such as feeding, clothing and hygiene. As we can see, each study uses a different methodology to select the beneficiaries of the programme. In addition, there is not a homogeneous and clear measure of what constitutes poverty in each of the cases, therefore, it should be noted that it is important to define a common indicator among programmes, adapted to the socio-economic position of each population but which allows to compare the poverty of each place in the same terms.

3. With regard to the quality of the customers portfolio, efficiency and self-sufficiency are measuring instruments which give information about the lender entity and in at the beginning they do not provide relevant data on the results of programmes of microcredits on the economy of the area in which they are implemented.

   Given that this study intends to look for measuring instruments of the economic and social impact of microcredits which allow to create homogeneous steps common to the cases of study to compare the results of the programmes, instead of comparing the efficiency for the entities which provide the services, it will be convenient to compare the results, which were obtained for the society, so as to say, the efficacy on borrowers.

   As it can be observed above, in the three studies that have been taken as a reference, there are two which use similar indicators, the case of Brazil and Chile and Malaysia, which share a common measure, the average income. But, since the methodology when making a comparison between groups of beneficiaries and control groups is different, it will be a difficult task to compare the results of both studies.

On the other hand, in the Rwandan case, the indicators which are used focus on the social impact more than in the previous two cases, since, instead of taking into account the income of the beneficiaries, it measures the impact through indicators such as: clothing, food, and education.

Finally, with regard to this point, the only conclusion that can be drawn is that microcredits have positive implications on the population which develop microcredits programmes, given that in the three cases the starting hypothesis have been confirmed with reasonable levels of significance, but there is still work to be done in a direction that allows to compare the results obtained by the different programmes.

3.1 PROPOSAL FOR A STANDARD MODEL TO MEASURE THE IMPACT OF MICROCREDITS

Microcredits, as we have seen throughout all of this project, are an unusual financial product, whose main aim is not the benefit of entities that provide them. It is a financial tool whose objective should be to contribute to financial inclusion, reduction of poverty and, ultimately, an improvement in the quality of life of the borrowers. Therefore, in order to make a small contribution to this field of study, a simple model which does not only allow to measure the results of a microcredit programme, but   also allows to compare a case study with another will be proposed.

In my opinion, in order to compare different cases of microcredit programmes, the first thing that must be considered is that they use similar risk management systems, since otherwise there might be some bias comparing the delayed rates among the different programmes.

On the other hand, it is also important to have an idea of the scale of the scope of the programme, but this measure should be homogeneous, so as to say, rules should be established, so that, when the study is carried out, a standard measure of reach is available.

In terms of the depth of the scope, it is important that the conditions to be covered by a microcredit programme are standardized between MFIS, NGOs, or any entities that intend to offer this financial product, since it is impossible to compare the results of a programme to another if there are important differences between the beneficiaries before entering the programme. Therefore, in my opinion it would be interesting the use of an indicator similar to the threshold of poverty which, firstly, allows to ensure that all

the beneficiaries are below this and, secondly, create weighting factors in order to homogenize the samples.

Finally, trying to find come up with measurements and indicators which allow to compare different programmes, the studies that are carried out should use common indicators to show the impact of these programmes on society.

In my opinion, it is desirable that when a case study of microcredit programmes is carried out economic and social factors should be taken into account. Therefore, the following indicators are proposed to measure the social-economic impact of any microcredits programme:

- Economic indicators: changes in the income of the beneficiaries and the changes that have occurred on their threshold of poverty.
- Social indicators: given that, at this point, the intention is to measure the quality of life of the beneficiaries, the standard measures of quality of life worldwide accepted are: clothing, food, education and housing. Therefore, when measuring the impact on the social well-being of the beneficiaries it is important that any study takes into account their variation.

4 CONCLUSION

As we have seen throughout this project, microcredits allow the poor to take advantage of certain investment opportunities, by promoting self-employment, and reducing the number of informal lenders or loan sharks. At the same time, entrepreneurship and the improvement of the entrepreneurial skills of the borrowers, which results in an improvement of family incomes and, above all, the sustainability of these. This, in turn, improves the quality of life of families, improving the education of the descendants and promoting consumption, which, at the same time, generates a reaction chain increasing the income of local families and makes the cycle start again, i.e., it produces a ripple effect of wealth. Therefore, it can be claimed that microcredits are an appropriate tool in favour of the fight against poverty, given that there is empirical evidence that support this assertion.

However, there is still much work to do in the field of microfinance, in order to design microcredit programmes that use similar parameters to choose beneficiaries, thus ensuring that all individuals who receive a microcredit are really poor, otherwise, the entities providing them would be inefficient. In addition, from my point of view, the researchers who intend to measure the impact of a microcredit programmes should

continue investigating in the line of homogenization, creating standard measures of the impact of microcredits, so that the effects that these create in different places can be compared.

To sum up, it should be noted that microcredits are a useful tool against poverty and financial exclusion. But it is a field of study which is still incomplete, i.e., there is still a way to go to be able to say the success of a microcredit, since, as we have seen earlier there is still a need to define appropriate indicators to assess the impact of microcredits in a particular economy and do it as precisely as possible, how the appearance of a programme of microcredits in an economy has affected the generation of economic, productive and social value.

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