

The Efficiency of Microfinance Institutions in Albania

By

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Abstract

Microfinance refers to small financial services mostly loans and savings which are provided to farmers, micro or small enterprises, that produce, improve revenues from the rent of machines, equipment and other basic financial like insurance to poor people and other groups at local levels in urban and rural areas on developing counties.

Currently the microfinance in Albania is a significant factor which should be taken into consideration and such is analyzed throughout the element of this thesis.

This study analyzes the microfinance institutions efficiency in Albania from years 2002 to 2012. Furthermore, will be used Data Envelopment Analysis method (DEA) for assessing technical efficiency, the input-oriented and output-oriented model. According to this topic, there are limited studies in the efficiency of microfinance institutions (MFIs) in Albania meaning that the study on efficiency in this region is important and will contribute to the actual literatures. The aim of this study is to examine the efficiency levels of five MFIs in Albania. The MFIs that will be analyzed are: Besa fund, ASC-Albania, ProCredit Bank, FAF-DC and NOA. There will be investigating the efficiency performance and their help in poverty reduction. Moreover, result indicates an efficient measure for these MFIs as all of them have their score efficiency 1 except NOA in year 2008.

Keywords: Microfinance, DEA, Input-oriented, Output-oriented, Poverty, Albania

Abstrakt

Mikrofinanca i referohet shërbimeve të vogla financiare kryesisht kredive dhe kursimeve të cilat i ofrohen fermerëve, ndërmarrjeve të vogla ose micro, që prodhojnë, përmirësojnë të ardhurat nga qiraja e makinave, pajisjeve dhe nje tjetër financim themelor është sigurimi ndaj njerëzve të varfër dhe grupeve të tjera në nivele lokale në zonat urbane dhe rurale të cilat janë në zhvillim.

Aktualisht mikrofinanca në Shqipëri është një faktor i rëndësishëm që duhet të merret në konsideratë dhe i tillë është analizuar në të gjithë elementet të këtij punimi.

Nëpërmjet këtij studimi do të bëhet analiza e efikasitetit të mikrofinancës në Shqipëri ngavitet 2002 deri në vitin 2012. Për më tepër, do te përdoret metoda e të dhënave Analiza mbështjellëse (DEA) për vlerësimin e efikasitetit teknik, modeli input të orientuar dhe të prodhimit të orientuar. Ka studime të kufizuara në efikasitetin e institucioneve mikrofinanciare (IMF) në Shqipëri, qe do te thote se studimi mbi efikasitetin në këtë rajon është i rëndësishëm dhe do të kontribuojë në materialet aktuale. Qëllimi i këtij punimi është që të shqyrtojë nivelet e efikasitetit të pesë IMF-ve në Shqipëri. IMF-të që do të analizohen janë: Fondi Besa, ASC-Albania, ProCredit Bank, FAF-DC dhe NOA. Aty do te hetohet performanca e efijences së tyre dhe ndihmën që japin në uljen e varfërisë. Rezultati tregon një masë efikase për këto IMF që arrijnë efikasitetin e tyre rezultatin 1, me përjashtim të NOAs në vitin 2008.

Fjalë kyce: Mikrofinanca, DEA, Input-oriented, Output-oriented, Varfëria, Shqipëria

Dedication

This thesis is dedicated to my entire family member and to my lifetime friends who have always been by my side to help me and support me.

Thank you!!!

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Declaration Statement

1. The material included in this thesis has not been submitted wholly or in part for any academic award or qualification other than that for which it is now submitted.
2. The program of advanced study of which this thesis is part has consisted of:
 - i) Research Methods course during the graduate study.
 - ii) Examination of several thesis guides of particular universities both in Albania and abroad as well as a professional book on this subject.

Vjollca Curri

27 January 2015

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List of Abbreviations

BA:	Bachelor of Arts
CRS:	Constant Returns to Scale
CSV:	Comma-Separated Value
CU:	Capacity Utilization
DEA:	Data Envelopment Analysis
DFA:	Distribution Free Approach
DMU:	Decision-Making Unit
EBRD:	European Bank for Reconstruction and Development
EU:	Epoka University
FAF-DC:	The First Albanian Financial Development Company
FDH:	Free Disposal Hull
GAMS:	General Algebraic Modeling System
MSc:	Master of Science
MFI:	Microfinance Institutions
NGO:	Nongovernment organization
NRS:	No increasing Returns to Scale
PRS:	Poverty Reduction Strategy
PRSC:	Poverty Reduction Support Credit
TFA:	Thick Frontier Approach
TISVA:	Turkish Foundation for Waste Reduction
VRS:	Variable Returns to Scale
SFA:	Stochastic Frontier Approval

INTRODUCTION

Apart from economic conditions from the beginning of economic transition – the past industrial and manufacturing segment about completely collapsed in the 1990s. Albania is now presenting incredible dynamism in microenterprise growth through all sectors in different regions. Particularly, construction industry has considerably expanded, whereas private investment, even in a small scale in housing, minor-level of production and infrastructure, is booming over the country.

In rural areas Poverty stands a striking phenomenon. Regional inequalities are substantial, with the Tirana–Durrës axis which are the center of gravity in economy and while other regions, such as the North regions, the East and mountainous areas, left far backward. The earliest country in the South-eastern Europe was Albania to realize extensive microfinance programmes in the 1990s, particularly in rural areas. Contrasted to other countries Albania can proudly sport a fortune of microfinance institutions (MFIs), which have scratched hand by experience for themselves and for evolution of the country. After all, microfinance sector is developing in meaning of scale and complexity; invoke policies and concrete moves object across the simple fortifying of individual microfinance institutions. Convenient aspects influencing those concerned with microfinance in the country by including the regulation in a sector, supervision of the microfinance institutions by the authority state, relationships with donors and training.

Microfinance can be a crucial element of an efficient poverty reduction strategy mostly in developing countries. Notably in Albania there is absence of recovered access and efficient provision of credit, savings, and insurance facilities to develop their businesses, grow their income gaining capacity, and delight an improved quality of life.

Microfinance Institutions' (MFIs) roles are unparalleled in terms of supplying access of financial services to the underserved part of the citizens. That part of the society is financially foreclosed by the formal financial institutions because of institutions' unwillingness to stretch loans without collateral owing to their commercial goals. Apart from social goals strived by the MFIs, the supportability of the institutions is crucial to assure continuous support. Hereupon, the efficiency of MFIs is a key in attaining sustainability.

A microfinance institution is an organization, occupied in lasting micro credit loans and other financial services to poor borrowers for income deriving and one employment activities. An MFI is commonly not a part of the formal banking industry or government. It is usually adverted as a Non-Government Organization (NGO).

Efficiency in MFIs ergo adverts to how well MFIs assign the input resources such as asset, subsidies and personnel to manufacture output measured in terms of the loan portfolio and poverty dissipate. The MFIs efficiency refers to how well these institutions use their inputs to generate optimal outputs (Bassem, 2008).

The measurement of efficiency in MFIs is also very decisive as it gives information about the firm performance particularly on the usage of resources and minimization of wastes.

The measures of efficiency studies are separated into parametric and non-parametric methods. Founded on banks efficiency studies, ordinary parametric methods are Distribution Free Approach (DFA), Stochastic Frontier Approach (SFA) and the Thick Frontier Approach (TFA), whereas the common non-parametric techniques are the Data Envelopment Analysis (DEA) and Free Disposal Hull (FDH)(Mokhtar, 2006).

The Microfinance term used to be known as microcredit. The Microcredit refers to the practice of drawing small loans without any additional services. Microfinance is kind of credit methodology, that employs effective collateral replacement for short-term and for working capital loans to the micro undertaker. The poverty country level has long been connected with measures of its economic development. Little consideration was given to the social reorganization of the natural resources (e.g. sustainable use vs. depletion of the environment).

During this study, the terms microcredit and microfinance are used inter changeably to characterize loans and services provided by MFIs.

The purpose of this study is to explain how microfinance works, how to regulate it, is the role of microfinance a powerful tool to fight poverty, efficiency of microfinance institutions in Albania, as they help poor borrowers.

The Albanian microfinance department needs, at first, a microcredit and microfinance definition to implement the right development policies.

The main idea of this thesis is to present how efficient these MFI institutions have performed during these years in Albania. The higher the efficiency the better the effect they have to reduce poverty.

One of the most important principles in any business is the rule of efficiency; where the best potential economic impacts (outputs) are attained with as little economic sacrifices as possible (inputs). Efficiency can be determined as the demand that the aspiration goals are achieved with the minimum usage of the disposable resources.

In order to appreciate the comparative efficiency of a business unit, it is required to consider the situation and operation outcome of other units of the same type and to define the real position of the results of such a comparison. In a simple happening where the units have only an output and only an input, efficiency is designed as their ratio.

Nevertheless, typical organizational units have plural and incommensurate outputs and inputs. Data Envelopment Analysis (DEA) was deputized to evaluate the comparative efficiency of organizational units with multiple inputs to generate multiple outputs (Charnes, Cooper, & Rhodes, 1978).

The DEA writers define the efficiency of the unit below estimate as the ratio of the amount of its weight outputs to the amount of its weight inputs.

Data Envelope Analysis is a technical efficiency of mathematical programming that allows the resolve of a unit's efficiency founded on its inputs and outputs, and contrasts it to other units inclusive in the analysis. The DEA can be characterizing as data-oriented as it impacts performance evaluations and other conclusions immediately from the observed data and with minimal presumption.

The main objective of this thesis is to find out the role of microfinance in Albania. The structure of the thesis is organized as follows: Introduction part and four main chapters. The first part of the study covers the Introduction part which consists of introducing an overall picture about the concept of microfinance. Across this general description, the fundamental idea is to get thesis's easy meaning. Moreover in this part are also specified the main objectives of this research and what is the methodology being used in order to achieve the results from the study.

The first chapter of the thesis is dedicated to the literature review related to microfinance in general, what others have found concerning with the role of microfinance in the reducing poverty, the effectiveness of microcredit, the efficiency of MFIs in diverse countries. The relevant literature review is chronologically organized in order to show some of the studies made over time by specialists of economy and researchers, also representing some of the methodologies used by them to study this relationship.

The second chapter refers to the microfinance and the history of microfinance, this includes how microfinance works, how to regulate, why to regulate the microfinance sector. This section proceeds with an illustration of Lending to the Poor and the Challenges.

The third chapter is dedicated to the microfinance in Albania and the implementation of DEA model in five MFIs to see their performance and to measure the effectiveness of them to help in the reduction of poverty. Furthermore, the section includes the analysis of whether the MFIs are efficient. Proceeding to the fourth section explain the methodology of DEA and its implementation.

The last section includes a conclusion concerning the analyse of the technical efficiency of DEA model in the input and output model.

CHAPTER ONE: LITERATURE REVIEW

The financial institutions and intermediation play a powerful role in economic growth and development. In accordance with the literature, appear to have a positive relationship among economic and growth magnitude of the financial sector.(King, Robert, Ross, & Levine, 1993a,). Entry to credit for both individuals and businesses has been positively connected with investment, asset growth and overall economic growth (Pagano & Marco, 1998).

Christen, Peck, Rhyne, Vogel and McKean (1995) determine microfinance as the tool of providing a diversity of financial services to the poor sound on market-driven and commercial ways'. This definition compasses rations of other financial services like savings, payments, money transfers, remittances, and insurance, amid others.

Nevertheless many microfinance procedures today still focus on micro-credit: supplying the poor with small credit with the expectancy of improving their labor productivity and thus lead to increase in household incomes.

Morduch (1999) pointed that this kind of enthusiasm for microfinance rests on an enticing win-win proposition that: Microfinance institutions that follow the principles of good banking will also be the ones that facilitate poverty. The supposition being that with good banking practices it is probable to cover costs and operate in a sustainable manner to continue serving clients and alleviating poverty.

Aghion and Morduch(2005) remarked that big anecdotes like these should not be substitutes for careful statistical investigations; should get statistical information in effect to success stories commonly apply to most of the microfinance clients through the board. It is significant to understand that these great stories are generally meant to figure the potential of microfinance while statistical investigations and analysis are meant to show typical impacts across the board. Too much policy makers and donors, anecdotes like the ones described up, coupled with the fact that poor client are able to borrow and repay imply that whatever investments that the poor are involved in are good enough and therefore benefiting them.

Chirwa (1997) appointed a model to access the determinative of the probability of credit reward among the small-holders in Malawi. This model authorize for analysis of borrowers as being defaulter or non-defaulter. Vary data-sheet of the x-vector have been investigated by step-wise avoidance. However, there are only five factors (the quality of information, the size of

group, the degree of diversifications, the income transfer and the sales of crops) were consistently.

Adam and Pischein 1992 argued that “the debt is not an effective tool for helping most poor people to increase their economic condition be they operators of micro entrepreneurs or small steading”. The primary point of them is that there is other more important compulsion that faces small agricultural households and they involve the prices of product, land maintenance, risk and technology. Gulli (1998) thinks the same; he argues that credit is not perpetually the main constraint for micro venture for growth and development, and that indigent people request a spacious range of business development, financial and social services for diverse business and household goals. Studies have also demonstrated that households below the poverty line tend to use the loans for consumption purposes to a greater extent than households upward the poverty line; so their income should be due to increase least. Related to these findings, we see that poor households are potentially using micro credit loans for intake purposes yet their loan refund rates are higher than repayment rates for the official financial institution normally used for well-heeled society is very cabal(Ghatak, 1999).

Mayouxin 2002 argues that the logical presumption of virtuous coil of economic empowerment to the household owing to microfinance does not in fact inhere. In particular is given that there are gender relations in society in connection to loan uses; a screen play that more frequently not permitting poor women borrowers highly indebted, and not much fortune to demonstrate. Studies have indicate that micro entrepreneurs underneath the poverty line experience inferior percentage income boost after borrowing than those upward the poverty line.

Khandker, Shahidur, Bakht, Zaid and Koolwalin 2006 counter the negative arguments versus the impact of microfinance on the reduction of poverty, further studies have found that microfinance is relevant to poverty reduction not just for the ones who benefit but also there are positive spillover effects to the rest of the community. This study uses a panel household survey from Bangladesh and observes that access to microfinance contributes to poverty reduction, especially for female who take part, and to the overall poverty reduction at the countryside level.

Pitt and Khandker in 1998 figure out, using the data from three programs in agricultural Bangladesh, that lending from group-borrowing schemes increased consumption of poor households. Nevertheless, Murdoch and Jonathan in 1999 have showed that Pitt and Khandker’s outcome reflect program selection effects above than the impact of borrowing. They argue that

microfinance has had positive impact on poverty reduction. Even so he is eager to add that “Even in the best occasion, credit from microfinance schedule reliefs fund for the ones who have self-employment activities that most often extra income for borrowers rather than drive basic shifts in employment samples. It (microfinance) infrequently releases new jobs for others and good luck has been particularly limited in regions with highly seasonal income models and low population consistency.

Oni in 1999investigatesthe proportion of loans refund by small-holder farmers in Osun state. His interpretative variables were amount of loans scratched, expenses on farm, interest rate, and extent of farmers contact with bank revenge log, cultivated land area and years of experience in agriculture. The result of linear and log form equations showed that the regression coefficient connected with amounts of loan with (+), disbursement of loan by microfinance log with (-) and degree of farmers tap with banks (+) had expected-signs and were statistically substantial at 5percent.

Creswell in 1994has point out different practical criteria to differentiate between deductive and inductive approach. The most important of these criteria, is the nature of topic of research, on which there is a fortune of literature from which one can define a theoretical framework, and a hypothesis lends itself more willingly to deduction. While topic of research is new, there will exists much dispute, and on that there is little literature available, more necessary may be to work inductively by producing data, studding and reflecting on what theoretical topics, the data points to.

Many studies for poverty in Albania recline on the expenses and consumption information and so using the poverty line calculated by the Albania Living Standards Surveys record exercising the cost of fundamental needs method. Whereas the literature on poverty measure is by now comparatively marked and abundant, there exist little studies bearing with disclosure the determinant or reasons of poverty.

Audet, Boccanfuso and Makdissi in 2006discover that the upbringing level of household’s head, the size and settlement of household were important factors expounding poverty in Albania. Mastromarco, Peragine, Russo and Serlenga in 2010 recovered high correlations among household magnitude and poverty, low education level, gender.

Myftaraj in 2011 discover that key designing of poverty were: the residence, the household size, the education level and the age of household head.

Bakhtiariin 2006 complete that micro credit and microfinance have accepted spacious knowledge as a strategy for poverty reduction and for economic empowerment especially in rural areas where live poor population. Assuring poor people little amounts of credit at sensible interest rates allow them a possibility to raise their own business at little rate.

Morduch in 2002 posture an investigation study focusing the question below discussion and terminate that microfinance is an innovative step to mitigating poverty. The author noted that microfinance facilities assured to the people relief them to usage and expands their skills and enables them to gain money across micro enterprises. Further provision of micro finance assistance them to soften their consumption level and direct unrehearsed risks. Microfinance supports the poor to made assets, breed their children and have best capacity of life.

Gürses (2009) directed a study in Turkey and noted that microfinance particularly micro credit is a strong tool to lower poverty. Author has adduced that one fifth of citizens in turkey was at risk owing to the poverty even if it is not a poor country according to the global standards. This is by viewing the introduction of micro credit from two NGOs—KEDV and Turkish Foundation for Waste Reduction (TISVA).

Rena, Ravinder, Tesfy and Ghirmai in 2006 completed that microfinance is the establishment boulder for poverty reduction. They showed that there is an important connection between the microfinance and poverty evolution, in that final sags on the poor earning access to, and checkup, economically fruitful resources, that involve financial resources. Priory implemented programs not generated good results owing to the noninvolvement of the citizens for which was designed the program (the poor). They proposed that government poverty alleviation program must be structured if not re- plan and should be focused according to the basic needs. Microfinance has mean for income belt and the way for constant reduction of poverty across provision of housing, education, health services, sanitation water supply and convenient nutrition. In some examples, microenterprises create an informal economy rather than formal employment that composes more than 75 % of the national economy.

Roodman and Qureshi in 2006 argue that the need for the poor to borrow and save is greater than the need for such services by the better off people. This is just because the incomes of the poor are reduced and often unstable, so financial markets that help them fill this emptiness are affair of survival. Their argument boils down to the same conclusion that in commercial terms there is a market for microfinance, however the challenges are immense. In Accordance

with them in microfinance the real genius is capability to find following techniques in product sketch and the management to resolve the basic problems of controlling costs, construction volume, keeping repayment rates high and forbidding fraud one and all whereas operating with meager people .

Otero in 1999 claimed that microfinance is “the provision of financial mission to low-income meager and much meager self-employed people”.

According to Ledgerwood (1999) financial services mostly involve savings and credit however may comprise other financial services thus insurance and payment services.

Schreiner and Colombet in 2001 determine microfinance as “the attempt to elevate entrance to small deposits and small loans for poor households deserted by banks.” Ergo, microfinance includes the provision of financial services like savings, insurance and loans to poor people inhabiting in both urban and rural settings who are incapable to receive such services from official financial sector.

In accordance with Robinson (2001) and Otero (1999) microfinance and microcredit are comparatively new terms in area of development, foremost coming to significance in the 1970 s. Preliminary, by the 1950s across to the 1970s, the provision of financial services by givers or governments was mostly in form of subsidized rural credit software’s. These frequently concluded in elevated loan defaults, overhead misses and disability to achieve poor rural households.

In consistency with Harper (2002) the model is very usual form of savings and credit. It states that the members of the group are generally neighbors and friends, and group provides a possibility for social interplay and is very national with women.

Littlefield in 2004 claimed that the poor are commonly foreclosed from the financial office sector of the economy so MFIs have appeared to address this market failure. By referencing this gutter in the market in a financially supportable method, an MFI can ripen part of the official financial system of a country and so can entry capital markets to fund their borrowing portfolios, permitting them to dramatically germination the number of poor people they can achieve. By furnishing material capital to a poor person, their sense of merits is reinforced and this can aid to empower the person to take part in the economy and society. According to Otero (1999) purpose of microfinance is not only about supplying capital to the poor to battle poverty on an individual degree, it also has a part at an institutional level. It request

to create institutions that direct financial services to the poor, who are constantly dissembled by the official banking sector.

Poverty is a compound issue and is hard to design, as there are different dimensions to poverty. For World Bank, poverty connects to income, and the poverty is determined based on the percentage of people livelihood under a fixed quantum of money, thus \$1 dollar per day(World Bank, 2003).

There is a safe amount of dispute about if impact evaluation of microfinance projects is required or not in accordance with Simanowitz in 2001. The proof is that if the market can ensure adequate proxy for impact, presenting that clients are joyful to pay for a service, assessments are a remains of resources (ibid). Nevertheless, this is too facile a rationale as market proxies mask the string of client responses and profits to the MFI (ibid). Ergo, influence evaluation of microfinance interference is required, not only to flourish to givers that their intrusion are having a positive effect, but to permit for learning inside MFIs so that they can elevate their services and the influence of their projects.

Poverty is much than just an absence of income. Wright examined in 1999 the shortcomings of focus simply on increased income as a measure of the effect of microfinance on poverty. He states that there is an important difference between up growth income and decreasing poverty. He indicated that by growing the income of the poor, MFIs are not necessarily decreasing poverty. It sags what poor people do with money, many times it is endanger distant or spent on alcohol, and thus focusing simply on boosting incomes is not duly.

The focus needs to assistance the poor to “support a state level of well-being “by contributing them a diversity of financial services importunate to their needs so that their net fortune and income assurance can be recovered. It is usually claimed that MFIs are not achieving the miserable in society. Nonetheless, despite some commentators’ skepticism on the influence of microfinance on poverty, studies have indicated that microfinance has been prosperous in different situations.

Littlefield, Murdugh and Hashemi in 2003 studied “various surveys document increases in income and assets, and decreases in weakness of microfinance clients”. They cite to plans in Bangladesh, Uganda, Zimbabwe, India and Indonesia that whole of them displays very positive effects of microfinance in decreasing poverty. For example, a ratio on a SHARE project in India

showed that three-quarters of customers saw “significant developments in their economic welfare and that half of the customers certified out of poorness”.

Dichter in 1999 states that microfinance is a tool for poverty reduction and while arguing that the record of MFIs in microfinance is “generally well below expectation” he does receive those good results take place. By number of studies of MFIs argues that findings tell that consumption soften effects; marks of redistribution of wealth and impact within the household are the most mutual effect of MFI programmers (ibid).

Hulme, David and Mosley (1996) in an inclusive study on the use of microfinance to fight poverty, argue that well-planned programmers can elevate the incomes of the poor and can act them out of poverty. They state that “there is obviously evidence that the effect of a loan on a borrower’s income is linked to the level of income” as those with higher incomes have a greater range of investment opportunities and so credit schemes are more likely to benefit the “midst and above meager”. Hulme, David and Mosley display that when loans are connected with a growth in assets, when borrowers are encouraged to invest in low-risk income generating activities and when the very poor are cheer up to save; the vulnerability of the very poor is reduced and their poverty case elevate. Nevertheless, they as well show that when MFIs like the Grameen Bank and BRAC secured credit to very miserable families, those household were capable to increase their gains and their property.

Johnson and Rogaly in 1997 also consult to examples where savings and credit diagram were capable to meet the needs of the very poor. They state that microfinance specialists are starting to view improvements in economical safety, during than income advocacy, firstly in poverty reduces (ibid.)

Ergo, whereas much dispute remains about the effect of microfinance projects on poverty, we have looked that when MFIs figure out the needs of the poor and attempt to meet up with these needs, projects can have a positive effect on reducing the powerless, not only of the poor, however of the poorest in society.

Littlefield, Murdugh and Hashemi in 2003 state “microfinance is a critical contextual element with strong influence on the accomplishment of the MDGs...microfinance is unitary between development interference: it can serve social profits on an ongoing, constant basis and on a great scale”. Simanowitz and Brody in 2004 and also IMF in 2005 have interpreted on the crucial role of microfinance in reaching the Millennium Development Goals. They state,

“Microfinance is a joint strategy in achieving the MDGs and in building global financial systems that attach the needs of more weak people”. Adverting to different studies, they display how microfinance has performed a role in extirpate poverty, elevating education, empowering women and elevating health.

Berger and Humphrey in 1997 revise of almost 130 efficiency studies of financial institutions involving commercial banks and expound that efficiency assessment of financial institutions in 21 countries other among studies owing to use of diverse methods in different countries. They discover that the different efficiency methods do no necessary yield consistent results and nominate some ways that these principles may be recovered to adduce about findings that are longer consistent, correct and hand by.

Avkiran in 1999 used two DEA models, taking interest expense a non-interest expense as inputs and interest income and non-interest income as outputs of the models, to estimate the efficiency of the Australian banks. He recovers that efficiency rose in the period of deregulation and that receives banks are more efficient than aim banks.

Chen(1998) assayed the strategic efficiency in the 34 Taiwan`s commercial banks by usage DEA model that exhausted staff engaged and interest cost as inputs and loans, non-interest income, the bank assets and investment interest revenue as outputs. They recovery that the banks with higher efficiency don`t needs effective.

Al-Shammari in 1998 made the examination of comparative strategic efficiency in Jordanian banks during years 1991-1994, exercising a modified variant of DEA. They retrieve that mostly of banks were effect least.

Grigorian in 2002 trained DEA for 17 European countries and discover that foreign banks are efficiently than domestic ones.

Matousek in 2005 controlled the cost efficiency in the Czech-banking system in 1990s out of claim of distribution free approach pattern. They discover that the efficiency of the Czech-banking sector increases during the assayed period. Results displayed that foreign banks were on average more efficient than the other banks, though their efficiency was commensurate with the ‘good’ small banks’ efficiency in early years of their operation. Based on the appreciated results it was indicated that early privatization of state-possessed commercial banks and more liberal politics to foreign banks in the early stage of transition would have boosted the effectiveness in the banking system.

Weill in 2003 discovers positive effect of foreign estate on cost effectiveness of banks in the Poland and Czech Republic. His completion was that the level of innocence of the banking sector to foreign capital has a positive influence on performance. It can also have a positive impact on the macroeconomic satisfaction of these countries, just because of the important role of the banking sector in the financing of these economies.

Fries in 2004 found that banking systems in which external-owned banks have a larger share of total assets have lower costs and that the sodality between a country's advance in banking reform and cost effectiveness is non-linear. Early stages of reform were associated with cost decreases, whereas costs incline to rise at more forward phase. They argued that private banks are more effectual than national-owned banks; however there are differences between private banks. The privatized banks with majority foreign assets were the most efficient and those with interior ownership are the least.

In the literature in area there are low figures of researches regarding the efficiency of banks in Romania made with the help of frontier methods.

Asaftei and Kumbhakar in 2008 founded on a panel-type set of data centripetal for the period 1996-2002 rating the cost efficiency of banks in Romania by consumption a model that compound the stochastic border analysis and the first function. The outcomes of the research tell that the cost efficiency of whole banks in Romania increases with the development of the normative framework and with the adjustment of the monetary policy to the market conditions.

Dardac (2008) in his study uses the DEA method to measure the comparatively efficiency of an indiscrete group of credit institutions and for the recognition of the factors producing inability, highlighting the impact of the performance of management on bank effectiveness.

Bergerin 2003 investigated the analysis of profitability, performance and efficiency of banks is a result of the mutations at the level of the structure of the financial services industry and of the progress recording at the level of financial and non-financial engineering. The evaluation of the productivity of the banking sector presents a great interest for public prestige because of an increase of the efficiency of banks can bring to best bank performances, to the reduction of costs and the improvement of the quality of services, as well as an improvement in the allocation of resources and the increase of productivity at the level of the entire economy.

In 2004 Casu examined the increase of productivity contributes; furthermore, to the growth of the accuracy and durability of the banking system assure that the achieved profits are

channeled towards the increase of equity and of provisions that permit a better suction of shocks. In addition, an analysis of the discernment in productivity at the level of certain states can bring to the recognition of the potential success or miscarriage of some legislative enterprises.

Wright (2000) states MFIs stems from the proof that microfinance projects “backfire to achieve the poorest, commonly have a limited effect on income...lead women into greater dependence on their husbands and fail to assure additional services dispersedly needed by the poor”. Furthermore, Wright says that many elaboration practitioners not just detect microfinance inappropriate, but that it in fact diverts financing from “more printing or important interference” like health and education (Wright G. , 2000).

Navajas in 2000 indicate that there is a danger which microfinance can siphon funds by other projects that may help the poor people. They state that governments and givers should consider if the poor earn more from microfinance, than from longer food aid or health care for example. So, there is a necessity for all inclusive in microfinance and development to notice what precisely has been the influence of microfinance in fighting poverty.

Chowdhury in 2004 analyzed substantial debate stays about the efficiency of microfinance as a tool for immediately reducing poverty and about the characteristics people profits.

Sinha and Sinha in 2008 argue that it is so difficult to measure the influence of microfinance programmers on poverty. This is so her argument, that money is fungible and ergo it is difficult to insulate credit influence, but also just because the definition of ‘poverty’, how it is measurement and who compose the ‘poor’.

Nevertheless many microfinance procedures today are being focused on micro-credit which provides for the poor small amounts of credit with expectation of improving the productivity labor and thus deliver to increase in household incomes.

CHAPTER TWO: THE MICROFINANCE AND THE HISTORY OF MICRO FINANCE

2.1 WHAT IS MICROFINANCE?

Microfinance is kind of financial development form that mainly has focus on mitigating poverty through supplying financial services to the poor. Mostly when people think of microfinance they see as being micro-credit i.e. of lending small quantity of money to the poor. Microfinance also has an extensive prospect which includes insurance, savings, and transactional services.

Microfinance is an economic progress approach which provides financial services, by institutions, from low-income clients, where the market falls through to assure appropriate services. Very extensively, it adverts to the provision of financial products marked at low-income groups. The financial services include insurance, savings and credit products. Series of neology has appeared from the provision of these services, name micro- insurance, micro-savings and micro- credit. Services provided by the Microfinance Institutions (MFIs) include the credit saving and the insurance services. A lot of microfinance institutions as well provide social services such as organizational support, training and education, health and skills in file with their evolution objectives.

2.2 CHARACTERISTICS OF MICROFINANCE

Microfinance lends entrance to financial and non-financial services to people with low-income, who wish to access money to start or develop an income evaluation activity. The loans and savings of the poor individual clients are small. Microfinance came into being from the assessment that micro-entrepreneurs and some poorer clients can be 'bankable', that is, they can repay, for both principal and interest and also make savings, provided financial services are importunate to fits their needs. The Microfinance as a regulation has established financial services and products that both have facilitated low-income people to ripen clients of an intermediary bank.

2.3 THE HISTORY OF MICRO FINANCE

In early 1700s when Jonathan Swift, an Irishmen, had the idea to form a banking system that would achieve the poor, the history of microcredit stated.

He established Irish Loan Fund, which lend small short term loans to the poorest people in Ireland who were not being attended by commercial banks, in trust of creating wealth in the rural areas of Ireland. This idea took years to catch on, but then extent quickly and extended globally. By the 1800's, the Irish Loan Fund had over 300 banks for the poor and was serving over 20% of the Irish population. In the 1800s similar banking systems shows across Europe by marking urban and the rural poor. Friedrich Wilhelm in the Raiffeisen of Germany achieved that the poor farmers were being taken advantage of by loan sharks. He accepted that under the current lending system, the poor would never be able to create wealth; they would be stuck in a cycle of borrowing and rewarding without ever making personal economic development. This system was different than previous banks because it was maintained by its members, ensured logical lending rates and was established to be a sustainable outfit of *community* economic progress.

The idea of credit unions introduces globally and by the end of the 1800s, these micro credit systems had spread-out from Ireland to Indonesia. On the turn of the century identical systems were discoursing in Latin America. While in Europe the credit unions were owned by its members, in Latin America the institutions were owned by the government or private banks and they were not as effective as they be present in Europe. Whereas in 1950's donors and government subsidies were used to fund loans primarily for agricultural workers to encourage economic growth but these attempts were brief lived. Loans were not reaching the poorest farmers; they were often ending up in the hands of the farmers who were preferably and didn't need the loans as critically as others. Funds were being lent out with an interest rate much below the market rate and there were not enough funds to make this applicable in long term. Those loans were infrequently being repaid, so the banks' capital was finished quickly and when the subsidized funds to get out, so there was no money for the agricultural economy in format of micro credit.

In the 1970s the biggest developments in micro finance occurred. Grameen Bank in Bangladesh started off as an action based research project by a professor who leaded an experiment credit schedule. That nonprofit program distributes and improved thousands of loans

in hundreds of countryside. The professor tested to spread this idea to other bankers in Bangladesh, but others were afraid that it was too risky as a business and turned down the offer. The Grameen Bank is now one of the world's largest micro finance institutions with more than 4 million moneylenders. From 1990's lenders had used how to increase loan repayment rates in order to make micro finance institutions sustainable. They aimed women as borrowers and gave them money to invest in businesses that would increase their income and loaded very low interest rates so borrowers could repay back their loans and will still have money for themselves, for i.e. to create wealth. This is when the term micro finance was fabricate to replace micro credit, just because the new institutions act more than produce loans; they were suggesting other financial services to the indigent as savings accounts, insurance.

2.4 HOW MICRO FINANCE WORKS

What makes the micro finance an operative way to create wealth? People live in the poverty battle to get the money needed for basic things. They frequently trade for things they need further than purchase them with currency. If they may have any money they aren't likely to have much excess after paying for things they entirely need to survive.

There is no possibility to save and accumulate wealth, without any extra money. Poor people aren't always attended by banks each because they are not plummy candidates or just because they have no money to put into the bank in the first place.

Many micro finance institutions invoke their members to maintain very small amounts of money in their bank before they are permitted to take out a loan. This isn't so they have money to claim as an asset; further it is to teach them how to save.

These loans are used to buy materials to sell for a profit, to buy materials to extend their business, or to purchase land to raise animals. A lot of borrowers are entrepreneurs trying to expand the community's production opportunity by following Adam Smith's concept of specialization and division of labor. Rather than all members of the village producing their own clothes, discovering their own food and by manufacturing their own goods, these entrepreneurs are using their skills to provide a good or service for the whole community. When these entrepreneurs specialize in something, they authorize other members of the community to stop making that good for them and specialize in diverse things. Whiles', the community extend and has more potential for production contrast to everyone providing for themselves. When a loan

and its interest are repaid back, the micro finance institution has expanded its capital and is capable to perform larger loans to the community. Sometimes, the same people come back and take larger loans to onward their business.

2.5 HOW TO REGULATE MICROFINANCE?

Firstly, before starting the analysis of different issues that are getting into account for implementing a well regulatory framework, it is significant to make differences between prudential and non-prudential arrangement. Regulation is discretionary when it rules the financial soundness of qualification mediate⁷ businesses, duly to preclude financial system inconstancy and waste to small, straightforward depositors. It is significant to state that not all regulatory purposes need a prudential treatment. Actually, non-prudential regulatory problems include consumer safeguard; fraud and fiscal crime prevention; interest rates politics; tax accounting regulation and authorization to land (Rosenberg, 2003)

In Microfinance sector Non-prudential regulation is an accessory but not significant particularly too prudential regulation which is very sensitive to consumer defense and interest rates politics just because it concert commonly with low-income people.

2.6 WHY REGULATE THE MICROFINANCE SECTOR?

Primarily, the main justifications of regulatory interventions are market malformations.

On the financial market, malformations are identified substantially by “adverse selection” and “moral hazard” behavior as a result of asymmetric distribution of information between the parts. These terms will be explained lately in this thesis. Microfinance institutions and their business, comparatively as a new part of the financial system, deputize a set of specific characteristics that embody the need for regulation and supervision even onward.

Rosenberg in 2003 determine regulation as the set of compelling rules governing the behavior of legal entities and individuals, whether they are adopted from a legislative body for laws or an executive body for regulations. According to Chavez in 1993 the government can't be the exclusive probable regulatory institution, showing by the term self-regulation of groups of institutions per union or the systems furthermore.

In 2003 Rosenberg provides an individual regulatory framework for Microfinance activity may well have the effect of increasing the volume of financial services delivered and the

number of clients served. Recommended not over-specifying this structure since it may have a negative effect on innovation and competition and Valenzuela in 1999 can drive to regulatory segmentation. Supervision, in disparity, refers to the external oversight aimed at determining and enforcing reconciliation with adjustment. It is implemented by examination practices and monitoring mechanisms which determine the real risks faced by the financial mediate. Actually, regulation and supervision are supplementary. Venezuela (1999) gives a clear message sprout for situations where regulators are not able to supervise all regulated financial institutions: It is better not to regulate what you cannot effectively supervise. Valenzuela prove that the size of deposits or assets can be appreciated considering the total size of the market and the institutional scenery in a specific country. Moreover, regulation is considered very important for MFI's which want to expand their founding sources and improve their appearance in front of donators and institutional investors.

Medgeher in 2002 modulate institutions are watched as entrusting activities where to invest money, and furthermore, donors prefer to allocate funds in licensed and supervised institutions where at least fraud and illegal use of money are prohibited and monitored. In addition, supervision is required from MFI's in order to promote their self through rating from private agencies and disclosure through prevalence of their performance evidences, social worth and spread. Medgeher regard to regulation, claim the fact that the microfinance extension needs a strong structure of rules able to deal with efficiency in the impressments of funds, secure suitable risk management and customer security as a first impersonal. In condition of funds impressments, deposit receipt activity sounds to be the main reason for microfinance regulation. Vogel(2000) admit that this source of funding appears to be inexpensive than commercial loans and ensures decision-making liberty, attracting large number of institutions. It as well permitted economies of range between landing and deposits impressments.

However, taking deposits from the general public embodies extra risk in the activity of Microfinance. The risk displayed by small and unlearned depositors which might waste their savings just because of the bad management decisions. In 2003 Rosenberg founded the soundness of the overall national charge system, in occasion of small asset microfinance institutions, in most of the cases is not directly affected as may be from the failure of an important commercial bank.

Further motivation for a convenient regulatory structure is the impact in sustaining the foundation of new MFI's or elevating the performance of the existing institutions.

By regulation of microfinance institutions in Albania it can be helpfully for people with low income in our country to have their own small business and own their income to fulfill the necessary needs of living conditions.

2.7 IS MICROFINANCE A POWERFUL TOOL TO FIGHT POVERTY?

Microfinance is about lending low-income people entrance to financial mission, classically by borrowing little sum of money to people who generally would not be capable to lend from conventional financial institutions, mainly because bank don't attend those who cannot contribute traditional collateral and with no credit story.

For those micro lending's, microcredit is frequently just the way to borrow money at sensible interest rates in disparity to the higher interest rates loaded by unofficial lenders or loan sharks in developing nations.

Nevertheless, as we mentioned priory, poor people don't need only loans; they must need entry to a whole series of financial commodity as health insurance, saving and money transference serving.

Hulme, David, Mosley and Paulin 1996 surveys insinuate that credit is just one factor in the band of income or production. There are other flattering factors, critical for making credit more fruitful.

Between them, more significant is receiver entrepreneurial skills. Findings of the MIT studies from Banerjee in 2005 also score this factor. More despite people don't have the fundamental education or qualifications to comprehend and manage even low practice activities. They are mainly risk-averse, frequently frightening of losing whatever few amount, and combating to live. This doesn't mean that they don't do with their self's (e.g., as proposed by so ungainly deflection labor supply curve).

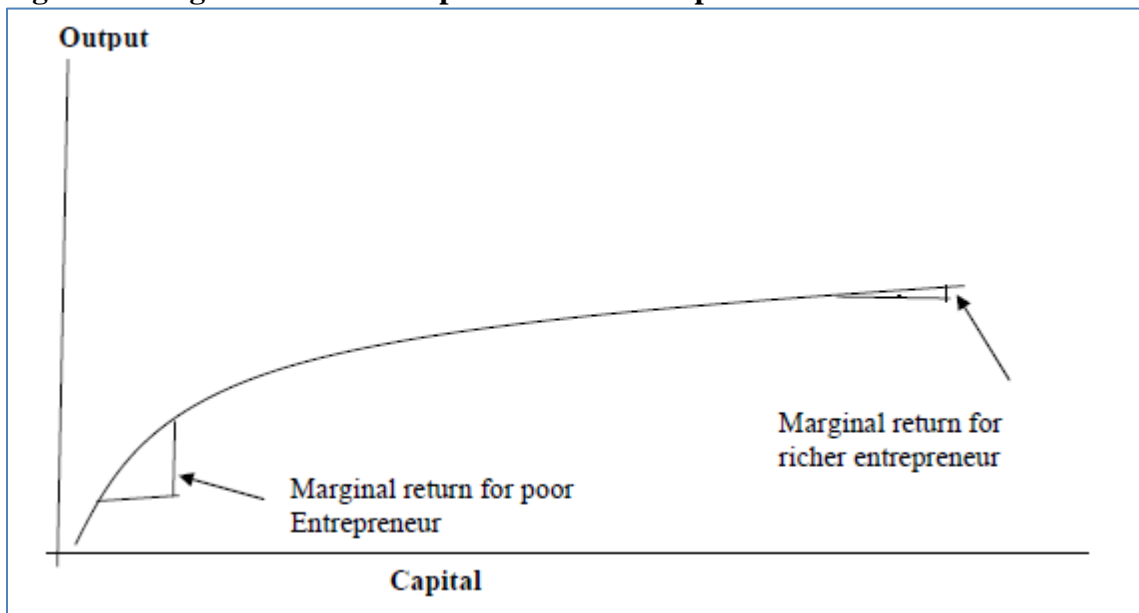
2.8 LENDING TO THE POOR AND THE CHALLENGES TO OVERCOME

Decreasing marginal recovery to capital propose that enterprises with comparatively little capital should be capable to earn overhead marginal returns from an extra unit of capital invested

that enterprises that already have a large amount of capital. This is derived from the strict concavity of the production function as pictorial in figure 1.

Owing to the same concept of the precisely concavity production function it must be the case that destitute entrepreneurs have the greatest return on the unit of capital than the wealthy undertaker and therefore the poorer undertaker would be glad to pay higher interest rate per supplement unit of capital. This type of logic contributes a functional interpretation to why microfinance interest rates are high and assures a rational event for the departure of usury regulation duly to set interest rates that mirror not only the capability to repay but also the danger of bearing with meager borrowers.

Figure 1: Marginal returns to capital with concave production function



Source: De Aghion and Morduch (2005)

The rule of diminishing returns to capital in substance means that little undercapitalized project are waited to have overhead marginal resolution from extra units of capital investment in their enterprises and so their capability to pay elevated interest rates per unit of capital *ceteris paribus* must be undisputed. By this case, it would be consequent to expect *ceteris paribus* that banks would certainly lend to these groups of entrepreneurs not just out of social disturbance but also out of the alright business perspective.

The fact of matter is nevertheless very diverse. Poor undertaker has been for a long time confined by nominal credit institutions. The usual perception for the poor micro entrepreneurs is that they are dangerous and too expensive to lend to. Morduch, Jonathan and Beatrizin

2005 indicate that the problems of borrowing to the poor has been embittered by information asymmetries, and laws such that banks cannot use proper interest rates to reimburse for the danger and overloaded expense. Proving to deal with issues originating from information asymmetry can deliver to other issues like credit rationing, the adverse selection and moral hazard. Those issues are not inevitably enclosed to unofficial financial institutions however they also influence the official financial institutions.

a) CREDIT RATIONING

Access to credit does not insinuate that the demand for credit will be content. Lenders design how much credit is allocated to clients based on the probability of loan default, often resulting in credit rationing. Credit rationing in this sense refers to disability for financial institutions to grant as much loans as may be demanded by the clients founded on a set of criteria. The probability of default may be affected by a number of factors which include the expected returns of the project, the dates of the loan, market imperfections and borrower characteristics. If the expected return is less than the principal loan amount plus interest (the terms of the loan), next the probability of default will be high. Into such scenario, the optimal lender's decision will be each to ration the borrower by granting a smaller amount than originally applied for or to totally reject the loan application.

b) ADVERSE SELECTION

Adverse selection happens when the seller values the good highly than the purchaser, as long as the seller has a better meaning on the value of the good. Proper to this asymmetry information, the seller is reluctant to part with the good for any price lower than the value the seller knows that it has. From different view, the buyer, who is not trusty of the value of benefit, is reluctant to repay more than the value of the good expected, that takes in account opportunity of getting a bad lump. This *asymmetry information prior to the transaction* precludes the transaction from happening. If seller and buyer were unsafe of the quality, they must be prepared to trade the good founded on expected values. Identically, if both seller and buyer were unsafe of the quality, they must be prepared to trade the good founded on its present value.

The Information asymmetry in credit markets flow because borrowers have better information about their potential risk of default than the lenders. Lenders may choose to increase the lending rate (interest rates) to compensate for the higher cost of information gathering or the

level of reliability of the information. Also in many instances in the financial institutions interest rate may play the role of a screening device where

Okurut in 2004 tells that investments with high returns may attract lower interest rates than investments with lower returns as the lenders anticipate default rates based on business returns. Lead to the problem of adverse selection. It occurs when borrowers with secure and low default risk) projects determine to select out of the credit market in the face of crescent interest rates, whereas more risky projects with potential higher returns but with higher probability of default are attracted into the market.

Baydas, Meyer and Aguilera in 1994 have shown that imperfect information may disqualify interest rates from performing the clearing of market role. Asymmetry in information is more complex in informal credit markets so long as the fact that the credit histories of borrowers are not documented and pooled. Given the huge number of prospective clients in the informal financial institutions, the cost of acquiring this information is prohibitively high, both in terms of time and financial resources. Safety is another complication. If lenders try to collect such information from the potential borrowers themselves, borrowers are likely to give an exaggerated view of their creditworthiness.

c) MORAL HAZARD

Moral hazard in the formal financial institutions could also arise as lenders try to deal with the problem of information asymmetry by manipulating interest rates so that they reflect the true costs of information gathering and reliability. A rise in the lending rate may create a moral hazard problem, where in order to compete for loans, borrowers with low risk projects shift to high risk projects that promise higher returns but with high probability of default.

In 1990 Hoff and Stiglitz shows that to solve the problem of moral hazard by the formal financial institutions, lenders faced with information asymmetry and lack of control over actions of borrowers tend to design credit contracts that will induce borrowers to take actions that enhance the likelihood of repayment and also attract low risk borrowers. The lenders can discover it optimal to load lower than equilibrium interest rates and use non-price mechanisms like collateral to ration credit. The use of collateral will mean that poor people who may have the potential to invest in a viable project will not be able to access credit from formal financial institutions because they may lack collateral. Also the poor may also need credit for other non-

investments uses, but as long as they have no collateral then they will be shunned by the formal financial institutions.

Given the anterior problems facing both the formal and the informal markets, the basic question is: how can we understand the reality of credit markets, and what kinds of interventions are required to realize the predictions of the concave production function? This would be useful in inventing policies that make it rational that in reality the poor get financial services and indeed their enterprises have higher returns per unit of capital.

CHAPTER THREE: MICROFINANCE IN ALBANIA

For decades, Albania has been under one of the strictest communist regime in the entire block of Europe. The collapse of communism in 1991 was followed by different crises, in social, economic and cultural crises. In 1990s, microfinance has been a vital part of the development and economic surroundings of Albania. By donator support and with a firm engagement from the government through the period, microfinance has expanded and consolidated into established part of the financial market. Microfinance institutions (MFIs) have entered in Albania in the early and mid-1990s all gratis of state supervision.

By this state supervision came beneath discussion in the late 1990s there was a solid substance of MFIs operating in Albania. The transition from communism to capitalism has proven to be very difficult, economy was growing at a certain level, until Albania the most infamously the rise and fall of ‘pyramid savings schemes’ collapse of 1997, when until to about 50% of the population lost their savings, which brought the country into a civil war. Even though no bank crashed during war, the loss of public confidence touched hardly the growth of banking sector. This healthy state of operations has, from the MFI point of view, been the headstone of discussions with the state authority for regulation and supervision of banking activity, the Bank of Albania (BoA). Under strong repayment levels MFIs have been capable to negotiate from a position of strength in order to receive a regulatory and supervisory system convenient to their needs.

Rural areas in Albania compose more than 80% of the territory, while the population livelihood and appealing in agriculture is 53%, the industry has roughly 20% of the Albanian GDP. The goal of government for the public policy has been to reduce poverty and to increase supportability for these areas. Commercial banks don’t work in rural areas for multiple reasons such as:

- There is an absence in the actual legal structure regarding the determination of “microfinance” and “microcredit”. This means that the potential clients are regarded high risk client from the starting because of a lack of information.
- People in the rural areas live in extreme poverty, so the cost of set up a branch in this village’s passed the possible future profits.

- The property rights in Albania are not well determined and assured by the government, most of the farmers cannot validate their ownership linking their house or land.

The reason against this is the fact that the lack of collateral actually makes the loans more unsecured and dangerous, so if the government aim is to provide entry to credit to low income people, there is a necessity to separate these institutions, their type, scope and the minimum capital needful to enter the market in order to have financial sustainability. Unprotected property rights are a bad incentive for both farmers and financial institutions, so there is a need from the government to guarantee property rights in order to provide incentive for the farmers to invest and also relieve access to credit because a legal and secured right is a real right which can be exhausted as collateral.

3.1 MICROFINANCE INSTITUTIONS (MFIs)

The term "microfinance institution" refers to those organizations that are determined by their commitment to help poor families, micro entrepreneurs and desolate women in gaining entry to financial services.

The MFIs differentiate from traditional banks since they marked innovative lending techniques in order to overcome all the barriers that low-income borrowers are facing such as lack of collateral and no credit history.

These techniques involve: small loans with onward lending, recurrent repayment installments and group lending. Those methods are part of resolution for the problems of asymmetric information that regularly leads to strategic and dissolute behavior of the borrower before and after the loan contract.

Especially, group lending is an appliance mechanism widely used in microfinance which reduces adverse selection and moral hazard track equal pressure and the intimidation of group approval against the individual borrower.

There are seven MFIs institution in Albania: FAF-DC, BESA, NOA, VISION FUND, ASC-UNION, PROCREDIT BANK, CREDIANS.

BESA Fund is one of the leading institutions in the microfinance sector in Albania. It begins in 1994 as an Urban Microcredit Department in the framework of the Albanian Development Fund. In 1999 BESA Fund was founded as a non-government and non-political

organization with the SOROS Foundation as the Founder. It respects with 46 offices all over the country, supplying financial services to the population in about 90% of Albanian territory.

The Besa Fund products involve small and micro business loans, consumption loans and youth loans Promoting micro and small enterprises sector in Albanian across the creation of a private self-sustaining Albanian Micro-finance Fund that finances micro and small entrepreneurs on a supportable basis.

The Clients of BESA Fund comprise people from all socio- economic status, involving unemployed and start- up businesses. BESA Fund also provides technical assistance for entrepreneurs including training and studies.

VisionFund Albania was established in 2001 below the umbrella of the World Vision Albania, a Christian non-governmental organization. Currently, it is owned and restrained by VisionFund International, the microfinance subsidiary of World Vision International, loaded with the oversight of all microfinance institutions within the World Vision. VFA respect in the rural communities of Albania, mainly in the areas served by World Vision Albania, lending on a daily basis and elaborating relationships with clients and their communities. VFA contributes micro loans to clients with small businesses, to help them earn access to capital and in turn relieve growth in their business. Furthermore, it helps assuring more jobs advantaging not only the client but the community as well.

As a micro-finance institution, Vision Fund Albania believes that a loan is a vital component to the poor entrepreneurs who want to start, expand and do well in their business and family life. Its main focus is on increasing the business individual lending activities, primarily in the areas served by WV Albania, whilst staying economically sustainable.

ASC Union is to furtherance financially and technically the Savings and Credit Associations which are village financial institutions, established and managed by the members with the aim of promoting productive activities in rural areas. Albanian Savings and Credit Union (ASC Union) is a voluntary union of individual Savings and Credit Associations, was created on 25 January 2002 on the basis of the Law on Savings & Credit Associations and licensed by Bank of Albania. ASC Union is a product of the first microfinance program in Albania. Invigorate by financial cooperative models like Raiffeisen and other models, it is based on Savings and Credit Associations (SCAs) that have a strong social stemming in local communities. Clients of ASC Union are residents of the rural areas which are members of Savings and Credit Associations.

The First Albanian Financial Development Company (FAF-DC), lately founded as the successor of the Mountain Areas Finance Fund (MAFF), 100% owned by the Republic of Albania, and represented by the Minister of Finance of the Republic of Albania.

The FAF-DC, the Mountain Areas Finance Fund (MAFF), was established in 1999 as a Government owned foundation, with the status as a non-bank financial institution, within the framework of the IFAD loan financing the Mountain Areas Development Programme (MADP).

The original mission of MAFF was to contribute to the economic growth of the commonly poorer mountain areas of Albania by providing access to convenient and sustainable financing of micro, small and medium enterprise (MSME) customers' with investment needs and business objectives.

Since its establishment, MAFF has prosperously responded to its mandate and developed into a resistant and sustainable financial institution with a loan portfolio of good quality, and with a durable position among private clients and SMEs in rural and mountain areas of Albania.

ProCredit Bank Albania is part of the wider network of ProCredit banks which exist in 22 countries in Southeast Europe, Africa and Latin America. It was founded in 1995 as the 'Foundation for Enterprise Finance and Development' (FEFAD) with 100 percent of its share capital.

ProCredit Bank Albania has obtained a EUR 5 million loan from the European Fund for Southeast Europe (EFSE), a Luxembourg based microfinance fund. The loan is split into two components with EUR 2 million for Energy Efficiency Housing Loans and EUR 3 million for Rural Loans. ProCredit Bank will be the first bank in Albania to offer these specialized energy loans which are aimed at helping families and businesses reduce their energy costs by financing energy-saving technologies. The bank also hopes to stretch its outreach to small and medium enterprises (SMEs) in rural areas as the Rural Loans will be objected towards small-scale agricultural clients.

According to the MIX Market, the microfinance information clearinghouse, six microfinance organizations operate in Albania, involving ProCredit Bank. The consolidated Gross Loan Portfolio of these six organizations is USD 298.2 million , based on latest available financial information.

ProCredit Bank Albania is part of the wider network of ProCredit banks which exist in 22 countries in Southeast Europe, Africa and Latin America. It was founded in 1995 as the

‘Foundation for Enterprise Finance and Development’ (FEFAD) with 100 percent of its share capital.

CREDINS bank is established as the first private bank with 100% Albanian capital, a milestone in the story of financial and economic progress in Albania. The elected slogan “We do the best for you, because we speak your language”, has been the motif and a real value of our business throughout the years.

In the first quarter of 2013, Credins celebrates its 10th anniversary! Credins Bank marked an agreement with the European Bank for Reconstruction and Development (EBRD) for €10 million in loans for on-lending to provincial small and medium-sized enterprises and sustaining trade finance solutions for clients of the bank.

NOA as a microfinance institution is to provide credit and financial services to the poor and unbankable entrepreneurs in Albania.

In this thesis will be analyze just for five of them because there was lack of available data for Credians and Vision Fund for the period of 2002-2014.

3.2 POVERTY IN ALBANIA

“Poverty is the deficiency of all human rights. The disappointment, hostility and excitement elaborated by abject poverty cannot support peace in any society.

It is a Compound phenomenon and is connected not only to the gaining or consumes, regarded as monetary dimension of poorness, however to non-monetary dimensions like health, education, gender equality etc. Poverty is reasoned by many circumstances and adduces certain effects which impact the lives of people regard to be poor. The impact of the factors differs from one country to another, just because many nations have different progress opportunities.

The factors influencing poverty degree aren’t just economical, however political, social, cultural etc. The measure and the analysis of poverty must identify the poorness, the type and level of poverty and its designing, to appreciate the effect of policies and prosperity programs at the poor. Mostly, poverty can be phrased as abolition in welfare. Poverty may be designate both in terms of gains removal and insufficiency in a number of non-income sizes of welfare like health, education and entry to fundamental services and subtraction. This thesis has in focus also in the absolute poverty. Absolute poverty is determined as disability of people to fulfill their essential needs. Extreme poverty means the gravest state of poverty, wherein people can’t meet

their fundamental needs to survive, such as water, food, clothing, house, health care and education. World Bank characterizes extreme poverty as living on the daily income of US \$1 or less, to define the number of extreme poor people around the world. It has been evaluated that somewhere 1.1 billion people live beneath these conditions.(Khandker S. R., 2005)

The measure of absolute poverty is the headcount index rate, which tells the number of people under the poverty line. There inhere different branch of poverty. In Albania situation, wherein the extension of the informal sector makes the assessment of incomes difficult, more convenient is the poverty line founded on consumption expenses. In Albania the poverty line has been appreciated equal to 4,891 Lek for capita per month. A family is considered as poor if their per capita intake cost falls below the minimum level (the poverty line).The Economical and socially evolution is necessary for achieving poverty reduction.

By maintaining high rates of economic growth premises are to lower poverty. In 2012 Albania economical increase ease up down harshly. Sequential an average real GDP growth rate of 3.4% in the foregoing three years, the Albanian authorities rating that annual real GDP growth was 1.6% in the 2012. The deceleration expresses low consumption. Whiles, the mean per capita real consumption was landing by 8% contrasted with 2008, from Lekë 9,731 in 2008 at Lekë 8,939 in 2012 (Instat) and (World Bank).

Poverty in Albania is a multifaceted phenomenon. Whereas higher in rural areas, poverty in urban settings has risen essentially in recent years. Using the methodology marked by the 2002 Living Standards Measurement Survey, the 25 percent of Albanians were under the poverty line. Fundamental infrastructure and the public services haven't kept rate with these changes. Especially, public order and entrance to health care have sprouted as areas of great concern in hourly populated per-urban areas. High unemployment and underemployment are considered main causes of poverty. The poor circumstance of basic infrastructure contributes to Albania's low standard of living and is a major insurance for both domestic and foreign investment in the country. After years of disregard of the country's infrastructure over the period of central planning, situation along deteriorated after 1997, when the demolition of widespread pyramid investment.

Domestic insecurity and disappointment had prompted many youth Albanians to emigrate. Remittances from these emigrants, likewise earnings from criminal activities canalled through

southeastern Europe, were starting to flow into the country through informal and often illegal channels. In association with these inflows, the government corruption is grown.

From 2002 to 2008, after persistent reduction of poverty, the LSMS 2012 data indicated an overall growth of poverty in Albania from 2008 to 2012 and the up growth of poverty was over headed in urban area (Instat) and (World Bank). To expand strategies to reduce poverty should be identified the element that are tightly connected with poverty and that could be affected by policy differences. The designing of poorness must be the macroeconomic or the microeconomic. Micro credit is an ingredient of microfinance and is the duration of small loans to entrepreneurs, which are too destitute to qualify for conventional bank loans. Especially in developing countries, the micro-credit enables poor people to engage in self-employment projects that generate income, so permitting them to elevate the standard of living for families and themselves.

3.3 MICROCREDIT FOR POOR FAMILIES

Micro credit is an ingredient of microfinance and is the duration of small loans to entrepreneurs, which are too destitute to qualify for conventional bank loans. Especially in developing countries, the micro-credit enables poor people to engage in self-employment projects that generate income, so permitting them to elevate the standard of living for families and themselves.

Presently, micro-credit is the mutual form of loaning to the poor in so many parts of the world, particularly in the developing and in the transition countries. Micro-credit essentially means an alternative towards survival and alteration. This manner is reputed to be a big help in countries wherever lawful contracts with individual borrowers may not be engineering evenly, where juridical networks are slow, over burned and corrupted states, where poor have no more lawful collateral acceptable offers, and worthiness of credit history, just because no one deals with enrollment or its delivery.

Kola (2010) is focused on the microcredit donation on the social wellbeing in Albania. In this investigation, he fetches facts/figures regarding to some issues: being customer of microcredit companies bring positive differences in the living standards of microcredit program accessory and widely in their communities; being Microfinance Institutions client is connected

with greater disgestion of land relative to non-clients, which can be taken as important attestation of positive influence; he has find there is strong attestation of positive effect on the multiple dimensions of household income and enterprise performance.

Yunusin 2003 network has prosperously managed to witness along the past three decades, the position of creditors can be defended by shifting the accountability from the individual borrower to a union group. The conception of these bypass made to the legal gutter is entertaining and useful. Javier Gine, the World Bank's researcher scopes various experiments between clients of micro-credit in Philippines. His conclusion was that a credit network founded on individual accountability is capable to revoke new customers and making the existing ones happy. Poor people agree charge of the group, just because they know that's the way they have to borrow.

Morduch(2008) could have spent on the individual contracts, if they had another choice. Furthermore, the banks, if they have the possibility to find a resolution to their problem with the collateral, must prefer to do business with individuals, just because the formation and training of groups include an additional cost. Authentically, the model of tension group members is one amongst much other exchange collateral. Even in some developing countries, poor people are able to borrow small amounts, promised personal documents, like birth certificates, that have no market worth for lenders, however are important for borrowers.

Thus here is how many can be overtake by tackle of "survival". The actual revolution in finance that has not occurred yet in transition countries and developing countries, including Albania need be in lenders' rights. In the places like Thailand, China, India, Vietnam, South Korea, Mongolia, even in the Balkans and in some Soviet countries, the law doesn't permit you to define the collateral credit arrangement in general. The Laws and customs in many developing countries get in arbitrary limits collateral. This expenses entrepreneurial business. The attestation of "Dead capital" is a recognized debate in Albania. That's just because in the world yet there are changes between nations. In various countries, the creditors and the debtors are not permitted to enter in contracts wherein the application is placed on the road outward the court; in some other this flexibility is permitted, however not accessible to creditors to confiscate and realize collateral out of the legal lawsuit. The most marked countries have the credit systems elastic which authorize new creditors to check up on one's own whether is any contention or any complementary powers in relation to the property or stuffs that has been pledged as collateral.

The microcredit program is a good possibility to advance employment. The policies have established the appropriate infrastructure to back up the formation of the businesses invoking these funds. The project started on April 1, 2012 and the Albanian government assures a fund of 1.3 million Euro for the first two years.

As we mentioned above in the Albanian market there are primarily two groups of microfinance financial institutions, namely the commercial banks and the non-bank financial institutions. It's, nevertheless, value pointing out, that from the beginning, that the market was overload by the second group, i. e. the microfinance financial institutions. We see this not only in the very limited number of commercial banks operating in this market, however as well in the low surplus of credit expanded by the Albanian banking system. Thus, only ProCredit Bank has lending policies oriented for the agricultural sector, as well as some other banks like Raiffeisen Bank or National Commercial Bank that are involved at inconsiderable levels. The necessity of the operation of microcredit institutions arose as a consequence of hesitation of banks to grant microcredit to farmers in rural economies. Microcredit extended together by five non-bank financial institutions operating in this market, occupies a negligible percentage of the portfolio given to farm economy from through the financial system (banks and non-bank institutions). Expected developments make most optimistic the increase of the role of these financial institutions. Albanian agriculture currently faces a lot of problems, where most of them have been patrimonial from the past. Several of these problems that make financing of the agricultural sector by the financial institutions even less attractive have to do with conflict or lack of right to land ownership (this problem also derived from the absence of uncertainty in the relevant legislation for agricultural land):

- the small size of farms,
- low levels of cooperation in all its forms among farmers,
- the need for an increase in the productivity use and competitiveness of the sector,
- the modernization of production technologies,
- need to further improve the conditions of quality, reproduction and product safety,
- the capacity building of sector actors including manufacturers, traders, institutional capacity building support and policy makers,
- harmonization of legislation and development policies with those of the EU.

The data show that Albania has approximately 350 thousand agricultural farms with employment rates of over 50% of the workforce. Agriculture contributes almost 1/5 of the GDP, while there is a noticeable stable increase of agricultural production by about 3% during the last years. The main problem is lack of financing that hinder the development of agriculture. Furthermore, the agriculture sector

in Albania has adapted less crediting than it has in other European countries. The private banking sector should work for the supply of capital for the agricultural sector. This is not simply because the agricultural sector should be developed for social reasons, but because of the rich lands of our country is a possibility, which so far has not been capitalized. In this case, there will be benefit not only for the agricultural sector and the rural residents, but also for the banks.

CHAPTER FOUR: DATA AND METHODOLOGY

4.1 THE DEA METHOD (DATA ENVELOPMENT ANALYSIS)

The data envelopment analysis (DEA) is a nonparametric method for measuring the comparative efficiencies of a set of same decision making units (DMUs) by connecting their outputs to their inputs and classifying the DMUs into managing efficient and managing inefficient. It established from Farrell's et al. 1957 work and was later familiarized by Charnes Cooper and Rhodes. The CCR model (Charnes, Cooper, Rhodes)asked to optimize the ratio of a linear conjunction of outputs to a lineal combination of inputs(Charnes, Cooper, & Rhodes, 1978).

To expound the fundamental premise of a DEA model, leave J to be independent DMUs (firms) whose presentation (or efficiency) should be appreciated relative to each other. First one initiate with a given set of inputs ratings (tell, M) and a specified set of output ratings (tell, N) that are mutual to all J firms. The comparative (managerial) efficiency then proceeds and shows how well a present firm (in the class of J firms) transform its M inputs to the N outputs, that is calculated as the ratio of a secure aggregated output mass to a secure aggregated input size. Suchlike aggregated input (and output) sizes are calculated by pick up a non-negative linear conjunction of the M inputs (and N outputs). Current idea, the input-oriented comparative performance (efficiency or strength) f_k of some firm k, $k = 1, \dots, J$, is then determine as the maximized amount of the last ratio, established over all potential aggregating multipliers suchlike that no firm in the group will reach a rational performance size greater than oneness. The CCR model is formed as follows:

(1)

$$f_k := \max_{u,v} \left(\text{Min}_j \left(\sum_{n=1}^N (x_o)_{nk} v_{nk} / \sum_{m=1}^M (x_i)_{mk} u_{mk} \right) \right),$$

$$\text{Subject to } \sum_{n=1}^N (x_o)_{nk} v_{nk} / \sum_{m=1}^M (x_i)_{mk} u_{mk} \leq 1, j=1, \dots, J$$

$$v_{mk}, v_{nk} \geq 0, \quad m = 1, \dots, M, \quad n = 1, \dots, N.$$

For the firm j, the (equable) level of input parameter per m is $(x_i)_{mj}$, $m = 1, \dots, M$, whereas that of output parameter n is $(x_o)_{nj}$, $n = 1, \dots, N$. Input and output non-negative

multipliers for the firm k are presented by variables u_{mk} and v_{nk} , relatively. In (1) model yields the maximum accessible efficiency for firm k , presented f_k , whether every other firm is also applying the same aggregating non-negative multipliers in accounting their input to output transformation ratios. f_k is called the DEA efficiency score of firm k . The efficiency point of less than one is directive of that it may be potential to reduce the class of input for the same class of output, whereas a point of 1 indicates the firm is DEA-efficient. From applying (1) to each firm irrespectively, the corresponding (maximum) comparative efficiency score for each firm is figured. The equivalent linear programming statement of model (1) is

(2)

$$f(k) := \max \sum_{n=1}^N (x_o)_{nj} v_{nk}$$

$$s. t. \quad \sum_{m=1}^M (x_i)_{mk} u_{mk} = 1$$

$$- \sum_{m=1}^M (x_i)_{mj} u_{mk} + \sum_{n=1}^N (x_o)_{nj} v_{nk} \leq 0, \quad j=1, \dots, J$$

$$v_{mk}, v_{nk} \geq 0, \quad m = 1, \dots, M, \quad n = 1, \dots, N.$$

To show that $\theta^k \leq 1$ hold out below the non-negativity of the monitored data is easy. More exactly, if $(x_i)_{m \in M} > 0$ for some $m = 1, \dots, M$, then, $\theta^k \leq 1$ holds. Reciprocally, consider $(x_i)_{m \in M} \leq 0$ for all $m = 1, \dots, M$. Next, the maximization in the (1) is not well-defined, and (2) is impracticable, in which case, we appoint a performance power of $\theta^k \leq 0$. For itemized discussions on DEA models that include negative inputs/outputs, see Lovell and Pastor and Portela, Thanassoulis and Simpson for sample. These units with the outstanding performances that are in the efficiency frontier are considered to be efficient, while the other ones are considered inefficient and an inefficiency score is associated to them (Lovell & Pastor, 1995), (Portela, Thanassoulis, & Simpson, 2004).

The resolution units found as being ineffective are inoperative in that at least one further decisional unit may elaborate equal amount of outputs with a smaller amount of inputs or bigger amount of outputs with the equal amount of inputs. The degree of efficiency at the degree of each decisional unit can't be higher than 1.

The DEA method is planned to maximize relative efficiency of each decisional component, whether that the averages thus attained for each decisional unit are as well probable for the other decisional units in the information set. In this sense are recognized both, the mentioned points – the relatively efficient purposive units (which determine the efficiency border and the internal points), – relatively inefficient units (which are below the efficiency frontier). DEA technique propose the required strategies to rise the efficiency of this unit, by mentioning the choose units best practices, whether a functional unit is inefficient. Hanging on these data, the manager may appreciate to what stretch a less efficient unit below uses or above uses safe inputs and that needs to be done to elevate the case.

The literature in this field certain versions were expanded, in the actual thesis we will appeal for the model nominated by Charnes, Cooper and Rhodes, an input-oriented model which had the hypothesis of continues efficiency rates to scale. The model is named the Constant Rate to Scale Model.

The models of DEA may be input or output oriented models. In the sample of the input oriented models, this method determines the efficiency frontier, seeking for each assayed decisional unit the maximum downsizing in the usage of inputs thus as to keep the level of outputs constant. In the sample of output oriented models the levels of the inputs are holed constant and the probable maximum for outputs is investigation. In case the productive

procedure is defined by a direct commensurate link amongst the size of inputs and the size of outputs, the two measurements of efficiency elaborate the same efficiency scores. Diversely the two approaches bring to other efficiency scores.

Charnes, Cooper and Rhodes nominate a model based on the distribution of different averages to inputs and outputs at the level of each decisional unit and in which the efficiency of each decisional unit can be received as settlement of the current problem:

(3)

$$\max_{w_o} = \sum_r u_r y_{rjo} / \sum_r v_r x_{rj0},$$

$$\text{Subject to } \sum_r u_r y_{rj} / \sum_r v_r x_{rj} \leq 1, j=1, 2, \dots, n;$$

$$u_r, v_i \geq 0, \quad r = 1, \dots, k; \quad i = 1, \dots, m$$

Wherein: – relative efficiency; – weights of output r and inputs i; x and y – the input and output vectors; n, m and k – number of DMUs, inputs and outputs relatively. 0 w i r v u,

The objective function consists in maximizing ratio (1). The restrictions of the problem impose that no decisional unit has that ratio improper. The model described above is partially linear, in which the numerator must be maximized and the denominator minimized simultaneously, and present an infinite number of solutions (Banker, Charnes, & Cooper, 1984).

This problem was solved by introducing a new restriction: $\sum_{i=1}^m v_i x_{i0} = 1$

(4)

$$\max_{w_o} = \sum_r u_r y_{rjo}, \text{ subject to}$$

$$\sum_r v_r x_{rj0} = 1$$

$$\sum_r u_r y_{rj} - \sum_r v_r x_{rj} \leq 1, j=1, \dots, n;$$

$$u_r \geq 0, \quad r = 1, \dots, k;$$

$$v_i \geq 0, \quad i = 1, \dots, m;$$

By presenting the additional inhabitation (2) that tackles the sum of all inputs is founded to be equal with 1, it was in fact inflicted to seek the solution that assure the maximum value for outputs mentioning the continuous inputs.

In case of linear programming problems, in total, the more deceleration we have the more difficult it is to resolve the problem. By the use of identical data the dual problem of the linear program can be made, for any linear program. The primary program and of the dual program have the same solution. DEA model case solves the dual program by reducing the number of braking of the model. The empirical analyses the dual program of the DEA model is exhausted more than the initial one. The linear programming of the dual problem (3) can be written so:

min θ subject to:

$$\theta x_{vi} - s\tau - \sum_j x_{uj}\lambda_j = 0, \text{ for } i = 1, \dots, m$$

$$-s\phi + \sum_j y_{rj}\lambda_j = y_{rj0}, \text{ for } r = 1, \dots, k$$

$s\tau, s\phi, \lambda_j \geq 0, j=1, \dots, n$

DMU o is efficient if and only if $\phi = 1$ and $s_i^- = 0$ for all i and r . o is weakly efficient if $\phi = 1$ and $\neq 0$ and (or) $\neq 0$ for some i and r in some alternate optima. $DMU^*\phi^*-is^*+rsDMU^*\phi^*-is^*$

The original (input-oriented) DEA method determines the relative efficiency measure for a DMU by maximizing the ratio of weighted outputs to inputs subject to the condition that similar ratios for every DMU are not greater than one. The outcome of resolving this problem is a deposit of efficiency scores less than or equal to one likewise a deposit of reference DMUs whose efficiency score is one usage the equal weights. This dodge has arrive to be known as the input-oriented method as its efficiency score is determined by holding outputs constant and appreciating to what extent inputs would have to be recovered(decreased) in warrant for a DMU to be regarded efficient. The efficient DMU has no potential development, while inefficient DMUs have efficiency scores by reflecting the development founded on the performance of other DMUs. So that design the relative efficiency scores, the linear program (LP) should be run for each DMU.

The DEA oriented-methods are described herein under the assumption of variable returns to scale. Slight modifications are necessary in order to accommodate constant returns to scale as described in (Charnes A. W., 1982).The input-oriented method chooses, for a specific DMU, the

multipliers that will maximize the ratio of outputs to inputs subject to the constraint that no DMU's output to-input ratio can surpass one.

According to the early literature on DEA analysis, the efficiency score, which will be equal to one if a DMU is efficient and less than one if a DMU is inefficient, is the proportion by which all inputs must be reduced in order to become efficient. This is a significant point: in the input-oriented method, not just the outputs not to be changed but also, for a given DMU, each input is reduced by the equal amount. So, for a special inefficient DMU, so that become efficient the equal level of outputs would need to be kept by using fewer inputs. Thus, the projection onto the frontier is, in essence, calculated by reducing the input dimension until the DMU achieves the frontier. Surely, in the case where DMU n is efficient, the efficiency score will be one and the inputs would not have to change. The reference place for a given DMU is the set of DMUs that are efficient by the usage of optimal weighting for the given DMU. In Mathematical way, the reference place is the set of DMUs with nonzero dual prices for the DMU constraints in the LP. Furthermore, these dual prices will sum to one in the variable returns to scale case and will be less than or equal to one in the constant returns to scale case. (Actually, in the constant returns to level case, the pedigree is definitely in the reference set and thus, receives a piece of the multiplier.)

In this case of the output-oriented BCC dual (Banker, Charnes, Cooper) wherein the objective is to minimize the ratio of inputs to outputs, the statement is contrary. In this case, the result is a set of efficiency scores greater than or equal to one as well as a set of reference DMUs whose efficiency score is one using the same weights. By the use of this method, the efficiency score is established by holding inputs constant and assessing to what extent outputs would have to be improved (increased) in order for a DMU to be considered efficient.

4.2 DATA AND MEASUREMENT ISSUES

The analysis presented below is based on a data set compiled by www.mixmarket.org.¹ The set contains comprehensive financial data on a large number of microfinance institutions

¹MIX Market (www.mixmarket.org) is a data center where microfinance institutions (MFIs) and sustaining organizations share institutional data to spread transparency and market insight. This swap allows users to constitute reporting standards, facilitate reporting burden, and prefer responsible investment. MIX Market assures analysis on

from transition economies. We use a Data Envelopment Analysis (DEA) to assay efficiency of the microfinance institutions in Albania. The Data Envelopment Analysis is a methodology for analyzing the relative efficiency and managerial performance of productive units, having multiple inputs and multiple outputs. We use two DEA models: input-oriented and output-oriented. DEA permit comparing relative efficiency of the MFI by defining the efficient institution as benchmarks and by measuring the inefficiencies in input combinations (slack variables) in other institutions to the benchmark.

In this study, the proposed DEA model was formulated using eight inputs and eleven outputs. The eight inputs include Financial expense/assets, Operating expense/assets, Operating expense/loan portfolio, Administrative expense/assets, Personnel expense/assets, Personnel expense/loan portfolio, Portfolio at risk/90days, Total expense/assets. The eleven outputs Capital/asset ratio, Average loan balance per borrower/GNI per capita, Financial revenue/assets, Yield on gross portfolio(nominal), Average outstanding balance/GNI per capita, Gross loan portfolio to total assets, Non-earning liquid assets as a % of total assets, Operational self-sufficiency, Percent of female borrowers, Personnel allocation ratio, Risk coverage.

In Albania, there are five main microfinance institution; FAF-DC, ACS Union, BESA, NOA, and Vision Fund, and many other small microfinance companies, enhancing the fact that there are growing number of banks supplying some of microfinance services, as for example microcredit service, as there are ProCredit, Credians etc. So these MFI provides loans primarily for the private enterprises that are payable and stable and their activity has a positive effect on the development of the area where they are located, by establishing new jobs, attempting to reduce the poverty and to elevate the living conditions of the people. In our study we use five microfinance institutions (MFI) for Albania between the years 2002 and 2012, obtained from the MIX Market.

Table 1: The definitions of inputs and outputs.

Inputs:	Outputs:
-input1 Financial expense/ assets	-output1 Capital/asset ratio
-input2 Operating expense/ assets	-output2 Average loan balance per borrower / GNI per

risks and opportunities in the markets where MFIs operate, Supported by proved social and financial performance data.

	capita
-input3 Operating expense/ loan portfolio	-output3 Financial revenue/ assets
-input4 Administrative expense/ assets	-output4 Yield on gross portfolio (nominal)
-input5 Personnel expense/ assets	-output5 Average outstanding balance / GNI per capita
-input6 Personnel expense/ loan portfolio	-output6 Gross loan portfolio to total assets
-input7 Portfolio at risk > 90 days	-output7 Non-earning liquid assets as a % of total assets
-input8 Total expense/ assets	-output8 Operational self-sufficiency
	-output9 Percent of female borrowers
	-output10 Personnel allocation ratio
	-output11 Risk coverage

4.3 ANALYSIS

There are two available definitions of efficiency hanging on the goal of the evaluation. One might be concerned in potential reduction of inputs (in DEA this is so called the input orientation) or the increase of outputs (the output orientation) in reaching technical efficiency. Hanging on the aim of the rating, the analysis assure different sets of peer groups to which to confront.

In this thesis we will present the measure of efficiency in five microfinance institutions and their dates to have a better outlook about their performance in Albania. We have taken FAF-DC, ACS Union, BESA, NOA and ProCredit Bank as the microfinance institutions and with respective dates which vary from 2002-2012. We take these MFI for the reason that they have more information with dates which will help us to make an efficiency measurement. When evaluating DMUs and efforting to get the necessary inputs and outputs, it comes across situations where data is missing. For some years we have predict the dates with approximately by having a look at the previous one, the remedies for absenting data are else very limited. So the model will be clear and we can explain more simply. For example Vision Fund starts having information in 2007 for this reason we chose Pro Credit bank which provides microfinance services. For the MFI ASC Union we predict the whole year 2002 as it was missing.

The DEA method is a determinist method based on linear programming which does not take into account the random errors and so does not require predefinition of the allocation of the error term. DEA approach differently from other analysis compares and analyze them year to

year. Firstly we will explain the input-oriented model applied in five microfinance institutions which have disposable data. After this we will apply the output-oriented model.

Rating of performance is an important activity in knowing shortcomings in leading efficiency and fabricating goals for improvement. Many activities can be phrased as a translation of inputs to outputs, where it is plummy to elaborate more outputs with leastinput. The data envelopment analysis (DEA), the most deputy method for efficiency evaluation, is a mathematical programming method for appreciating the relative efficiency of the decision making units (DMUs) with multiple inputs and multiple outputs(Farrell, 1957).

To have a better look of the situation table2 will present the efficiency measure of the five MFIs in Albania.

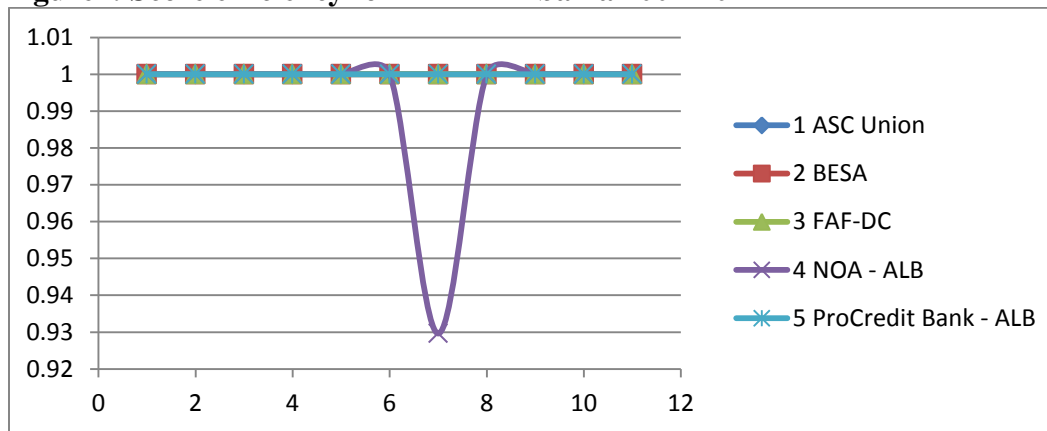
Table 2: The efficiency score of MFI (2002-2012)

NO	DMU	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
1	ASC Union	1	1	1	1	1	1	1	1	1	1	1
2	BESA	1	1	1	1	1	1	1	1	1	1	1
3	FAF-DC	1	1	1	1	1	1	1	1	1	1	1
4	NOA - ALB	1	1	1	1	1	1	0.92963	1	1	1	1
5	ProCredit Bank - ALB	1	1	1	1	1	1	1	1	1	1	1

Evaluation established on the efficiency score is immediately affected by the impact of input and output variables.

In Table 2 are shown the efficiency score of the five MFI for the period of year 2002-2012. The result as we can see from the table reflects such a fact that all of them are efficient as the score of them is 1. The score one means that these microfinance institutions are efficient in Albania during this period. There is just one inefficient score for NOA-ALB in year 2008 with 0.92963 which is lower than 1 and means inefficiency. Efficiency is not achieved for $DMU4 < 1$ and DMU4 is not efficient in that case. Moreover, the 2008 is the crisis year which can explain correctly the inefficiency of this (MFI).This can be obviously in the figure 2.

Figure2: Score efficiency for MFI in Albania 2002-2012



At the figure 2 we can see that almost all MFI are at the efficiency level 1, while in 2008 there is a movement that shows inefficiency at NOA-ALB with 0.9296.

4.4 THE INPUT-ORIENTED MODEL

As a result of larger data of inputs and outputs we have transpose them just to show evidently. Due to large of data, we will analyze those who have higher great and impact to measure the efficiency. Data are shown also graphically. So we can say that while the efficiency score of these MFIs is 1, they are efficient.

Table 3: Input-oriented projection for 2002

DMU	ASC Union	BESA	FAF-DC	NOA - ALB	ProCredit Bank - ALB
F. exp/asset	0.0041	0.0178	0.0001	0.0062	0.0301
Op.exp/ass	0.1534	0.1288	0.0989	0.1849	0.0512
Op.ex/loan.p	0.2321	0.1337	0.1327	0.2338	0.1222
Adm.exp/ass	0.0256	0.0454	0.0284	0.0954	0.0334
Pers.ex/ass	0.0286	0.0612	0.0677	0.0681	0.0325
Pers.exp/loan.p	0.0521	0.0564	0.0771	0.0812	0.072
Portf.90risk	0.0187	0.0132	0.1245	0.0201	0.0189
tot.exp/ass	0.1779	0.1893	0.1178	0.2343	0.2432
Cap/ass.ratio	0.6132	0.26	0.9667	0.8214	0.1058
Avr.loan/GNI	0.6554	1.5651	0.7454	1.0677	3.7719
Fin.rev/ass	0.1098	0.2088	0.1178	0.2439	0.0898
Yield.G.Portf	0.1089	0.2459	0.1502	0.2344	0.2004
Av.Outs/GNI	0.5015	1.6943	0.721	1.1496	1.0023
Gross.l/T.ass	0.7402	0.9885	0.7209	0.7591	0.3911
Non.earn.%ofT.ass	0.1939	0.1004	0.0961	0.0987	0.4512

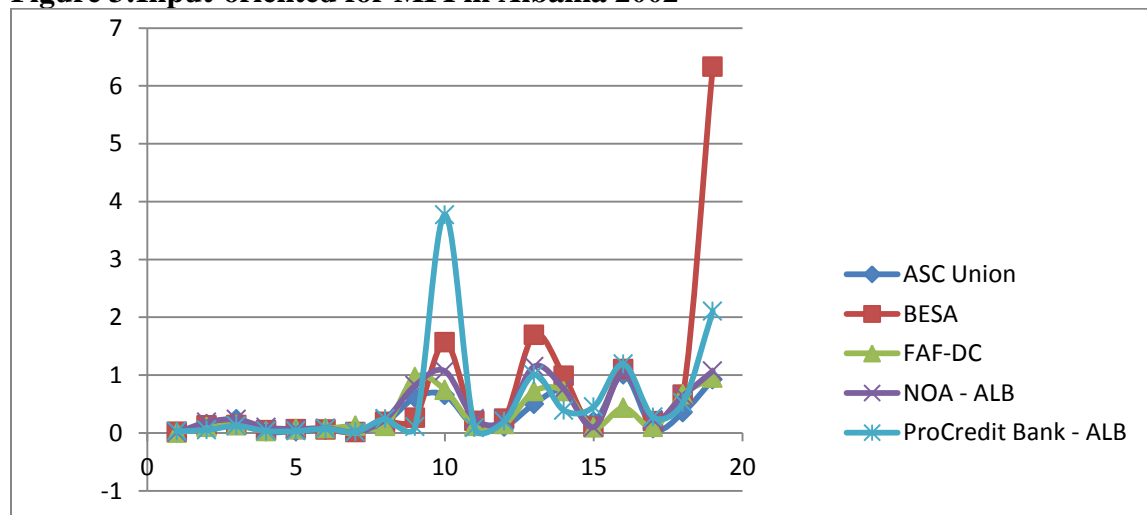
Op.Self-suffic	1.0098	1.1027	0.4327	1.0406	1.1887
%femal.borrow	0.0771	0.2001	0.099	0.2212	0.271
Pers.alloc.ratio	0.3539	0.6591	0.6676	0.6432	0.5219
Risk.coverag	0.9231	6.3313	0.9558	1.0699	2.1019

The input-oriented model for 2002 will show the performance of these MFIs institutions. There exist huge amounts of data given, so we will analyze some of them that make sense to the efficiency. Efficiency is measured by reducing the maximum inputs which still allow a given output to be produced. For ASC-Union the amount of operational self-sufficiency used could increase their output by 1.0098, showing that the output 8 in ASC-Union is underused in its effectiveness. To recall the output 11 for Besa, for the amount of output11 used could increase their input by 6.3313.

To impart the input 1 for the ProCredit bank, with the amount of input 1 used the ProCredit bank could increase their output by 0.301, displaying that the input 1 used in ProCredit bank is underused in its performance.

During 2002 the highest projection has input 1 in ProCredit-ALB with 0.0301 compared to other MFI projection. For the second input the highest projection has the NOA-ALB with 0.1849. We can see the movements of the curves also in the graph 3.

Figure 3:Input-oriented for MFI in Albania 2002



In figure 3 it can be seen that FAF-DC, NOA-ALB and ASC Union go almost on the same way. Anyway, it's seen an increase in the ProCredit and also in Besa fund which makes them more efficient for the year 2002.

The dual model is designed by evaluating a variable (the dual variable) to each compulsion in the primal model and establishing a new model on these variables. This is demonstrated below.

By the theory of linear programming it is recognized that values of the dual variables as a result of resolving a dual model are identical to the dark (shadow) prices in the primal model. The dual variables called Lambda(j) are so also the shadow prices linked to the constraints limiting the efficiency of each unit to be no greater than 1. It is also known that where a constraint is binding, a shadow price will be positive normally and where the constraint is non-compelling the shadow price will be zero. In the settlement to the primal model ergo a binding constraint insinuates that the homologues unit has an efficiency of 1 and there will be a positive shade price or dual variable.

Table 4: Dual prices in input-oriented for 2002

DMU	ASC Union	BESA	FAF-DC	NOA - ALB	ProCredit Bank - ALB
F. exp/asset	-33.420545	-55.3135	0	-30.524735	-31.638647
Op.exp/ass	0	0	0	0	0
Op.ex/loan.p	-3.71812	0	0	0	-0.01104
Adm.exp/ass	0	0	0	-8.138771	-0.585461
Pers.ex/ass	0	0	0	0	0
Pers.exp/loan.p	0	0	0	0	0
Portf.90risk	0	-1.16814	0	-1.706861	-1.416572
tot.exp/ass	0	0	-8.48896	0	0
Cap/ass.ratio	0	0	1.034447	0	0
Avr.loan/GNI	0	0	0	0	0.265118
Fin.rev/ass	0	0	0	0	0
Yield.G.Portf	0	0	0	0	0
Av.Outs/GNI	0	0	0	0	0
Gross.l/T.ass	0	0	0	0	0
Non.earn.%ofT.ass	0	0	0	0	0
Op.Self-suffic	0.990295	0	0	0.026069	0
%femal.borrow	0	0	0	4.39816	0
Pers.alloc.ratio	0	0	0	0	0
Risk.coverag	0	0.157945	0	0	0

Dual price decreases by the 33.420545 amount, increase the projection by 0.0041 for ASC-Union in the input 1.

Table 5: Input-oriented projection for 2003

DMU	ASC Union	BESA	FAF-DC	NOA - ALB	ProCredit Bank - ALB
F. exp/asset	0.0045	0.0206	0	0.0258	0.0337
Op.exp/ass	0.1475	0.1236	0.111	0.1594	0.0599

Op.ex/loan.p	0.2212	0.1227	0.1571	0.2018	0.1398
Adm.exp/ass	0.0279	0.0645	0.0315	0.096	0.0294
Pers.ex/ass	0.0381	0.0591	0.0621	0.0634	0.0612
Pers.exp/loan.p	0.0425	0.0586	0.0698	0.0803	0.0572
Portf.90risk	0.0172	0.0129	0.0867	0.01	0.0148
tot.exp/ass	0.1631	0.1594	0.1492	0.2017	0.0929
Cap/ass.ratio	0.4258	0.4908	0.0423	0.5402	0.0759
Avr.loan/GNI	0.6927	1.6696	1.0087	1.1292	3.7897
Fin.rev/ass	0.1121	0.2321	0.1294	0.1953	0.1041
Yield.G.Portf	0.1174	0.2237	0.1249	0.2423	0.2085
Av.Outs/GNI	0.4812	1.6696	0.7893	1.1292	1.187
Gross.l/T.ass	0.7509	1.0212	0.6988	0.8062	0.4506
Non.earn.%ofT.ass	0.126	0.0361	0.0314	0.1803	0.5241
Op.Self-suffic	1.01	1.4562	0.8675	0.9685	1.1202
%femal.borrow	0.0782	0.1678	0.1082	0.4646	0.2679
Pers.alloc.ratio	0.3791	0.678	0.5394	0.6667	0.4387
Risk.coverag	0.506	3.8788	1.0274	1.136	1.7829

Results for the input-oriented model for 2003, to revert the output2 for the Besa, with the amount of output 2 used the Besa could decrease their input by 1.6696, displaying that the output 2 used in Besa is underused in its performance.

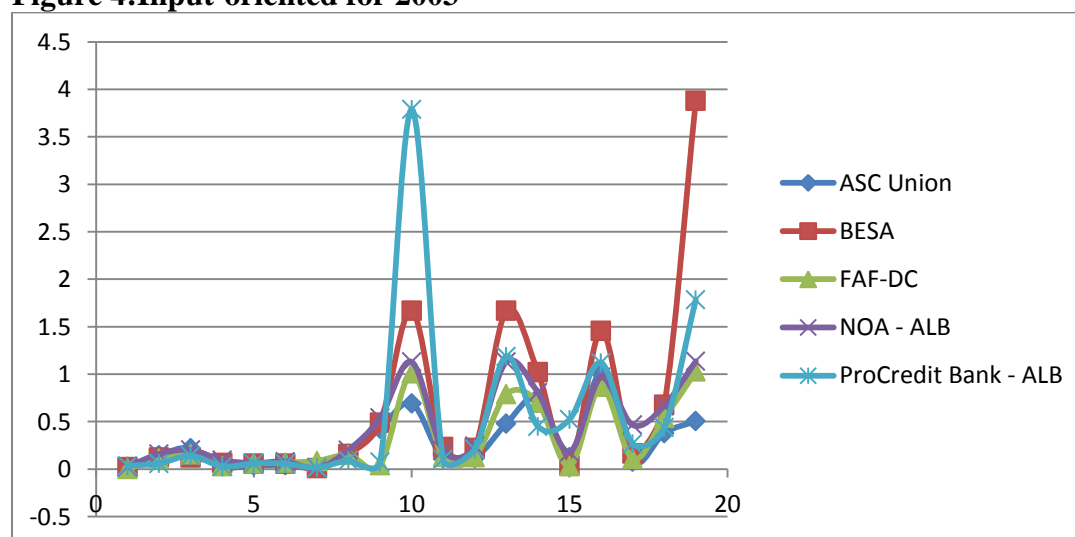
Table 6: Dual prices in input-oriented for 2003

F. exp/asset	-33.029021	-39.5888	-46.279676	0	-28.299857
Op.exp/ass	0	0	0	0	-0.020972
Op.ex/loan.p	-3.848867	-1.02207	-1.558535	0	0
Adm.exp/ass	0	0	0	0	0
Pers.ex/ass	0	0	0	0	0
Pers.exp/loan.p	0	0	0	0	0
Portf.90risk	0	-4.57844	-8.709967	0	-3.043148
Tot.exp/ass	0	0	0	-4.957858	0
Cap/ass.ratio	2.34852	0	0	1.451195	0
Avr.loan/GNI	0	0	0	0	0.263873
Fin.rev/ass	0	4.308488	0	0	0
Yield.G.Portf	0	0	0	0	0
Av.Outs/GNI	0	0	0	0	0
Gross.l/T.ass	0	0	0	0	0
Non.earn.%ofT.ass	0	0	0	0	0
Op.Self-suffic	0	0	0	0	0

%femal.borrow	0	0	0	0.465055	0
Pers.alloc.ratio	0	0	1.853912	0	0
Risk.coverag	0	0	0	0	0

The dual prices in the 2003 are almost the same with those in 2002 with a small difference. Four microfinance institutions (ASC, BESA, FAF, and ProCredit) have a decrease in their dual prices with -33.029021,-39.5888,-46.279676 and -28.299857. Whereas their projection increases by 0.0045, 0.0206,0 and 0.0337 for input 1.

Figure 4:Input-oriented for 2003



In the figure4we can clearly see that the highest fluctuation happened in ProCredit Bank and Besa Fund, while the other MFIs have a normal and almost same efficiency.

Table 7:Input-oriented projection for 2004

DMU	ASC Union	BESA	FAF-DC	NOA - ALB	ProCredit Bank – ALB
F. exp/asset	0.0165	0.0138	0	0.028	0.0337
Op.exp/ass	0.0822	0.1152	0.1015	0.1444	0.0567
Op.ex/loan.p	0.1224	0.1198	0.1266	0.169	0.113
Adm.exp/ass	0.0312	0.0446	0.0244	0.0803	0.0262
Pers.ex/ass	0.0304	0.0707	0.0719	0.0641	0.0214
Pers.exp/loan.p	0.0511	0.0735	0.0634	0.0751	0.0681
Portf.90risk	0.0132	0.0084	0.0987	0.0205	0.0189
Tot.exp/ass	0.1009	0.1378	0.1246	0.2003	0.0952
Cap/ass.ratio	0.3556	0.4912	0.1019	0.5629	0.0996
Avr.loan/GNI	0.678	1.6158	1.2785	1.0369	2.3345
Fin.rev/ass	0.107	0.2075	0.1348	0.2174	0.1093

Yield.G.Portf	0.1943	0.2124	0.1672	0.2512	0.1967
Av.Outs/GNI	0.5291	1.6158	0.8218	1.0369	1.2268
Gross.l/T.ass	0.6157	0.9217	0.8806	0.8857	0.5335
Non.earn.%ofT.ass	0.1819	0.1216	0.0599	0.059	0.4953
Op.Self-suffic	1.0595	1.5061	1.0819	1.0854	1.1483
%femal.borrow	0.072	0.172	0.11	0.6079	0.2578
Pers.alloc.ratio	0.3901	0.7143	0.5701	0.5263	0.4929
Risk.coverag	0.6136	7.5457	1.0306	0.8142	2.0919

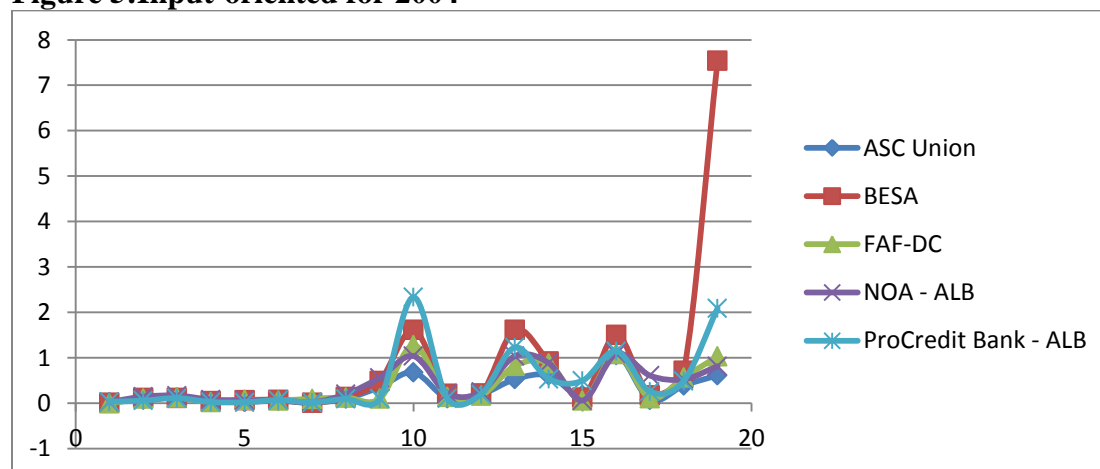
In 2004 ASC-Union,Besa,FAF-DC, NOA,ProCredit Bank with the amount of output 8 used each of them could decrease their input by 1.0595, 1.5061,1.0819,1.0854,1.1483 respectively,indicating that the output 8 used in these MFIs is underused in those performance. The amount of output11 used for Besa could decrease their inputs by 7.5457,shows that the amount used in output11 is underused in Besa performance.A DMU is called *efficient* if its efficiency rating received from the DEA model is equal to one. Differently, the DMU is considered inefficient.

Table 8: Dual prices in input-oriented for 2004

DMU	ASC Union	BESA	FAF-DC	NOA - ALB	ProCredit Bank - ALB
F. exp/asset	-5.959267	0	-21.227865	-34.372018	-25.533671
Op.exp/ass	0	0	0	0	0
Op.ex/loan.p	-6.587773	0	0	0	0
Adm.exp/ass	0	0	0	0	0
Pers.ex/ass	-3.13581	0	-10.353252	0	-4.53952
Pers.exp/loan.p	0	-13.605442	0	0	0
Portf.90risk	0	0	-2.589678	-1.833342	-2.241776
Tot.exp/ass	0	0	0	0	0
Cap/ass.ratio	0	0	0	0	0
Avr.loan/GNI	0	0	0	0	0.428357
Fin.rev/ass	0	0	0	0	0
Yield.G.Portf	5.14668	0	0	0	0
Av.Outs/GNI	0	0	0	0	0
Gross.l/T.ass	0	0	1.135589	0	0
Non.earn.%ofT.ass	0	0	0	0	0
Op.Self-suffic	0	0	0	0	0
%femal.borrow	0	0	0	1.645007	0
Pers.alloc.ratio	0	0	0	0	0
Risk.coverag	0	0.132526	0	0	0

The dual prices in 2004 for the input-oriented model decrease by -5.959267 the input1 for ASC-Union, while increase projection 0.0165. The input6 for Besa decreases by -13.605442, in the other hand projection increases by 0.0735

Figure 5:Input-oriented for 2004



The graph in figure5,for input-oriented model shows greater measure for Besa compared to other MFIs in Albania. During 2004 the other MFIs were almost at 1 rate.

Table 9:Input-oriented projection for 2005

F. exp/asset	0.0223	0.017	0	0.0326	0.0296
Op.exp/ass	0.0649	0.1175	0.0959	0.144	0.0543
Op.ex/loan.p	0.0899	0.1204	0.1037	0.1604	0.113
Adm.exp/ass	0.0344	0.0418	0.0363	0.0761	0.0366
Pers.ex/ass	0.0321	0.0757	0.0698	0.0678	0.0178
Pers.exp/loan.p	0.0499	0.0776	0.0799	0.0756	0.0369
Portf.90risk	0.69	0.004	0.116	0.0117	0.023
Tot.exp/ass	0.0821	0.1588	0.1386	0.1941	0.0988
Cap/ass.ratio	0.3156	0.4713	0.7555	0.4396	0.0939
Avr.loan/GNI	0.5867	1.4566	1.0028	0.7265	1.2883
Fin.rev/ass	0.1026	0.2431	0.15	0.2433	0.1206
Yield.G.Portf	0.1678	0.2476	0.1389	0.2557	0.1914
Av.Outs/GNI	0.5089	1.4566	0.8945	0.7265	1.2883
Gross.l/T.ass	0.6238	1.0238	0.9718	0.9054	0.4333
Non.earn.%ofT.ass	0.3652	0.0093	0.0217	0.0788	0.5404
Op.Self-suffic	1.0867	1.5311	1.0826	1.2539	1.2204
%femal.borrow	0.0614	0.1869	0.0973	0.5315	0.1875
Pers.alloc.ratio	0.4013	0.7297	0.5698	0.6353	0.3248
Risk.coverag	1.0743	12.9487	1.5081	0.9423	2.1893

The Input-oriented models decide targets for their input variables, up to that value they can be decreased whereas yielding for at least the identical amount of outputs.

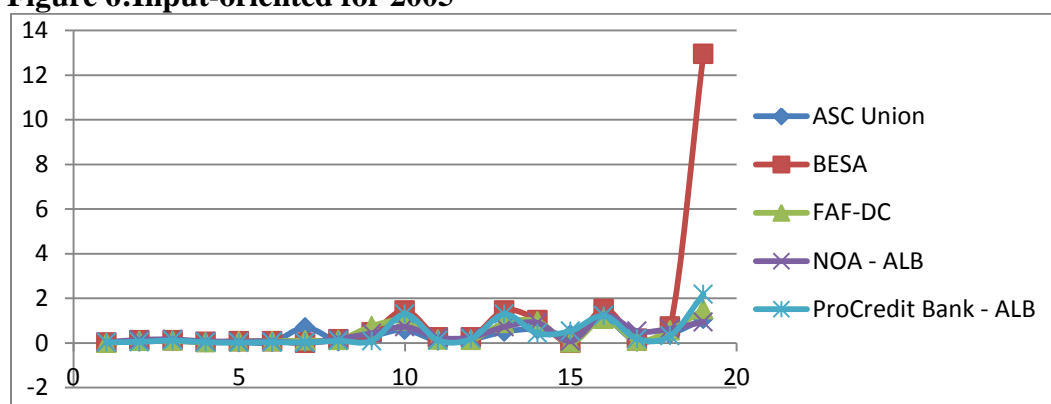
To visualize the input 5 for the ProCredit Bank, with the amount of input 5 used the ProCredit may increase their output by 0.0178, indicating that the input 5 in ProCredit is inefficiently used in its performance.

Table 10: Dual prices in input-oriented for 2005

DMU	ASC Union	BESA	FAF-DC	NOA - ALB	ProCredit Bank - ALB
F. exp/asset	-28.915892	0	0	0	-33.157268
Op.exp/ass	0	0	0	0	0
Op.ex/loan.p	-3.950785	0	0	0	0
Adm.exp/ass	0	0	0	0	0
Pers.ex/ass	0	0	0	0	0
Pers.exp/loan.p	0	0	-12.51565	0	-0.502571
Portf.90risk	0	0	0	0	0
tot.exp/ass	0	-6.297229	0	-5.151984	0
Cap/ass.ratio	0.475437	1.07953	1.323627	0	0
Avr.loan/GNI	0	0	0	0	0
Fin.rev/ass	0	0	0	0	0
Yield.G.Portf	0	0	0	0	0
Av.Outs/GNI	0	0	0	0	0
Gross.l/T.ass	0	0	0	0	0
Non.earn.%ofT.ass	2.32736	0	0	0	1.850481
Op.Self-suffic	0	0	0	0	0
%femal.borrow	0	0	0	1.881468	0
Pers.alloc.ratio	0	0	0	0	0
Risk.coverag	0	0.037936	0	0	0

In 2005 the table for the dual prices shows a decrease for ASC union and ProCredit bank with respective quantity -28.915892 and -33.157268, whereas increase their projection with 0.0223 and 0.0296 relatively.

Figure 6:Input-oriented for 2005



The figure 6 shows a picture of the MFIs in Albania during 2005. The highest MFIs in this year were BESA which can be clearly seen compared with others.

Table 11:Input-oriented projection for 2006

DMU	ASC Union	BESA	FAF-DC	NOA - ALB	ProCredit Bank - ALB
F. exp/asset	0.0246	0.0193	0.005	0.0579	0.0316
Op.exp/ass	0.0717	0.114	0.1072	0.1249	0.0526
Op.ex/loan.p	0.094	0.1114	0.1068	0.1393	0.1256
Adm.exp/ass	0.0365	0.0449	0.0399	0.0634	0.0356
Pers.ex/ass	0.0352	0.0691	0.0673	0.0615	0.0169
Pers.exp/loan.p	0.0462	0.0676	0.067	0.0686	0.0405
Portf.90risk	0.0004	0.0046	0.1578	0.0091	0.0203
Tot.exp/ass	0.1006	0.1478	0.1318	0.2043	0.0932
Cap/ass.ratio	0.3649	0.5214	0.7031	0.3169	0.0783
Avr.loan/GNI	0.5491	1.3344	0.9063	0.8247	1.3352
Fin.rev/ass	0.1118	0.247	0.1493	0.2552	0.1139
Yield.G.Portf	0.1277	0.241	0.144	0.2727	0.1881
Av.Outs/GNI	0.5491	1.3344	0.9063	0.8247	1.3352
Gross.l/T.ass	0.8958	1.0224	1.0319	0.8922	0.407
Non.earn.%ofT.ass	0.105	0.0173	0.0699	0.0947	0.567
Op.Self-suffic	1.1114	1.671	1.1322	1.2489	1.222
%femal.borrow	0.08	0.1988	0.0699	0.4695	0.3027
Pers.alloc.ratio	0.4151	0.813	0.5977	0.4688	0.2875
Risk.coverag	26.1103	11.2711	0.9002	0.7946	2.1541

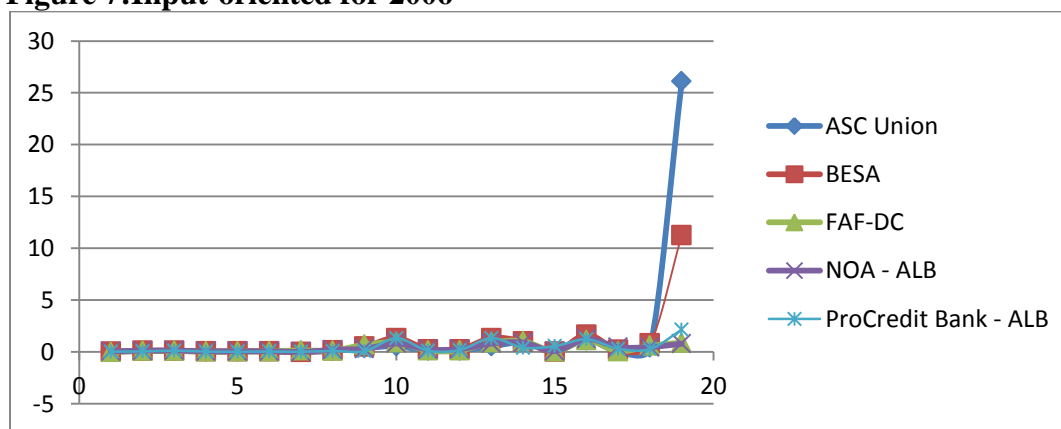
In the table above, the input 3 for the NOA, with the amount of input 3 used the NOA could increase their output by 0.1393, indicating that the input 3 used in NOA is inefficiently in its performance.

Table 12: Dual prices in input-oriented for 2006

DMU	ASC Union	BESA	FAF-DC	NOA - ALB	ProCredit Bank - ALB
F. exp/asset	0	0	0	0	0
Op.exp/ass	0	0	0	-4.280887	0
Op.ex/loan.p	0	2.192589	0	-3.340396	-7.961783
Adm.exp/ass	0	0	-16.28882	0	0
Pers.ex/ass	0	10.88392	0	0	0
Pers.exp/loan.p	0	0	0	0	0
Portf.90risk	-3.921071	0.797101	-2.21848	0	0
tot.exp/ass	-9.924767	0	0	0	0
Cap/ass.ratio	2.740477	1.184204	1.422273	0	0
Avr.loan/GNI	0	0.286688	0	0	0
Fin.rev/ass	0	0	0	0	0
Yield.G.Portf	0	0	0	0	0
Av.Outs/GNI	0	0	0	0	0
Gross.l/T.ass	0	0	0	0	0
Non.earn.%ofT.ass	0	0	0	0	1.763668
Op.Self-suffic	0	0	0	0	0
%femal.borrow	0	0	0	2.129925	0
Pers.alloc.ratio	0	0	0	0	0
Risk.coverag	0	0	0	0	0

The table for the dual prices in 2006 shows a decrease for NOA with respective quantity - 4.280887 in input 2, whereas increase their projection with 0.1249. During this year the decreases in the dual prices were smaller than compared to other years.

Figure 7: Input-oriented for 2006



The figure of 2006 indicate the move of the MFIs nearly the zero level and only two microfinance institutions have a different level. Those were Besa and ASC-Union.

Table 13 :Input-oriented projection for 2007

DMU	ASC Union	BESA	FAF-DC	NOA - ALB	ProCredit Bank - ALB
F. exp/asset	0.0216	0.0179	0.0081	0.0696	0.0325
Op.exp/ass	0.0733	0.1218	0.1003	0.1632	0.0552
Op.ex/loan.p	0.0862	0.1239	0.0991	0.1777	0.1273
Adm.exp/ass	0.0374	0.0502	0.0372	0.0936	0.0372
Pers.ex/ass	0.0359	0.0716	0.0631	0.0696	0.0179
Pers.exp/loan.p	0.0423	0.0728	0.0624	0.0758	0.0414
Portf.90risk	0.0001	0.0059	0.0466	0.0299	0.011
Tot.exp/ass	0.0946	0.0978	0.1331	0.318	0.0907
Cap/ass.ratio	0.3018	0.5537	0.7072	0.2693	0.0775
Avr.loan/GNI	0.5324	1.2099	1.0374	0.8164	1.4749
Fin.rev/ass	0.1059	0.2298	0.1705	0.2745	0.1111
Yield.G.Portf	0.1022	0.2288	0.1542	0.2765	0.1797
Av.Outs/GNI	0.5324	1.2099	1.0374	0.8164	1.4749
Gross.l/T.ass	0.8196	0.9539	0.9955	0.9381	0.4552
Non.earn.%ofT.ass	0.1621	0.0409	0.019	0.0687	0.4744
Op.Self-suffic	1.1193	2.3494	1.2811	0.8632	1.2258
%femal.borrow	0.0957	0.2149	0.1416	0.3598	0.1698
Pers.alloc.ratio	0.5246	0.784	0.587	0.3713	0.265
Risk.coverag	69.6162	5.2028	0.9093	1.4538	3.1509

Projections for 2007 in the input-oriented model shows theinput 2 for the NOA, with the amount of input 2 used the NOA could increase their input by 0.1632, displaying that the input 2 used in NOA inefficiently in its performance.

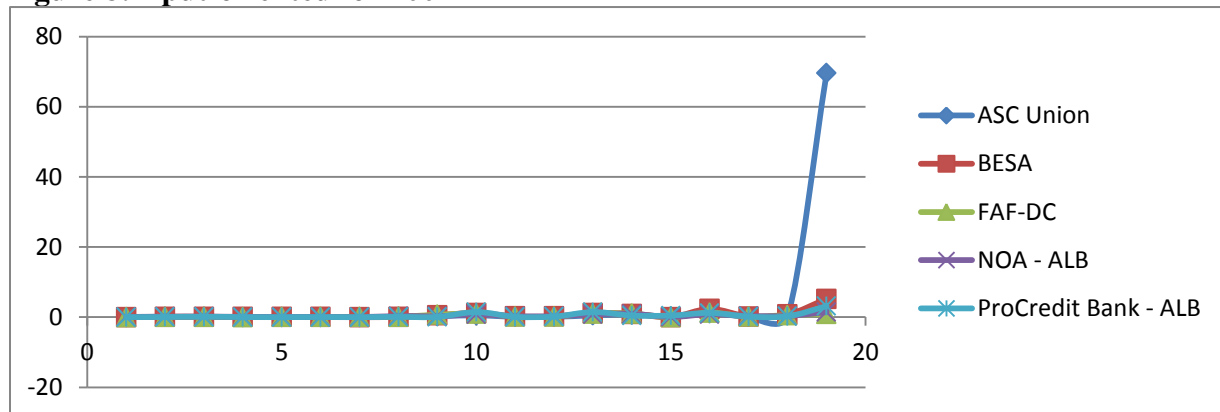
Table 14: Dual prices in input-oriented for 2007

DMU	ASC Union	BESA	FAF-DC	NOA - ALB	ProCredit Bank - ALB
F. exp/asset	0	-3.10335	0	-6.404836	0
Op.exp/ass	0	0	0	0	0
Op.ex/loan.p	0	0	-5.894205	-1.485744	-7.85546
Adm.exp/ass	0	0	0	0	0
Pers.ex/ass	0	-12.5638	0	-4.169638	0
Pers.exp/loan.p	0	0	0	0	0
Portf.90risk	0	-7.60688	-8.924556	0	0
Tot.exp/ass	-10.5708	0	0	0	0
Cap/ass.ratio	1.805706	1.355035	1.414027	0	0

Avr.loan/GNI	0	0.206395	0	0	0
Fin.rev/ass	0	0	0	0	0
Yield.G.Portf	0	0	0	0	0
Av.Outs/GNI	0	0	0	0	0
Gross.l/T.ass	0	0	0	0	0
Non.earn.%ofT.ass	0	0	0	0	2.107926
Op.Self-suffic	0	0	0	0	0
%femal.borrow	0	0	0	2.779322	0
Pers.alloc.ratio	0	0	0	0	0
Risk.coverag	0.006536	0	0	0	0

The dual prices indicate a decrease in input8 (tot.exp/ass) with -10.5708, while its projection increases with 0.0946 for the input 8 in the ASC-Union.

Figure 8: Input-oriented for 2007



The figure8 shows that during 2007 as a result of the crisis the four MFIs in Albania including BESA, NOA, FAF-DC and ProCredit Bank were at the zero level so they were inefficient during this period without including the ASC-Union that can be clearly seen.

Table 15: Input-oriented projection for 2008

DMU	ASC Union	BESA	FAF-DC	NOA - ALB	ProCredit Bank - ALB
F. exp/asset	0.0434	0.0193	0.0022	0.041802	0.0425
Op.exp/ass	0.0787	0.127	0.1197	0.126995	0.0727
Op.ex/loan.p	0.0972	0.1328	0.1237	0.157851	0.1403
Adm.exp/ass	0.0485	0.0519	0.0469	0.063664	0.0463
Pers.ex/ass	0.0302	0.0751	0.0728	0.063302	0.0263
Pers.exp/loan.p	0.0373	0.0785	0.0752	0.075393	0.0508
Portf.90risk	0.0093	0.0048	0.0748	0.020991	0.0491
tot.exp/ass	0.1351	0.1663	0.1573	0.186067	0.1164
Cap/ass.ratio	0.2728	0.5365	0.6902	0.449034	0.0939

Avr.loan/GNI	0.6535	0.9488	0.8283	1.193291	1.2868
Fin.rev/ass	0.1677	0.2375	0.1769	0.2442	0.1291
Yield.G.Portf	0.2005	0.2597	0.1816	0.285433	0.1794
Av.Outs/GNI	0.6535	0.9488	0.8283	1.193291	1.2868
Gross.l/T.ass	0.8032	0.958	0.9412	1.056995	0.5832
Non.earn.%ofT.ass	0.1903	0.0348	0.0815	0.180424	0.274
Op.Self-suffic	1.2415	1.4284	1.1241	1.664613	1.1097
%femal.borrow	0.1141	0.2409	0.1679	0.3254	0.4791
Pers.alloc.ratio	0.5714	0.7542	0.5506	0.744641	0.2476
Risk.coverag	0.7462	6.6609	0.2202	4.289047	0.5973

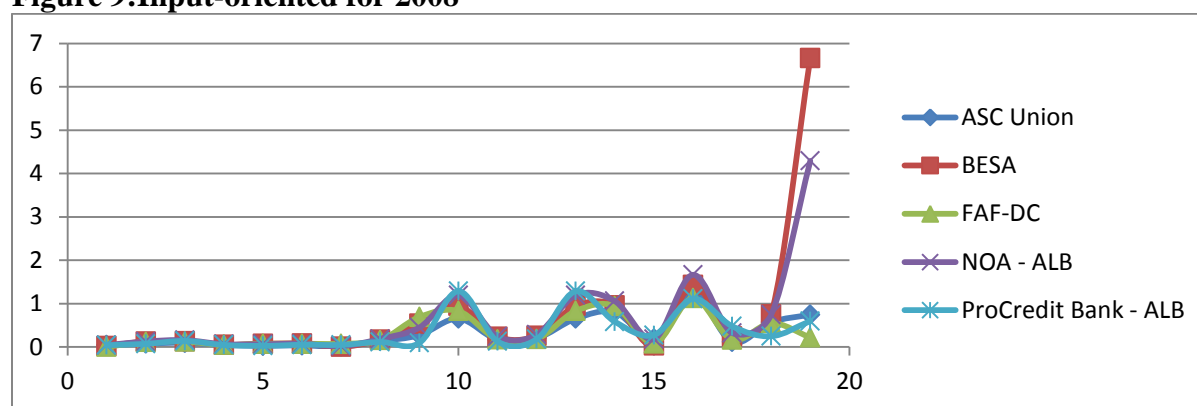
The table for 2008 shows that A DMU is not efficient if it can be decreased any input without increasing another input or without decreasing any output, in the input-oriented model. To impart the input 4 for the NOA, with the amount of input 4 used the NOA could increase their output by 0.063302, demonstrating that the input 4 used in NOA is underused in its performance.

Table 16: Dual prices in input-oriented for 2008

DMU	ASC Union	BESA	FAF-DC	NOA - ALB	ProCredit Bank - ALB
F. exp/asset	-21.380835	0	12.33091	0	-20.942117
Op.exp/ass	0	0	8.127586	0	0
Op.ex/loan.p	0	0	0	-4.181414	0
Adm.exp/ass	0	0	0	0	0
Pers.ex/ass	0	0	0	0	-4.18099
Pers.exp/loan.p	0	0	0	-3.575782	0
Portf.90risk	-7.749651	0	0	0	0
Tot.exp/ass	0	-6.01323	0	0	0
Cap/ass.ratio	0	0	0	0	0
Avr.loan/GNI	0	0	0	0	0
Fin.rev/ass	0	0	0	2.605507	0
Yield.G.Portf	0	3.850597	0	0	0
Av.Outs/GNI	0	0	0	0	0
Gross.l/T.ass	0	0	0	0	0
Non.earn.%ofT.ass	3.805056	0	1.296102	0	0
Op.Self-suffic	0.222229	0	0	0	0
%femal.borrow	0	0	0	0.901547	2.087247
Pers.alloc.ratio	0	0	1.624351	0	0
Risk.coverag	0	0	0	0	0

The dual prices in 2008, shows a decrease in ASC Union with -7.749651 whereas an increase in projection with 0.0093.

Figure 9:Input-oriented for 2008



During 2008 as the crisis continue inefficiently and then it indicates an increase for almost all the MFIs during this period.

Table 17:Input-oriented projection for 2009

DMU	ASC Union	BESA	FAF-DC	NOA - ALB	ProCredit Bank - ALB
F. exp/asset	0.0387	0.0561	0.003	0.088	0.0438
Op.exp/ass	0.059	0.1155	0.1064	0.1141	0.0632
Op.ex/loan.p	0.0758	0.1184	0.1162	0.1396	0.1161
Adm.exp/ass	0.0341	0.0439	0.0424	0.0544	0.0406
Pers.ex/ass	0.0249	0.0716	0.064	0.0597	0.0225
Pers.exp/loan.p	0.032	0.0734	0.0699	0.073	0.0414
Portf.90risk	0.0188	0.0088	0.1015	0.0233	0.0396
tot.exp/ass	0.1088	0.1924	0.1524	0.2336	0.1063
Cap/ass.ratio	0.2542	0.1454	0.6373	0.1698	0.0738
Avr.loan/GNI	0.6316	0.7304	0.8945	0.6718	1.5219
Fin.rev/ass	0.1322	0.2189	0.1729	0.234	0.112
Yield.G.Portf	0.1544	0.2459	0.1525	0.2708	0.154
Av.Outs/GNI	0.6316	0.7304	0.8945	0.6709	1.5219
Gross.l/T.ass	0.7539	0.9931	0.8919	0.7794	0.5134
Non.earn.%ofT.ass	0.2227	0.0275	0.1092	0.2071	0.2586
Op.Self-suffic	1.2151	1.1379	1.1343	1.0019	1.0533
%femal.borrow	0.13	0.2631	0.203	0.3011	0.3025
Pers.alloc.ratio	0.5393	0.6328	0.52	0.4495	0.2981
Risk.coverag	0.8372	3.4532	0.3849	3.4536	0.6003

The projection for 2009 display for output 8 named operational self-sufficiency have a projection for ASC,BESA,FAF,NOA and ProCredit with respective values 1.12151,1.1379,1.1343,1.0019,1.0533.The operational self sufficiency stands for the aptitude of MFIs to fill their operating costs from their income. It shows if enough revenue is earned to cover

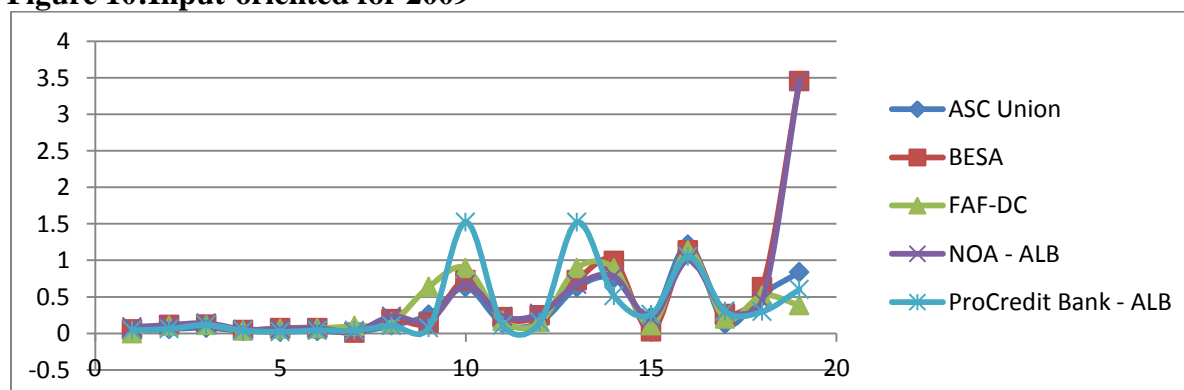
the organizations' costs which involved financial expenses, operating expense as well as injury loss. The operational self sufficiency (OSS) deputize the financial ability of MFIs that may bring to efficiency of MFIs.

Table 18: Dual prices in input-oriented for 2009

DMU	ASC Union	BESA	FAF-DC	NOA - ALB	ProCredit Bank - ALB
F. exp/asset	21.683297	-16.9454	-13.030512	0	0
Op.exp/ass	0	0	-9.031095	0	0
Op.ex/loan.p	0	0	0	-0.547551	-8.613264
Adm.exp/ass	0	0	0	0	0
Pers.ex/ass	0	0	0	-15.470047	0
Pers.exp/loan.p	0	0	0	0	0
Portf.90risk	-8.556192	-5.60921	0	0	0
tot.exp/ass	0	0	0	0	0
Cap/ass.ratio	0	0	0	0	0
Avr.loan/GNI	0	0	0	0	0.657073
Fin.rev/ass	0	0	0	0	0
Yield.G.Portf	0	4.066694	0	0	0
Av.Outs/GNI	0	0	0	0	0
Gross.l/T.ass	0	0	0	0	0
Non.earn.%ofT.ass	0	0	0	1.0684	0
Op.Self-suffic	0.822978	0	0	0	0
%femal.borrow	0	0	0	0	0
Pers.alloc.ratio	0	0	1.923077	0	0
Risk.coverag	0	0	0	0.225485	0

The dual prices in 2009 displays a decrease in input1 for Besa and FAF with -16.9454 and -13.030512, while they have an increase in their projections with 0.0561, 0.003. Another decrease indicates in input 7 in the ASC and BESA with -8.556192, -5.60921, when the increase in their projections in the input 7 are 0.0188 and 0.0088.

Figure 10: Input-oriented for 2009



The figure of input-oriented in 2009 shows relatively a better performance cause the level of the MFIs moves on the same direction, excluding the NOA-ALB.

Table 19:Input-oriented projection for 2010

DMU	ASC Union	BESA	FAF-DC	NOA - ALB	ProCredit Bank - ALB
F. exp/asset	0.038	0.0571	0.0046	0.0868	0.0415
Op.exp/ass	0.0589	0.1057	0.0848	0.089	0.0499
Op.ex/loan.p	0.082	0.1198	0.0964	0.1204	0.0913
Adm.exp/ass	0.033	0.0382	0.0295	0.0437	0.0327
Pers.ex/ass	0.0258	0.0675	0.0553	0.0453	0.0172
Pers.exp/loan.p	0.036	0.0766	0.0629	0.0612	0.0315
Portf.90risk	0.0321	0.078	0.0956	0.0201	0.0499
tot.exp/ass	0.114	0.1781	0.1391	0.2588	0.0944
Cap/ass.ratio	0.2354	0.1518	0.5054	0.1467	0.101
Avr.loan/GNI	0.5707	0.6069	1.0719	0.6722	1.9872
Fin.rev/ass	0.1297	0.2296	0.1547	0.2145	0.0976
Yield.G.Portf	0.145	0.2569	0.1552	0.2716	0.1337
Av.Outs/GNI	0.5681	0.6069	1.0719	0.6697	1.9872
Gross.l/T.ass	0.6833	0.7909	0.8683	0.7003	0.583
Non.earn.%ofT.ass	0.0322	0.2201	0.1379	0.2559	0.1903
Op.Self-suffic	1.1384	1.2893	1.1125	0.8286	1.0336
%femal.borrow	0.1395	0.2725	0.1943	0.2874	0.1817
Pers.alloc.ratio	0.5686	0.65	0.5472	0.4955	0.3018
Risk.coverag	0.8833	0.5606	0.2965	2.2561	0.3196

Certainly, in the case where DMU n is efficient, the efficiency score will be one and the inputs would not have to change. To visualize the input 3 for the FAF-DC, with the quantity of input3 used the FAF-DC should increase their output by 0.0964, demonstrating that the input 3used in FAF is used improper in its fulfillment.

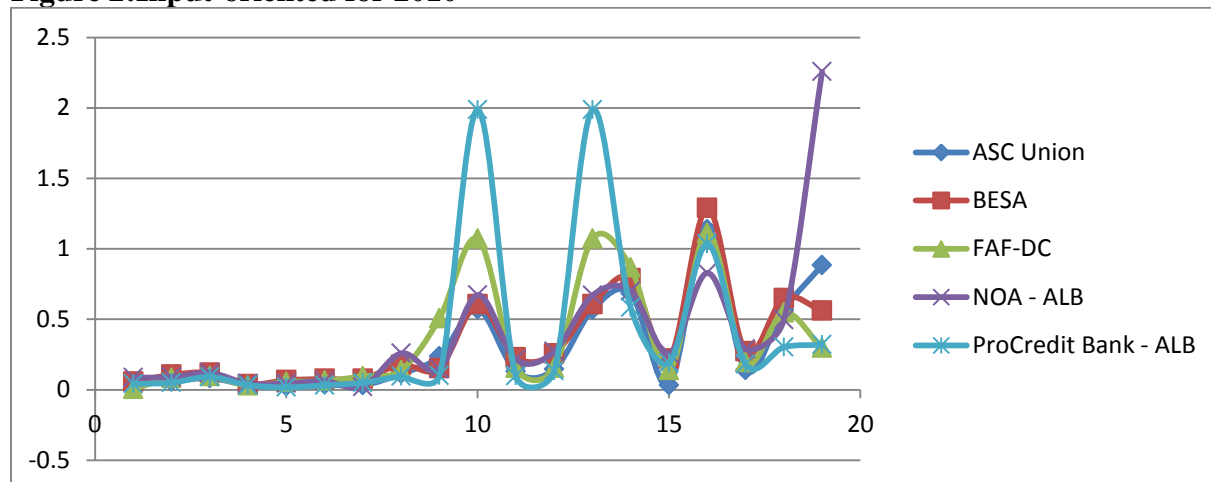
Table 20: Dual prices in input-oriented for 2010

DMU	ASC Union	BESA	FAF-DC	NOA - ALB	ProCredit Bank - ALB
F. exp/asset	0	-8.40338	-2.884031	-11.328629	0
Op.exp/ass	0	0	0	0	0
Op.ex/loan.p	0	0	0	0	0
Adm.exp/ass	-29.308207	0	0	0	-30.58104
Pers.ex/ass	0	0	0	0	0
Pers.exp/loan.p	0	0	0	0	0
Portf.90risk	-1.022715	-4.59075	-10.32148	-0.8296	0

tot.exp/ass	0	-0.9101	0	0	0
Cap/ass.ratio	0	0	1.76688	0	0
Avr.loan/GNI	0	0	0	0	0.503221
Fin.rev/ass	0	0	0	0	0
Yield.G.Portf	0	3.892565	0	0	0
Av.Outs/GNI	0	0	0	0	0
Gross.I/T.ass	0	0	0	0	0
Non.earn.%ofT.ass	0	0	0.776063	0	0
Op.Self-suffic	0	0	0	0	0
%femal.borrow	0	0	0	0	0
Pers.alloc.ratio	1.758706	0	0	0	0
Risk.coverag	0	0	0	0.443243	0

The dual price shows a decrease in the input3 for ASC-Union and ProCredit Bank by -29.308207 and -30.58104, whilst there is indicate an increase in the projection in the input oriented in 2010 by 0.082, 0.0913, respectively.

Figure 2:Input-oriented for 2010



In 2011 there was no data about NOA, that's the reason we take into consideration only four of the MFIs to analyze. By looking at the graph we figure out that the performance of the MFIs shows a relatively good efficiency.

Table 21:Input-oriented projection for 2011

DMU	ASC Union	BESA	FAF-DC	ProCredit Bank - ALB
F. exp/asset	0.0396	0.0515	0.0199	0.034
Op.exp/ass	0.0546	0.1187	0.0824	0.0559
Op.ex/loan.p	0.0679	0.1484	0.0945	0.0931
Adm.exp/ass	0.0322	0.0458	0.0301	0.0379
Pers.ex/ass	0.0289	0.0729	0.0523	0.018
Pers.exp/loan.p	0.0387	0.0912	0.06	0.03

Portf.90risk	0.1316	0.0294	0.1269	0.0311
tot.exp/ass	0.0892	0.207	0.1587	0.0977
Cap/ass.ratio	0.2438	0.1863	0.445	0.1095
Avr.loan/GNI	0.519	0.4899	1.0909	1.9489
Fin.rev/ass	0.1447	0.2328	0.1689	0.1058
Yield.G.Portf	0.1245	0.2727	0.1975	0.14
Av.Outs/GNI	0.519	0.4899	1.0909	2.1133
Gross.l/T.ass	0.6789	0.8089	0.875	0.619
Non.earn.%ofT.ass	0.0298	0.195	0.136	0.1823
Op.Self-suffic	1.1498	1.1244	1.0646	1.0832
%femal.borrow	0.1423	0.2768	0.1801	0.4132
Pers.alloc.ratio	0.5726	0.6783	0.5833	0.4187
Risk.coverag	0.8291	0.8599	0.3449	0.4973

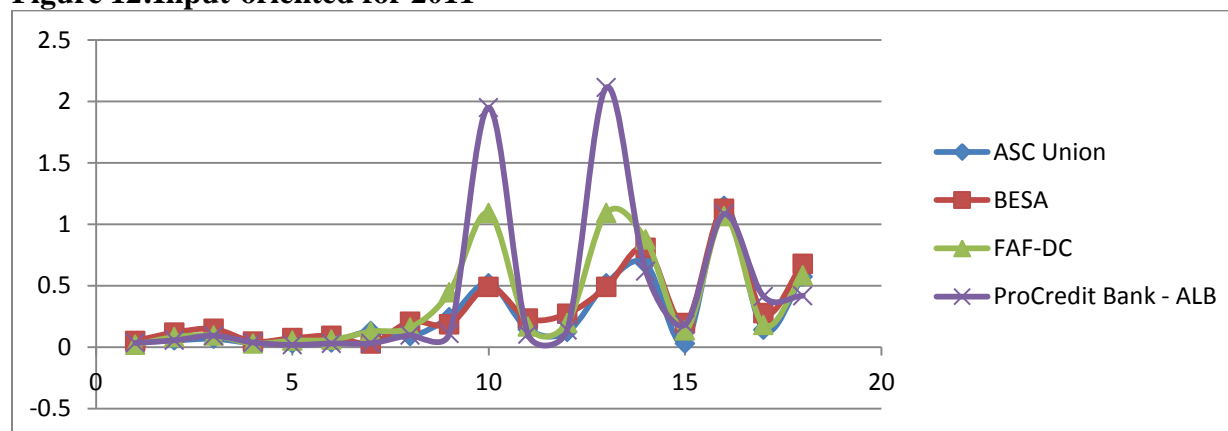
As we mentioned above, the analysis is done between 4 MFI for 2011 and 2012 for the reason that there's no data available for NOA. For ASC-Union the quantity of personnel expenses/assets used could decrease their input by 0.0289, showing that the input5 in ASC-Union is underused in its effectiveness..

Table 22: Dual prices in input-oriented for 2011

DMU	ASC Union	BESA	FAF-DC	ProCredit Bank – ALB
F. exp/asset	0	0	-3.98752	0
Op.exp/ass	0	0	0	0
Op.ex/loan.p	0	0	0	0
Adm.exp/ass	-9.524382	0	0	-26.385224
Pers.ex/ass	-6.713098	0	0	0
Pers.exp/loan.p	0	0	0	0
Portf.90risk	-3.794121	-1.60299	7.254912	0
tot.exp/ass	0	-4.60325	0	0
Cap/ass.ratio	0	0	2.247191	0
Avr.loan/GNI	0	0	0	0
Fin.rev/ass	0	4.295533	0	0
Yield.G.Portf	0	0	0	0
Av.Outs/GNI	0	0	0	0
Gross.l/T.ass	0	0	0	0
Non.earn.%ofT.ass	0	0	0	0
Op.Self-suffic	0	0	0	0
%femal.borrow	0	0	0	2.420136
Pers.alloc.ratio	0	0	0	0
Risk.coverag	1.206127	0	0	0

The dual prices in 2011 shows the highest decrease in the input4 in the ProCredit Bank by -26.385224 while there indicates an increase in its projection 0.0379 in ProCredit in the input-oriented model.

Figure 12:Input-oriented for 2011



The figure above indicates that the result of these four MFIs shows an efficient measure for the FAF-DC in 2011 and also ASC indicates a higher measure compared to other MFIs.

Table 23:Input-oriented projection for 2012

DMU	ASC Union	BESA	FAF-DC	ProCredit Bank - ALB
F. exp/asset	0.0376	0.0412	0.0102	0.0337
Op.exp/ass	0.0439	0.1012	0.0905	0.0484
Op.ex/loan.p	0.0754	0.1321	0.0989	0.0814
Adm.exp/ass	0.0384	0.0435	0.0287	0.0484
Pers.ex/ass	0.0311	0.0712	0.0578	0.0218
Pers.exp/loan.p	0.0611	0.0815	0.071	0.0218
Portf.90risk	0.1396	0.0269	0.1778	0.0198
tot.exp/ass	0.1065	0.2131	0.1478	0.0965
Cap/ass.ratio	0.2259	0.2412	0.302	0.1108
Avr.loan/GNI	0.5256	0.4692	1.1606	1.8254
Fin.rev/ass	0.1394	0.2403	0.1472	0.0981
Yield.G.Portf	0.1876	0.2814	0.1851	0.1485
Av.Outs/GNI	0.5256	0.4692	1.1606	2.155
Gross.l/T.ass	0.6538	0.8174	0.8865	0.5697
Non.earn.%ofT.ass	0.0201	0.2018	0.1476	0.2457
Op.Self-suffic	1.3219	0.8719	1.001	1.016
%femal.borrow	0.1465	0.2758	0.1806	0.4578
Pers.alloc.ratio	0.537	0.7043	0.5766	0.4898
Risk.coverag	0.7812	0.5698	0.5476	0.639

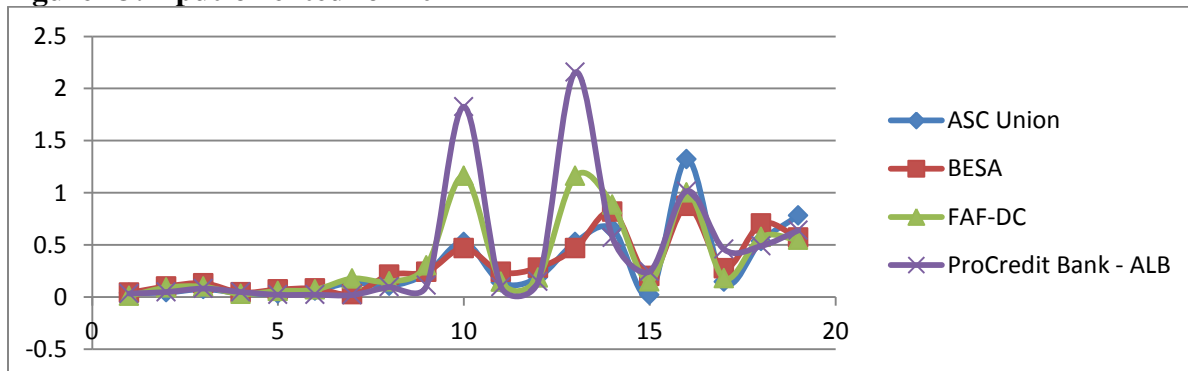
As it is observed above, the variables involved in the regression model can have significant implications on the operations and efficiency of MFIs in Albania. The total assets and % of female borrowers are incorporated in the model to access the effects of size and experience of MFI on their efficiency degree.

Table 24: Dual prices in input-oriented for 2012

DMU	ASC Union	BESA	FAF-DC	ProCredit Bank - ALB
F. exp/asset	-20.21215	0	-7.730705	0
Op.exp/ass	-5.467503	0	-10.178418	0
Op.ex/loan.p	0	0	0	0
Adm.exp/ass	0	2.33975	0	-20.555643
Pers.ex/ass	0	0	0	0
Pers.exp/loan.p	0	0	0	0
Portf.90risk	0	1.01399	0	-0.257924
Tot.exp/ass	0	4.08702	0	0
Cap/ass.ratio	0	0	0	0
Avr.loan/GNI	0	0	0	0.547825
Fin.rev/ass	0	0	0	0
Yield.G.Portf	0	3.55366	0	0
Av.Outs/GNI	0	0	0	0
Gross.l/T.ass	0	0	1.128032	0
Non.earn.%ofT.ass	0	0	0	0
Op.Self-suffic	0	0	0	0
%femal.borrow	0	0	0	0
Pers.alloc.ratio	0	0	0	0
Risk.coverag	1.280082	0	0	0

According to the dual prices for the 2012 where we have just four MFIs to analyze, it can be seen that for input1 for ASC and FAF decreases with -20.21215 and -7.730705, relatively.

Figure 13: Input-oriented for 2012



As can be seen in the figure above, for 2012 the four MFIs in Albania the FAF-DC shows efficiency in their performance, even that ProCredit Bank has a higher efficiency.

4.5 Output-oriented Model

As we see in the Input-oriented models are models where the DMUs are considered to elaborate a given amount of outputs with the smallest possible amount of inputs. (Means that inputs are controllable). While the Output-oriented models are models where the DMUs are considered to produce with given amounts of inputs the highest possible of outputs. (Means that outputs are controllable)

The data available of the MFIs shown in the input-oriented model indicate the same result as well for the output-oriented model.

CONCLUSION

This study executes an analysis for the efficiency of microfinance institutions in Albania for the period 2002-2012 by using a nonparametric method – the DEA Method.

DEA is a non-parameter methodology for appreciating the efficiency of non-profit DMUs. It contains solutions for several mutually linked linear programming mathematical models for each of the DMUs. In addition, there will be generated the input –oriented and output-oriented models.

Moreover, will be measure the efficiency of five microfinance institutions and their dates to have a better outlook about their performance in Albania. We have taken FAF-DC, ACS Union, BESA, NOA and ProCredit Bank as the microfinance institutions. The reason of these MFI taken is that they have available dates which will help us to make an efficiency measurement of their performance. The poverty in our country is connected directly to these MFIs, higher their effectiveness means reduction in poverty. Evaluation constitution the efficiency score is instantly affected by the impact of input and output variables. They deputize up to which amount an input should be reduced whereas keeping the outputs at the same levels (i.e. input orientation) or how much an output should be increased while the input level stays un increased (i.e. output orientation), relatively, so that the DMU becomes efficient.

From the analysis and interpretations of results we can see from the table 1 reflects such a fact that all of them are efficient at the score 1. The score one means that these microfinance institutions are efficient in Albania during this period. There is just one inefficient score for NOA-ALB in year 2008 with 0.92963 which is lower than 1 and means inefficiency. Efficiency is not achieved for $DMU4 < 1$ and DMU4 is not efficient in that case. Further, the 2008 is the crisis year which can explain correctly the inefficiency of this (MFI).

Despite of the fact that there was just one MFI in 2008 inefficient, the DEA means to analyze these MFIs year by year. The more effective these MFIs are in Albania, better is for reduction of poverty and helping people to improve their living conditions.

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