**MICROFINANCE AND ECONOMIC GROWTH IN ALBANIA: AN ARDL APPROACH**

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**Abstract:** Microfinance has been growing rapidly with the aim to lift people out of poverty and create sustainable development. However, according to some literature there is a mixed evidence of its net benefit to the economic growth.

In general, microfinance provides financial tools and services to low-income individuals who would otherwise find themselves excluded from the formal banking system. Microfinance is often associated with microcredit, small-sum credit loans for entrepreneurs and small-business owners. But in the last few years, the microfinance industry has expanded to incorporate a broad range of services, such as savings and deposit accounts and life insurance becoming such a tool for generating economic growth in developing countries while reducing poverty level.

This study intends to empirically test the theoretical relationship between microfinance and some other macroeconomic factors with the poverty reduction, based on the evidences of Albania. The study is carried out using a time series Auto-Regressive Distributive Lag (ARDL) analysis based on the annual data.

**Key words:** microfinance, microcredit, macroeconomic factors, poverty reduction, ARDL.

**1. INTRODUCTION**

During the last few years, the microfinance industry has expanded to incorporate a broad range of services, becoming such a tool for generating economic growth in developing countries while reducing poverty level.

The role of microcredit on economic development is one of the areas that have recently created heated debate among scholars. Specifically, two opposing schools of thoughts have emerged and the central question is; Does microcredit contribute to the improved welfare of the borrowers? On the one hand there is a large body of empirical literature showing that microcredit can play a very important role in reducing poverty and that has improved both economic and social wellbeing of the beneficiaries\textsuperscript{51}.

For about three decades, microfinance institutions (MFIs) have given out small loans to the world’s poor - mostly women - and amassed hundreds if not thousands of case studies showing that the loans help alleviate poverty, improve health, increase education and promote women’s empowerment. Skeptics, however, have argued there is not enough hard data to prove that

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\textsuperscript{51} Yunus M, Jolis A. - Banker To The Poor: Micro-Lending and the Battle Against World Poverty, 2008
microfinance transforms lives on a large scale, and they have called for more rigorous analysis\(^{52}\).

Microfinance started with Nobel Peace Prize Laureate *Mohammed Yunus*, who began with a simple but revolutionary concept: Loan poor people money on terms that are suitable to them and teach them sound financial principles so they can achieve financial self-sufficiency\(^{53}\).

With globalisation and the rapid development of many countries, there has been an alarming increase in poverty. Three billion of the world’s population, being poor, live in dismay and pitiable conditions while the rich enjoy the benefits of globalisation.

The role of microcredit for poor entrepreneurs, in particular for women, for alleviating poverty was emphasized in many research papers by many scientific institutions. Most of them are always calling for increasing the number of households having access to microcredit from less than 10 million of households in 1997 to about 91 million clients in 2014.

Since its beginning, about 30 years ago, microfinance has had very productive years exemplified by a strong growth, by the positive impression it has had on development professionals and on public opinion in general, and finally by the attribution in 2006 of the Nobel Peace Prize to Muhammad Yunus, the founder of microcredit\(^ {54}\).

There are more than 10,000 microfinance institutions (MFIs) globally. They comprise a wide range of institutions, from credit unions and cooperatives to non-government organizations (NGOs), government agencies, private companies and commercial banks.

![Chart 1. Total number of active borrowers of the Albanian MFIs\(^ {55}\)](chart1.jpg)

There are between 150 and 200 million microfinance borrowers globally, and market outreach has expanded by 25-30% annually over the last decade. While nearly 8% of the world’s poor

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\(^{52}\) www.forbes.com/ How To Measure Microfinance's Social Impact/ October 2017  
\(^{53}\) www.gramene.com/September 2017  
\(^{54}\) http://www.nobelprize.org/January 2017  
\(^{55}\) http://www.ama.com.al/April 2018
now utilize microfinance, the fact remains that 92% of the global poor still lack access to financial services\textsuperscript{56}. Today, a number of MFIs are jointly offering financial and non-financial services to improve long-term sustainability and to support a double bottom line mission, which emphasizes the importance of both a financial and a social return.

The main objective of this study is to empirically test the theoretical relationship between microfinance and some other macroeconomic factors with the poverty reduction, based on the evidences of Albania.

While studying the transmission channels of microfinance to economic growth, Alimukhamedova (2013) finds that microfinance envisages the integration of the financial needs of households into a country’s financial system and hence is expected to positively affect the growth.

Even though it is thought that the immediate channel of microfinance impact is through reducing income inequality and poverty, however, such an impact is in long-term.

Financial development through microfinance can be seen in four ways.

\begin{itemize}
  \item \textit{First}, financially sustainable MFIs can promote market deepening that in turn advances financial development.
  \item \textit{Second}, microfinance is seen as a powerful tool in countries with poor governance that hinders development programs.
  \item \textit{Third}, microfinance could facilitate financial market maturity in both developed and developing countries.
  \item \textit{Finally}, microfinance could help to support domestic financial reforms by breaking down constraints.
\end{itemize}

2. LITERATURE REVIEW

Microfinance programmes in Albania are promoted primarily as an instrument of developing measures through delivering loans for expanding production. The majority of recent studies of the microfinance impact on poverty or in income are based on micro-level evidence based on household data but in absence of reliable data of the microfinance impact in macro level on poverty are limited. However, some studies have shown the relationship between microfinance and economy Imai, K. S., Gaiha, R., Thapa, G., & Annim, S. K (2010).

The aim of thes study is the examination of the relationship between the macroeconomics and microfinance activities or the microfinance performance. The aim of this study is the study of the environment where microfinance operates, the effectiveness of microfinance in the main macroeconomic variables as gross domestic product, poverty rate and unemployment.

A number of studies have been carried out on the impact of microfinance in Albania. Kola (2010)\textsuperscript{57} is focused on the microcredit contribution on social wellbeing in Albania. In this research, he brings facts/figures concerning to some issues: being client of microcredit companies bring positive changes in the living standards of microcredit program participants

\textsuperscript{56} Banerjee A, Vinayak A, Duflo E, - Poor Economics: A Radical Rethinking of the Way to Fight Global Poverty, 2011

and broadly in their communities; being Microfinance Institutions client is associated with
greater acquisition of land relative to non-clients, which can be taken as significant evidence of
positive impact; he has find there is strong evidence of positive impact on the multiple
dimensions of household income and enterprise performance.
Also Kola (2016) brings a range of perspectives concerning the economic and social impact of
microfinance products (especially microcredit) on their clients’ lives, scientifically analysing
four distinct impact levels: namely, the individual level, the household level, the enterprise
level, and the community level.

Investigating the Albanian market, by assessing the impact of Albanian microfinance programs
at each of the four above-mentioned impact levels, Kola explores whether being a client of
MFIs microfinance programmes brings positive changes to their lives and their community.58

As according to the data provided by the Albanian Microfinance Association (A.M.A.), the sum
of Gross Loan Portfolio of all MFIs in Albania is about USD 120 million in 2016, with an
increase during the years 2005 – 2014, and characterized by stagnation after 2014, as shown in
the chart 3.

In Albania, there are six main microfinance institution; NOA, UniFin (Jehona Union), FED
Invest (ASC Union), Agro & social Fund (Vision Fund), BESA Fund and FAF, and many other
small microfinance companies, adding the fact that there are an increasing number of banks
providing some of microfinance services, as for example microcredit service, as there are
Credins, ProCredit, etc.

Referring to the data provided by MIX-Market, we can see also an increase in the number of
active borrowers of MFIs in Albania during the years 2005 – 2014, and a stagnation after 2014
(chart 1).

Chart 2. Number of active borrowers of the Albanian MFIs59

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59 http://www.ama.com.al/April 2018
Specifically, a country with MFIs that has high Gross Loan Portfolio, has a low level of poverty, because factors that affect poverty have been studied taking into account the endogeneity associated with Gross Loan Portfolio of MFIs. In the perspective of a bank policy it is important for development finance institution and microfinance investment to revaluate their loan portfolios of micro finance, that are funds for loans and other microfinance portfolios.

Albania is one of the poorest countries in Europe. The effects of the transition from a centralized economy to a market economy in a democratic country, have contributed significantly on the Albanian people, particularly on the poor people. Microfinance has developed in Albania; this is noted by the presence of microfinance institutions that have contributed to poverty reduction and economic development in general and agricultural development in particular.

![Chart 3. Total Outstanding Loan Portfolio of the Albanian MFIs](60 http://www.ama.com.al/April 2018)

Precisely the loan is the necessary instrument of the agriculture funding, to promote, develop and increase it, and more effective compared to grants. Lending to the agricultural sector in the portfolio of bank loans represents the least credit sector compared to other sectors, benefiting around 2% of the total loan portfolio, while Agriculture brings about 20% of GDP of Albanian economy.

Given the need of the agricultural sector for financing or credit, today there are financial institutions that provide financial services to the agricultural sector, such as microfinance institutions that offer credit, but nowadays many banks of the second level are promoting and competing with each other in terms of new service of microfinance / credit of the agricultural sector.

Nowadays, we notice a growing tendency of the presence of banking and microfinance institutions that offer different financial services for the benefit of farmers and poor people. This initiative has a positive impact in the development of the country, for this way we will have an increase of domestic production, incentive for small enterprises’ openings or expansion of farms.

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2.1 Empirical researches about microfinance and economy.

Does microfinance have any impact on financial development and poverty reduction? Or does poverty level depends on microfinance? Is there any theoretical relationship between the two? Does one of them lead the other? We needed an answer.

Theoretically, microfinance promotes well-functioning financial sector, which is critical for efficient resource allocation, leading to increased productivity, greater investment, and higher overall levels of economic growth. It is evident from numerous literature that there is a positive effect of the financial sector (i.e. debt and equity markets, banking) on economic growth at the firm, industry and country levels. Moreover, development oriented scholars opine that what actually matters is the access to finance measured by its depth and outreach.

An improved access to finance is needed to ensure sustainable economic growth, so that low-income households, that still constitute a majority, have chances to escape from poverty. (Aziz & McConaghy, 2014; Alimukhamedova, 2013).

The background study is the summary of the theories and studies that previous author have given regarding the relation between microfinance and poverty reduction, such as the evidence in micro level of the impact of microfinance on economic development of a country.

Copestake & Williams (2011) tentatively concluded that microcredit cannot, on its own, be relied upon to deliver sustained income growth and falling poverty rates, and that it can indeed be harmful to a significant minority of recipients. Evidence of impact on intermediate indicators including business activity, business profitability and asset ownership is generally more positive, but this in turn has not been shown to increase income or reduce poverty, not least because of the opportunity cost of time taken up with such activities.

Woolley (2008) argued that none of the microfinance variables and domestic GDP growth are significantly correlated. He mentions that this may be the result of a biased sample, it still suggests that some institutions are able to perform financially and in terms of outreach without being affected by domestic GDP growth. This result suggests that institutions can operate successfully in situations of low GDP growth, that they don’t necessarily maintain high financial success at the expense of outreach and that perhaps there are some intrinsic characteristics of microfinance institutions that make them so resilient.

3. RESEARCH METHODOLOGY

The purpose of this paper is to study the impact of microfinance and some macroeconomic indicators on poverty reduction. The present study is conducted by applying the Autoregressive Distributed Lag model (ARDL) analysis, a co-integration technique which has found wide use in recent years.

If a set of variables in the form of time series are individually integrated in the same order and if at least one of the linear combinations of these variables is stationary, then the variables are cointegrated. This implies that between these variables there is a long-term equilibrium connection.
ARDL technique, also known as the Bounds testing procedure, unlike other cointegration techniques does not necessarily require that all variables be at the same order of integration $I(1)$ or $I(0)$.

Also, ARDL techniques has good properties even when small choices are available making this method very convenient and efficient\(^{61}\).

### 3.1 Source of data.

We have used annual data from 1998 to 2017. A total of 20 observations were obtained. Time series are taken from the World Bank database and MIX-Market and refer to the most commonly used variables in the empirical literature.

The reviewed model in our study is the relationship between poverty and macroeconomic indicators.

Theoretical model specification is:

\[
\log_{\text{Poverty}}_t = \beta_0 + \beta_1 \log_{\text{GLP}}_t + \beta_2 \log_{\text{INT}}_t + \beta_3 \log_{\text{GDP/cap}}_t + \beta_4 \log_{\text{EM}}_t + \mu_t
\]

Where:

- **Poverty** - Household Final Consumption Expenditure
- **GLP** - Gross Loan Portfolio of MFIs
- **GDP/cap** - Gross Domestic Product per Capita
- **INT** - Real Interest Rate
- **EM** - Employment

The access of the time series data on poverty for the developing countries is very difficult, so the measure’s methods of poverty have been the subject of difficult empiric studies. Different indicators have been used for poverty measurement, from different authors.

Based on the World Bank definition of poverty, Odhiambo\(^{62}\) used the final consumption expenditure as a proxy for measurement of poverty. In this paper, we used the final consumption expenditure for family as a proxy data for the poverty measurement. The loan portfolio of MFIs is used for the measurement of microfinance activities of a country. Other variables included in the model are GDP/capita, INT and Employment.

The ARDL model specifications of the functional relationship between Poverty, Gross Loan Portfolio of MFIs, GDP per capita (GDP), Real Interest Rate (INT) and Employment is as follows:

\[
\Delta \log_{\text{Poverty}}_t = \beta_0 + \theta_1 \log_{\text{Poverty}}_{t-1} + \theta_2 \log_{\text{GLP}}_{t-1} + \theta_3 \log_{\text{INT}}_{t-1} + \theta_4 \log_{\text{GDP/cap}}_{t-1}
\]


4. DATA ANALYSIS AND FINDINGS.

One of the main problems of using time series is stationarity, which means that all variables must be I(0) or I(1). In order to provide the most reliable results, this study uses 3 well-applied tests of unit roots, known as ADF, PP and KPSS test. The ADF and PP tests have null hypothesis stationarity of the time series while the KPSS test has null hypothesis nonstationarity of the time series.

The reason for using these three tests, rather than testing whether the variables are integrated at level I (0) or integer of first order I (1), is to prove that none of them it is integrated in the second order or above because, as stated earlier, we would not be able to use the ARDL cointegration technique.

In summary, the results of the stationary tests are presented in Table 1.

<table>
<thead>
<tr>
<th>Variable</th>
<th>ADF</th>
<th>PP</th>
<th>KPSS</th>
<th>Decision</th>
<th>ADF</th>
<th>PP</th>
<th>KPSS</th>
<th>Decision</th>
</tr>
</thead>
<tbody>
<tr>
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<td>-1.486435</td>
<td>0.54038*</td>
<td>undefined</td>
<td>-2.699208**</td>
<td>-2.611727**</td>
<td>0.294125</td>
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<tr>
<td>loggdpc</td>
<td>-1.902022</td>
<td>-2.680096**</td>
<td>0.551439</td>
<td>undefined</td>
<td>-1.324117**</td>
<td>-2.897519***</td>
<td>0.408091**</td>
<td>S</td>
</tr>
<tr>
<td>loggdpl</td>
<td>-2.389007</td>
<td>-3.346849**</td>
<td>0.536706**</td>
<td>undefined</td>
<td>-4.575850**</td>
<td>-4.635222</td>
<td>0.333235**</td>
<td>undefined</td>
</tr>
<tr>
<td>logint</td>
<td>-2.124259</td>
<td>-2.124259</td>
<td>0.536370**</td>
<td>undefined</td>
<td>-6.654649*</td>
<td>-8.069570*</td>
<td>0.133318*</td>
<td>S</td>
</tr>
<tr>
<td>logem</td>
<td>-2.253111</td>
<td>-2.188515</td>
<td>0.707961</td>
<td>nonstationary</td>
<td>-4.185307*</td>
<td>-14.52566*</td>
<td>0.267381*</td>
<td>S</td>
</tr>
</tbody>
</table>

From the above table we can see that the result varies from one test to another. The results of the unit root tests are not unanimous. We observe different results from ADF and PP tests, however, KPSS shows most of the variables are stationary in both forms. It is more than evident that the results are not consistent across various tests.

Therefore, variables we are using for this analysis are either I(0) or I(1), so we can use ARDL technique to test the long run relationship among the variables.

The next step, is to check whether our variables move together (are co-integrated) in the long run or no. Before this, we should determine the optimal number of lags. To determine the optimal number of lags we can use the AIC or SBC criterion. However, many researchers in their studies have argued that in annual data the optimal number of lags is usually recommended
= 2\textsuperscript{63}. Since the data in our empirical research are annual, we choose an optimal number lags of 2.

Through the border test, it is tested whether there is or not, a long - term relation between \textit{Poverty}, \textit{Gross Loan Portfolio} of MFIs, \textit{GDP per capita}, \textit{Real Interest Rate} (INT) and \textit{Employment} (EM).

This allows us to make a decision about cointegration to determine the computed statistic F value, which is compared to the upper and lower boundary values. Precisely for this reason, this test is also known as the border test.

\textit{Table 2. The F-tests of the model}

<table>
<thead>
<tr>
<th>Critical Value Bounds for K=4</th>
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<tbody>
<tr>
<td>\textbf{F-statistic}=6.461538</td>
</tr>
<tr>
<td>\textbf{significance 1%}</td>
</tr>
<tr>
<td>I0 Bound</td>
</tr>
<tr>
<td>3.74</td>
</tr>
</tbody>
</table>

As can be seen from the results presented in Table 2, the value of the F statistic (6.461538) is greater than the upper bound critical value for the 10\%, 5\% and 1\% significance levels. Since the computed F statistic is greater than the critical Value Bound, then the zero hypothesis of non-existence of long-term relationship between variables versus the alternative hypothesis of the existence of cointegration between variables can be rejected. Thus, \textit{Poverty}, \textit{Gross Loan Portfolio} of MFIs, \textit{GDP/capita}, \textit{Real Interest Rate} and \textit{Employment} are cointegrated, which means that in the long run the series move together.

After confirming that there is cointegration between the variables used in the model, we evaluate the long-term ARDL model for the optimal lags (1, 1, 2, 1, 2), which are determined by the SBC criterion. The long-term model and estimated coefficients are as follows:

\[
\log\text{Poverty}_t = 5.657512 + 0.141185 \log \text{GLP}_t + 0.814440 \log \text{GDPC}_t \\
+ 0.041327 \log \text{INT}_t - 0.056223 \text{EM}_t
\]

Gross Loan Portfolio of MFIs and GDP/capita are all statistically significant at 1\% significance level. Thus, in this model GLP of MFI and GDP/capita seem the most important variables that influences poverty.

Results indicate that the Gross Domestic Product per capita (GDP/C) coefficient is 0.81 and is positively related to poverty. This means that in the long run, keeping all the other factors unchanged, a 1\% increase in GDP/C would bring an increase of 0.81 percent change in poverty \textit{(would increase final consumption expenditure or reduce poverty)}. This coefficient is statistically significant for the 1\% significance level and carry the expected positive signs.

The Gross Loan Portfolio of MFIs (GLP) coefficient is 0.14 and is positively related to poverty. This means that in the long run, keeping all the other factors unchanged, a 1\% increase in GLP would bring an increase of 0.14 percent change in poverty \textit{(would increase final consumption expenditure or reduce poverty)}.

expenditure or reduce poverty). This coefficient is statistically significant for the 1% significance level.

The Real Interest Rate (INT) coefficient is 0.04 and is positively related to poverty. This means that in the long run, keeping all the other factors unchanged, a 1% increase in GLP would bring an increase of 0.04 percent change in poverty (would increase final consumption expenditure or reduce poverty).

In the case of Albania, although the Real Interest Rate coefficient is positively related to household final consumption in the long run, its impact is small. This means that the effect of substitution in this case is greater than the effect of the income. An increase in real interest rates would lead to individuals increasing their current consumer spending and lowering savings.

The Employment (EM) coefficient is -0.056 and is negatively related to poverty. This means that in the long run, keeping all the other factors unchanged, a 1% increase in employment would bring a decrease of 0.056 percent change in poverty (would decrease final consumption expenditure or increase poverty). In fact this result is in a contradiction to the theory. Maybe it is because of the non-registered (informal employment), the contribution of which was not calculated.

AR, JB, ARCH and RESET stand for the Breusch-Godfrey serial correlation test, the Ramsey’s RESET test, the Jarque-Bera normality test and the ARCH test respectively. The numbers in brackets represent the number of lags = 1.

<table>
<thead>
<tr>
<th></th>
<th>F Version</th>
</tr>
</thead>
<tbody>
<tr>
<td>A: AR(1)</td>
<td>2.920220 [0.1482]**</td>
</tr>
<tr>
<td>B: Reset(1)</td>
<td>0.118750 [0.744]**</td>
</tr>
<tr>
<td>C:JB</td>
<td>2.463338 [0.2918]**</td>
</tr>
<tr>
<td>D: ARCH(1)</td>
<td>0.264807 [0.6143]**</td>
</tr>
</tbody>
</table>

The results show that the estimated model does not seem to have any serious diagnostic problems such as serial correlation, misspecification, non-normality of the residuals and ARCH effects. Thus, the estimated coefficients of the model above are valid for interpretation.

The error-correction coefficient is negative (-1.001123) as required, and is very significant (p=0.00079), confirming our earlier findings of a significant long-run cointegrating relationship between the variables.

Dr Forcim Kola received his PhD in Marketing from “Aleksandër Moisiu” University of Durrësi, Albania, and an MBA from the University of Tirana, Albania. His primary research interests include modelling microfinance consumer choice behaviour based on social and economic impacts, and marketing issues such as consumer behaviour, client satisfaction, pricing policies, customer care, and competitive strategies, among others. In addition to serving as a Professor of Marketing, he also works as a business consultant for several companies in Albania.
5. CONCLUSION.

This research study finds a significant impact of microfinance on decreasing the poverty level during our sample period 1998-2017. Even in the long run, microfinance holds the position of an important variable to create significant impact on increasing final consumption expenditure or reducing poverty level.

Specifically, a country which has high values of Gross Loan Portfolio of Microfinance, has a lower level of poverty, confirmed from the time series data applied to the Autoregressive Distributed Lag model (ARDL) analysis.

Gross Loan Portfolio of MFIs and GDP/capita are all statistically significant at 1% significance level. Thus, in this model GLP of MFI and GDP/capita seem the most important variables that influences poverty.

The Gross Loan Portfolio of MFIs (GLP) coefficient is 0.14 and is positively related to poverty. This means that in the long run, keeping all the other factors unchanged, a 1% increase in GLP of a country’s Microfinance Institutions would bring an increase of 0.14 percent change in poverty (would increase final consumption expenditure or reduce poverty). This coefficient is statistically significant for the 1% significance level.

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