

Financial performance of microfinance institutions



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Abstract

The paper investigates the financial attractiveness of microfinance institutions (MFI's). With the use of CAMEL methodology is the performance of MFI's analyzed. A comparison with G10 commercial banks shows....

Secondly, the systematic risk factors of MFI's are identified. The study * VU University Amsterdam, Faculty of Economics and Business Administration, De Boelelaan 1105, 1081 HV Amsterdam Comments are welcome at: ljhuisinhetveld@gmail.com

Introduction

This paper investigates the financial performance of microfinance institutions (MFI's) from the perspective of a foreign investor. Microfinance institutions offer a broad amount of financial products and services to people who lack access to traditional banking services, also called; ' the unbankable'. Starting from social driven performance measures, the microfinance industry has been arguably effective in reducing poverty worldwide. In the last decades the microfinance industry has developed into an alternative investment class. The sector is characterized by attractive returns, low default rates and an explosive growth. Nevertheless, there is only a small scientific basis about the promises microfinance offers as a financial investment class. The financial attractiveness of MFI's for investors is questioned within this paper. Through analyzing the performance of MFI with CAMEL ratings and identifying the systematic risk factors, enriches this paper the academic field of finance.

The study starts from the findings of Krauss & Walter (2008). Their empirical results show that MFI's have a low or non exposure with international commercial markets from developed nations. Microfinance investments are for investors thus useful for portfolio diversification. Besides the social benefit that social oriented investor's gain, the question arises what is the potential financial gain for a foreign investor? Nonacademic sources present microfinance as a interesting alternative investment class for solely return oriented investors. Institutions as the Consultative Group to Assist the Poor (CGAP) are reporting profits twice as high as their local peers and returns on investments in some parts of the world between 117 and 847 percent (Little field & Holtman, 2005). Gonzales & Rosenberg (2006) presented evidence of MFI's that outperform commercial banks on the return on assets. The returns are combined with a repayment rate of loans of almost 100 percent.

Group liability repayment systems realize the low default rates. The repayment schemes are typical for the microfinance industry since clients lack collateral for the provided loans. The numbers indicate a save investment with a high return for investors. Nevertheless, investors seem to be skeptic about investing in MFI's. As Krauss & Walter (2008, p. 6) rightfully mention: *" Investors appear to perceive microfinance as excessively risky relative to the returns it generates, partially due to a lack of viable foreign exchange hedges, absence of a solid track record, poor reporting standards, heterogeneous products and inadequate liquidity."*

The Microfinance Exchange (MIX) tracks the performance of MFI's since 1998. The MIX is a platform which gathers and publishes financial and communal <https://assignbuster.com/financial-performance-of-microfinance-institutions/>

oriented (outreach) numbers of MFI's. The institutions deliver the data voluntarily to the MIX. Of the approximately 10. 000 MFI's worldwide, only a small percentage (around 8 percent) send reports to independent platforms as the Microfinance Exchange. The incentive to offer data is to attract more funds from investors (Hartarska & Nadolnuak, 2008). The attraction of more funds leads to a higher amount of accessible capital for the low-income clients. A high return on investment is promised by MFI's to investors. In combination with the support to poor people, seems microfinance to be the commercial solution for worldwide poverty. In practice, this promise is only rarely fulfilled by the institutions, due to the high operating cost per client and the lack of knowledge and transparency within the institutions. Academic research is necessary to classify the sources of growth in microfinance institutions, thereby establishing a valid basis to assess the performance and risk of MFI's.

The paper aims to increase the transparency and rationale behind the data of microfinance. Transparency is increased by presenting measures of performance of the institutions in relation with their domestic environment. MFI's are considered as emerging banks in developing countries. A comparison with commercial banks using adjusted performance methods is used as a starting point. Identifying the systematic risk factors within the domestic environment results in a valid basis to assess the performance of MFI's.

The financial statements of the MFI's are downloaded from the MIX website. A drawback in microfinance related research is the low quality of the data. Although the MIX offers the best available set of data and puts serious efforts

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to increase the quality is the dataset relative young. The dataset contains annual data and is subject to subjectivity due to the voluntary basis and a lack of legislation and authorization in the nations where MFI's are effective.

To deal with the low quality of the data this paper first checks till which extent the data makes sense. CAMEL ratings as an efficiency parameter are used SYSTEMATIC RISK

The rest of the paper is organized as follows: section 1 reviews the literature of the microfinance industry and the recent developments. Section 2 describes the bank performance methodologies to assess the performance of banks. Section 3 describes a comparison of banking ratios between commercial banks and MFI's. Section 4 discusses the results on the performance drivers of MFI's as a result of the systematic risk of emerging nations. Section 5 concludes the paper with a discussion of the main findings found in this paper

The Microfinance Promise

The success of the book 'Creating a world without poverty' of Muhammed Yunus (founder of the Grameen bank in 1970 & Nobel Prize Winner for the Peace in 2006), increased the awareness and popularity in microfinance. Microfinance refers to the financial products as savings, insurance, transfer services, microcredit loans and other products targeted at low-income clients. From origin is microcredit the key product of MFI's. Loans are used to develop local economies to banish poverty from the low-income communities. The difference between traditional banking and microfinance is the level of creditworthiness of clients. Low-income clients in microfinance

lack collateral, structural employment and/or a verifiable credit history almost by definition. This disables them to meet the minimum creditworthiness requirements to gain access to traditional finance products and services. Microfinance clients are therefore often referred as: 'the unbankable'. The lending activities of MFIs are characterized as follows: 1) loans are solely available to members of the MFI; 2) loans are relatively small and generally unsecured; 3) assets and liabilities of the MFI are owned jointly by the members (the clients are the owners), 4) internal monitoring and social sanctions (group liability) are used to enforce the loan contracts (Skees & Barnett, 2006). Microfinance institutions thus use group lending methods to guarantee repayment of the financial services which is a substitute for the lack of collateral. This innovative and reversed perspective on banking enables MFI's to provide financial support to the poorest people of the world. This considers 1 billion people worldwide or a potential of 1 billion clients. Reducing poverty worldwide is incorporated in the G8 millennium development goals. Microfinance is considered to be a proven way to realize this millennium goal. Judged against the profit maximization ideology of commercial banks in developed countries have MFI's a dual mission; reducing poverty worldwide while being financial sustainable (Drake & Rhyne, 2002). The success of microfinance increased the interest of developed nations and the mainstream finance industry. Commercial organizations support initiatives in microfinance as an act of corporate social responsibility. For investors and financials is microfinance attractive for its low correlation with commercial markets. Real life examples are the diversification possibilities that pension and insurance funds find in microfinance (Krauss & Walter, 2008).

The balance between social and financial returns was studied by the Consultative Group to Assist the Poor (CGAP) in February 2008. The CGAP identifies a stream of private investors investing in microfinance with no particular interest in the social objective of MFI's since 2006. The entry of private investors in microfinance is seen as one the most important development since institutional investors' noticed microfinance in the beginning of 2000. Before this period mainly governments, NGO's and charity funds invested and supported MFI's.

In 2006 seventeen billion dollar of loans represented 10% of the potential microfinance market (Swanson, 2007). The money market return in that year was 5.8% in dollars and 3.2% in euro's (Reille & Foster, 2008).

Although multiple sources report extreme returns on equity in microfinance, investing in microfinance far from riskless.

MicroPlace is the first online platform to trade in MFI's developed by Ebay. The average yield on a investment is 3% which matures in 3 years.

In order to realize high net return on equity should organizations keep the operational cost low. Especially in the case of MFI's are operating cost high.

Still lack of control and transparency makes investing in MFI's risky.

Difficulty to comply with regulation standards, if any regulation framework is available

MFI's act like banks, by collecting any in developed nations and from local communities and invest them in the area.

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Criticism is about the lack of transparency and knowledge in the sector. Databases consist of low quality accounting numbers and the absence of legislation, authorization in emerging economies insights in this industry will thus not only benefit the poor of the world, but also investors of the world as well as the lessons for the financial systems worldwide.

The promise that microfinance offers is a reduction of poverty worldwide, with without any means of charity or subsidy (Cull, Demirgüç-Kunt & Morduch, 2007). The poverty line is defined as having less than 2 dollar to spend on a daily basis. Group liability schemes are the response of MFI's to avoid the lack of traceable credibility and liquidity of clients. The group structure of loan repayment proves to secure high rates of repayment. Even with the lack of collateral or means of liquidity of the clients (Cull, Demirgüç-Kunt & Morduch, 2007). The backside of this concept is that the industry is characterized by a high amount of transactional and operational cost due to monitoring cost. Also the high geographical distances and spread of clients, without technology standards or infrastructure to bridge these distance, increases the operational costs.

A stereotype client of an MFI would be a woman (approximately 97% of all microfinance clients are woman), with a low level or non education. The idea that most clients are entrepreneurs is a biased view. Since microfinance believes in the strength and flexibility of people new entrepreneurial business arise, but everyone with a spendable income of less than 2 dollar a day, could be a client of an MFI.

Grootte markt

Although the loans and services provided are relative low is the amount of clients enormous.

Ownership and governance (Call for legislation and authorization)

Technology influences (Mobile phones)

Microfinance for investors (brug naar bank performance en systematic risk)

Portfolio diversification

Return oriented (non academic article) not more than a T bill)

Null hypothesis 3: MFI's don't generate excess returns more over equity indices.

How to sustain credibility

High fixed cost to monitor clients

No collateral as a backup in case of default, so MFI's have to define risk management methods in order to control potential default rates.

Bank performance

From NGO to Commercial bank

Null hypothesis 1: MFI's have the same banking ratios compared with commercial banks from G10 nations.

Systematic risk of MFI's

Impact of macroeconomic indicators on MFI's and visa versa

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Null Hypothesis 2: MFI's and macroeconomic indicators are not related.

Microfinance business and investors

MFI's have a different business model than traditional banks. This affects capital structure of the institution. The expectations of investors are also higher. A return hurdle is identified in Which state that investors expect return on equity of MFI's between 20-25 percent due to additional risk of the underdeveloped markets.

Transaction costs are high for investors. Since most MFI's are not publicly tradable investors have to spend relative more time and effort to find, retrieve and monitor funds of MFI's. Exchange rates and effort to buy foreign shares in MFI's

The lack of transparency creates information asymmetry Asymmetric information contributes to high transaction costs associated with underwriting, monitoring, and loss adjustment.

The very same asymmetric information and transaction costs problems also plague financial markets in rural areas of low-income countries, contributing to high market interest rates. Market interest rates are also affected by default risk. Financial regulations can protect the interests of consumers by reducing information asymmetries.

So Camel

But for MFI's instead of commercial banks it is very difficult to diversify risk. Since most lenders have a business in agricultural operations a nature disaster or a change of policy within the domestic border affects almost the

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compete loan portfolio. For this reason it is important to understand the underlying systematic risk of an MFI with a nation.

Bank Performance Measurement

Measurement of the financial performance of banks increases the transparency of the banking sector in various ways. First, the performance indicators are warning signals for troubled banks. This increases the safety of the banking system. Secondly the indicators are useful tools for allocation decisions for investors. Especially in the case of MFIs, investors lack perfect information. Compared with developed nations the information asymmetry is greater, since commercial banks from industrialized countries have easy accessible and reliable performance indicators. Monitoring MFI performance decreases the information asymmetry gap for investors, which helps MFIs to attract more funds and increase their performances.

A performance model assesses the efficiency of the organization. Efficiency is the ratio of the effective or useful output to the total input of a system. Different methods are available to measure the efficiency of banks. Statistical and intelligent techniques to model bank performance models are extensively reviewed by Kumar & Ravi (2009). The most common approaches are data envelopment analysis (DEA) (Liu, 2009) and CAMEL analysis (Cole & Gunther, 2008). DEA is a non parametric method which uses linear programming to measure multiple in- and outputs of business units. The business units are compared through creating an efficient frontier of best performing business units. DEA is mainly used to assess the internal efficiency of a bank.

On-site examinations are the most precise way to monitor the performance of a bank. In developed nations are banks assessed between every 12-18 months. The ratings are known to CAMELS ratings according to their functional areas: capital adequacy, asset quality, management quality, earnings strength and liquidity. The performance of each area is rated on a 5 point scale (1 strong performance, 2 satisfactory performance, 3 performance that is flawed to some degree, 4 marginal performance that is significantly below average, 5 unsatisfactory performance that is critically deficient and in need of immediate action). From the 5 areas is a composite overall rating constructed. The Commercial Bank Examination Manual produced by the Board of Governors of the Federal Reserve System qualifies an institution consequently as; 1 an institution that is basically sound in every respect, 2 an institution that is fundamentally sound but has modest weaknesses, 3 an institution with financial, operational, or compliance weaknesses that give cause for supervisory concern, 4 an institution with serious financial weaknesses that could impair future viability, 5 an institution with critical financial weaknesses that render the probability of failure extremely high in the near term.

Although the CAMEL approach is widely used, Cole & Gunther (2008) point out that the reliability of the ratings decays rapidly once published. To deal with the diminishing value of CAMEL ratings, they offer a method to create CAMEL rating based on accounting data. The off-site examination of the CAMEL rating performs better after two quarters since the last on site assessment. The CAMEL approach is a suitable starting point to assess MFI performance, since MFI data is only published annually. The rating enables to

benchmark multiple MFI's and filter credible and well performing institutions from the dataset. CAMEL offers thereby the possibility to incorporate the social objective of MFI's within the performance model. Besides CAMEL are seven approaches established to measure MFI performance. The Global Development Researchcenter describes all approaches which find their origin from private and commercial initiatives to rank MFI's. The ACCION Camel approach is comparable to the measurement as suggested above. An overview of the systems:

1. PEARLS rating system. This is a rating system developed for credit unions by the World Council of Credit Unions (WOCCU).
2. ACCION Camel. The evaluation guideline for MFIs developed by ACCION International.
3. Girafe rating system. Developed by PlaNetFinance.
4. MicroRate. Developed by Damian von Stauffenberg of MicroRate.
5. MicroBanking Bulletin/ MicroBanking Standards Project. Funded by the Consultative Group to Assist the Poorest (CGAP).
6. The Philippine Coalition for Micro-finance Standards. Developed a set of performance standards to serve as guidelines or benchmarks to assess the operations of NGOs involved in microfinance.
7. Institutional Performance Standards and Plans Developed by the Committee of Donor Agencies for Small Enterprise Development and United Nations Capital Development Fund.

CAMEL is suggested as most suitable for investors. The reliance on qualitative measurement through interviews with the MFI's management is a drawback of the above mentioned methods. Although interviews are useful to assess the performance of an institution, it does not allow investors to assess the institution based on free available information (for example from MIX markets). The CAMEL approach offers an objective evaluation method to assess the performance on quantitative measures. CAMEL is thereby widely recognized as a well performance rating method of financial institutions.

The areas of the CAMEL approach are defined, but the indicators to generate the rating of the areas vary per organization or study. Microfinance has a different banking perspective compared with traditional banking. To adjust for this basic principle the set of accounting indicators for the CAMEL model is different, compared with models of traditional banks. ACCION is a rating agency which uses CAMEL to measure the performance of MFI's. A combination of qualitative (interviews) and quantitative (accounting data) analysis is used to rate the institutions. The present study solely uses quantitative measures to assess MFI performance.

The indicators are adjusted to the amount of the gross loan portfolio to adjust for company size. Capital adequacy is measured by the amount of total equity and the amount of leverage within the organizations. A higher amount of equity reduces the probability of the occurrence of insolvency. A higher reliance on debt increases the financial pressure on the institution. Leverage reduces therefore the overall CAMEL score. Asset quality indicates the quality of the loans. The write off ratio of the loans and the not winnable loans in 30 days, reduces the quality of the assets. The ACCION model and <https://assignbuster.com/financial-performance-of-microfinance-institutions/>

the model of Cole & Gunther (2008) do not include a quantitative measure of management. The current study measures the way the management uses the financial resources efficiently to provide as many loans with the same resources. Better management should be able to reach more clients (possibly with a higher amount of an average loan). Operational self-sufficiency is a measure of overall financial performance of the management. The ratio of operational expenses and loan portfolio presents how effective the management distributes loans to clients. This serves as a proxy for the objective of MFI's to reduce poverty. Secondly is the amount of active borrowers an absolute measure of how many clients the management reaches compared to the financial resources. The average loan balance divided by the GNI of the domestic nation indicates how much a MFI offers to clients within the local context. Earnings strength is the most important for return oriented investors. Return on assets and equity are a widely accepted measures of financial performance. Profit margin is included as a profitability measure of the services offered by the institution. Liquidity is a measure of how well an institution deals with short term cash flows and needs.

Unfortunately the database only provides annual information of balance sheets. Specific (short term) cash flow information is not available. Liquidity represents the ability of an institution to meet obligations as they come due. In order to create a proxy for liquidity, data is gathered to determine till which extent institutions can meet loan requests of clients. Two ratios are calculated. The first represents the growth of the assets compared with the growth in the total loan portfolio. The second ratio focuses on the growth of equity compared with the growth in the total loan portfolio. If the ratios are above one, institutions are able to meet the obligations of new loans on a

short term basis. An overview of the indicators used in the present study is given in table X, together with the expected effect on the overall CAMEL score.

BEKIJK CLEAMWinker & Tank, 2008

Dimension	Financial Indicators	Expected effect on CAMEL rating
Capital Adequacy	Total Equity / Loan Portfolio (CA1)	Increase
	Leverage (CA2)	Reduce
	Write off percentage (AQ1)	Reduce
	Portfolio at Risk > 30 days (AQ2)	Reduce

	Operatio		
	nal Self		
	sufficienc		
	y (MQ1)		
	Operatio		
	nal		
	Expense		
	/ Loan	Increas	
	portfolio	e	
	(MQ2)		
Managem	Reduce		
ent	Number	Increas	
Quality	of Active	e	
	Borrower		
	s (MQ3)	Increas	
	Average	e	
	Loan		
	Balance		
	per		
	Borrower		
	/ GNI per		
	Capita		
	(MQ4)		
Earnings	Return	Increas	
Strength	on Equity		

(ES1)

Return ^e

on Assets Increas

(ES2) ^e

Profit Increas

Margin ^e

(ES3)

Growth

Total

Assets /

Growth

Loan

Portfolio Increas

(L1) ^e

Liquidity

Growth Increas

Total ^e

Equity /

Growth

Loan

Portfolio

(L2)

Exponential weighting is used to include past performances of institutions into the model. Other CAMEL models do not incorporate the time dimension,

but past performances are a reliable proxy for future performance. Capital adequacy is for example calculated as:

CA1 and CA2 are the camel scores on the indicators as discussed above, is the weight of the indicator within the specified CAMEL area. This will be normally equally distributed over the amount of parameters. The is the degree to which the past years taken into the equation. N is the amount of years of available data of MFI performance. The overall CAMEL score is constructed by an equal or adjusted weighting of the five performance areas.

The sums of the weights of the indicators have a maximum of 1. Regarding the social objectives of MFI's a distinction is made between solely return oriented investors and more social oriented investors. A customized CAMEL rating on the preferences of an investor is created by shifting the weights of the areas, yielding the CAMEL rating which reflects the preferences of the investor. Within this study we will use an equal weight distributing, a distribution which stresses the financial performance (ES) and a rating which focuses on the social objectives (MQ).

Two words of caution have to be made with the use of the current model. The comparability of the ratings is not straight forward when investors adjust weights to their preferences. Traditional CAMEL models use always an equal weighting over the areas, to grant comparability. Secondly, in line with Cole & Gunther (2008) the CAMEL ratings are a not interchangeable with the CAMEL based on on-site visits. For investors the model designed for MFI's provides a reasonable indicator to determine the quality of MFI's on various aspects and should be seen complementary with the on site visits.

Summarizing, CAMEL is used as a starting point to measure the financial performance of MFI's. Specific indicators are chosen to adjust for the special case of a microfinance institution. The ACCION CAMEL model provided a first start for the current model. The solely quantitative model incorporates a measure for effective management of an MFI, as a reflection of the social objective of MFIs. Secondly the model also considers past performance of MFI's with the use of exponential weighting. Thirdly the model enables to provide weights according to the investor preferences. For MFI's the model presents indicators which could be embedded in the MFI's performance goals. This way MFI's could attract more funds necessary through establishing a better rating and so, become more attractive for investors. In the appendix are the CAMEL rating for the indicators specified.

Systematic risk in microfinance

Sensitivity to market risk as an extension of the CAMEL model.

Descriptive statistics are used to compare the performance of MFI's with commercial banks. Banking ratios of commercial banks of the G10 are used as a benchmark. The comparison of banking ratios provides a glance of the performance of the MFI's. The return on assets (RoA) and on equity (RoE) is compared to give an indication of the profitability of MFI's. The outstanding loan portfolios and write off ratios, provide a view of the riskiness of MFI's, since micro credit represents the largest product class with microfinance.

Leverage is used as an additional proxy for the riskiness of the organizations.

Operational costs are compared to get a feeling for the efficiency of MFI's.

According to Krauss & Walter (2008) is the performance of MFI's mainly driven by macroeconomic factors within the domestic borders. The drivers of the financial performance of MFI's are studied with the use of the arbitrage pricing model (APT). The asset pricing model is used to determine the risk premiums of the macro economic factors of MFI's within the nation. Roll & Ross (1995) find that the return on assets or equity consists of a system of risk factors. The systematic risk factors are macroeconomic factors. The expected return on a portfolio of assets is given by

The betas on the factors represent a risk premium for a systematic risk factor. The alpha, as a residual idiosyncratic factor is canceling out in large portfolios. By using the linear multi factor model an indication of the impact of the macroeconomic factors is revealed on the performance of MFI's. The factors incorporated in the model are the growth of GDP, GNI, inflation and the penetration of the financial sector within the nation. In line with the