Social and financial performance of Islamic and conventional microfinance institutions: Comparative Study in Indonesia

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Abstract:

The microfinance initiative has evolved over the past four decades, as important mechanisms for reducing poverty. There is strong evidence, however, to suggest that increasing their financial viability often hampers their ability to reach the poorest of the poor. This article aims to identify the degree of performance of Islamic and conventional microfinance institutions in Indonesia.

To answer the problematic of our work, we also apply the methodology of Data Envelopment Analysis (DEA), linear analysis of the efficiency according to the non-parametric programming to evaluate the performance of the MFIs. Based on data collected from a follow-up of the 120 Indonesian MFIs over a quarterly period for five years, over the 2011-2015 period. The descriptive analysis of the different variables shows that IMFIs are on average relatively more financially inefficient than IMFCs.

This result suggests that the inefficiency of Indonesian IMFI is more a result of pure technical inefficiency (management shortfalls related to the problem of under-equipment, quality of human resources) than inefficiency of scale. With regard to the central question that this study seeks to answer, which objective (social or financial) for Indonesian MFIs, the results suggest that they are primarily concerned with their social and financial objectives.

Key words: Islamic microfinance, financial performance, social performance, Indonesian Islamic Rural Bank, DEA.

Introduction

There is a shortage of theoretical and empirical literature highlighting the various aspects, including the financial and social performance of microfinance institutions (MFIs) around the

world. Research studies adopted various methodologies and statistical techniques to evaluate the performance of these organizations especially over the last three decades.

The literature available on MFIs around the world can be divided into two types. First, discuss and evaluate the importance and impact of micro financial services on the MFI clients' level of poverty while another series of studies attempt to assess social and financial performance of these organizations using different profitability indicators grouped into different categories such as sustainability indicators, portfolio quality indicators, efficiency indicators, assets and accountability indicators, while social performance is represented by awareness indicators.

However, our main goal is to understand the purpose of Islamic microfinance and its place among the other means developed to provide financial services to populations excluded by traditional financial institutions. In this article, we focus first, on the various research studies of the performance and especially on the technique the data envelopment method (DEA) and its specification these relations with concepts like efficiency and efficiency. Then we present the origin of the data used and the sample on which our work is concerned, the model chosen as well as the description of the variables used.

1- The review of various research studies.

The social and financial performance of MFIs also depends, among several other factors, on critical macroeconomic and institutional factors. These macroeconomic and institutional variables have a positive or negative influence on the financial health of MFIs. Research by (Imai, K. S, Gaiha, R, Thapa, G, Annim, SK and Gupta, A. (2011), investigated the effect of macroeconomic and institutional factors on MFI performance using the three steps least squares of econometric technique

The performance of the MFIs was measured by ROA indicators, debt-to-equity ratio, portfolio at risk and the ratio of operating expenses. The institutional and macroeconomic variables included in the study were: GDP, ratio of credit to GDP, control of corruption, rule of law, accountability and political stability. The study found that macroeconomic variables, GDP and credit to GDP have a positive influence on the financial performance of MFIs. They concluded that for better financial performance and sustainability of MFIs, both macroeconomic and institutional factors are important.

The MFI is still trying to improve their seemingly contradictory social and financial performance. Bassem B.S (2012) studied the tradeoff between the social and financial

performance of MFIs in the Middle East and North Africa (MENA) region from 2008 to 2010 panel data by taking social awareness indicators and financial performance indicators using the generalized least squares (GCM) technique. The results show that there is a negative impact of the size of MFIs on the desire to serve female borrowers. The results of the regression did not prove the link between financial performance and depth of awareness or social performance. Research has not found that the presence of a good financial performance of the MFI and serving the marginalized segments of society by providing financial services are not contradictory. The results of the study confirm that MFIs can simultaneously.

Muhammad Farooq and Zahoor Khan (2014) show in a study aimed to assess and compare the social and financial performance of Islamic and conventional microfinance organizations in Pakistan for the period 2005-2012. The study used five categories of different performance indicators covering both the social and financial aspects of MFIs.

The financial performance based on profitability indicators especially ROA, ROE of all four MFIs is not encouraging. They showed losses over the period 2005-2012 on both ROA and ROE.

Social performance based on the indicators taken for this study, all MFIs are well behaved. However, if the criteria for judging the social performance of microfinance institutions is high percentage of female borrowers, then conventional MFIs have done a good job compared to Islamic MFIs in Pakistan.

Although the financial and social returns of both Islamic and conventional MFIs have improved with the passage of time in Pakistan, they have always battled on several fronts especially to improve their profitability on the basis of ROA and ROE measures to make organizations profitable and sustainable.

In addition, the study found that Islamic microfinance institutions are viable and sustainable, even in the absence of charging for their clients' interests. Thus, the rich section of society should divert their charity, Sadaqat and Zakat to these microfinance institutions to help those who really need financial help.

In addition, the mixed and inconclusive empirical results do not support the conclusion that there is a stable relationship between social performance (SP) and financial performance(¨FP). The results of these studies show great variability and inconsistency in the results.

This inconsistency was mainly explained by a disparity at the theoretical and methodological levels. In addition, the large variation in the variables used from one study to another limits the relevance of comparisons between these studies. Studies differ in the measures of key concepts, such as SP and FP, in the choice of study periods and control variables, in the size and composition of the sample, and in the linear methodologies used (Abbot and Monsen 1979, Ullman 1985, Aupperle et al., 1985, McGuire et al., 1988, Griffin and Mahon 1997, Mc Williams and Siegel 2000). For some authors, the reason for this disparity is related to the fact that the research carried out so far does not take into account the dynamic nature of SP. Barnett (2007) argues that the variation of SP over time, due to the action of the stakeholders, must be at the heart of the debate around the relationship between SP and FP.

2- Social performance and financial performance microfinance institutions in Indonesia: Application DEA

a- The DEA method

The DEA method is a non-parametric approach originally introduced by Charnes et al. (1978) based on Farrell's (1957) idea. This method consists in estimating an efficiency frontier grouping the best practices observed thanks to mathematical linear programming.

The DEA method measures the efficiency of a decision unit by calculating the relative difference between the point representing its observed input and output values relative to a hypothetical point on the production frontier. In other words, the production frontier is estimated by an envelope curve, formed by line segments joining the efficient entities so that all observed points lie on or below the production boundary.

Input Virtual $= V_1X_1 + \ldots + V_iX_i = \sum_{i=1}^{m} V_iX_i$ (Equation 1)

Output Virtual $= U_1Y_1 + \ldots + U_rY_r = \sum_{r=1}^{s} U_rY_r$ (Equation 2)

$$\text{Efficience} = \frac{\text{Virtual input}}{\text{Virtual Output}} = \frac{\sum_{i=1}^{m} V_iX_i}{\sum_{r=1}^{s} U_rY_r}$$

The model of Charnes et al. (1978) is based on maximizing the weighted sum of outputs relative to the weighted sum of inputs under the assumption of constant scale returns (Equation 3).

Later, Banker et al. (1984) have proposed a model that relaxes this hypothesis. It is the model of the variable returns to scale where the decision units operate on an optimal scale with an

additional constraint of convexity. The use of the Variable Scale Efficiency specification calculates the net technical efficiency of scale efficiency effects (Equation 4).

To achieve technical efficiency (TE Technical Efficiency), it is necessary to apply a CRS analysis, also called a CCR score (relative to the authors of the CCR model: Charnes, Cooper and Rhodes, 1978). And when applying a VRS analysis, we obtain pure technical efficiency (PTE Pure Technical Efficiency) also called a BCC score (relative to the authors of the BCC model: Banker, Charnes and Cooper, 1984). The ratio between the TE and PTE gives a scale efficiency score SE (Scale Efficiency). According to Coelli et al. (2005), Any difference studied between the CCR scores and the CCB scores at a decision unit level is indicative of inefficiency of scale. However, the DEA method is generally used to compare different DMUs for the same period, that is, when the time variable is ignored. One of the extensions of the DEA method is the approach to Window Analysis, which was introduced by Klopp (1985). The advantage of this approach is to visualize the trend of the efficiency of a decision unit over time (Charnes et al., 1994 and Cooper et al., 2007).

Thus the evaluation of the efficiency of DMU offers two possibilities: either an input-oriented model or an output-oriented model. The last is to maximize the outputs for a given amount of inputs while the first is to determine a minimum level of inputs to produce a given amount of outputs (equations 3 and 4).

Equation 3

$$\theta^* = \text{Min } \theta$$

Under constraints

$$\sum_{j=1}^{n} \gamma_j \ y_{rj} \geq \ y_{r0} \ ; r = 1, 2,3\ldots, s$$

$$\sum_{j=1}^{n} \gamma_j \ x_{ij} \leq \ \theta x_{i0} \ ; i = 1 ,2 ,3\ldots, m$$

$$\sum_{j=1}^{n} \gamma_j = 1$$

$$\gamma_j > 0 \ ; j= 1 ,2,3\ldots ,n$$

Equation 4

$$\emptyset^* = \text{Max } \emptyset$$

$$\sum_{j=1}^{n} \gamma_j \ y_{rj} \geq \emptyset y_{r0} \ ; r = 1, 2, 3 \dots s$$

$$\sum_{j=1}^{n} \gamma_j \ x_{ij} \leq x_{i0} \ ; i = 1, 2, 3 \dots m$$

$$\sum_{j=1}^{n} \gamma_j = 1$$

$$\gamma_j > 0 \ ; j = 1, 2, 3 \dots, n$$

In our research, we choose for the input-oriented model based on the idea that a bank could always better exploit and control its resources to produce the same output on one side and on the other side that the input-oriented model is also applied here to allow for a comparison in a state where MFIs are unable to increase outflows due to geographic, demographic or regulatory restrictions so only option to lower inputs to increase efficiency

b- Sample Description and Model Specification
✓ Description of the sample

We use both the input-oriented CRS and VRS models to measure the effectiveness of quarterly MFIs from 2011 -2015 in the Indonesian country. Our total sample, which represents all the MFIs that are in Indonesia over the period concerned in the first stage. The data comes from the Indonesian central bank and is based on annual reports and financial statements sent by microfinance institutions in each province to the Indonesian central bank. The information covers general data (deposits, equity, credit lines), jobs (loans, investments) and financial expenses (expenses and revenues by category).

The homogeneity of the sample, the competitive environment, the market conditions, and the size of the undervalued firms, is one of the important conditions for the application of the DEA method. The conditions of the competitive environment and the market are implicitly respected in Indonesia because all provinces are governed by the same laws and regulations.

All the figures come from the database for the Indonesian central bank. Our choice fell on 120 Islamic and conventional MFIs to share in 5 provinces, which have been found in the most rural areas where the poorest are, for several reasons such that each province has a developed, experienced microfinance sector and dynamic characterized by a diversity of MFIs.

Our sample is summarized in the following table:

Table1: Distribution of databases

	BANTEN	JAVA OUEST	Jawa Tangah	Timur	NAD	TOTAL
IMFI numbers	7	21	13	13	6	60
Number of IMFCs	13	13	15	13	6	60
Total	20	34	28	26	12	120

Source : central bank indonesia

c- Spécification du modèle : sélection des inputs et des outputs

✓ **Inputs selection:**

The selection of inputs is part of the traditional approach to measuring the efficiency of financial institutions, namely the production model. In this study we selected for the input "work" which represented by the number of the employees constituting the personnel thus the operating load for IMFI and OIEI for IMFC, and for the input "capital" corresponding to the total amount of the assets for both types of MFIs.

✓ **Output selection:**

• **Financial Performance:**

The two aspects of sustainability: operational and financial can be apprehended by the return on assets (ROA) and the return on equity (ROE). Indeed, the FP of banking systems is generally evaluated by two main indicators: the rate of default and more generally the ROA. It measures the ability of the financial institution's management to acquire capital at a reasonable cost and to invest these funds profitably. Thus the ROE is equivalent to the return on investment, frequently used in finance, it indicates to a potential investor of return that he would have perceived on his investment if he had been financial partner of the MFI.

For most financial institutions, the majority of assets are loans and the largest source of income is interest earned on loans. As a result, the ability to provide loans that earn interest (which will be repaid) directly affects net banking profit and determines financial success (Kohers and Simpson, 2002). It can be assumed that a good PF allows an MFI to be sustainable and sustainable in its activity.

One should be cautious in using the ROA because even if profitability on assets is adjusted some effects remain pernicious. For example, MFIs with NGO status have a higher ROA than regulated MFIs. This can be explained by the fact that NGOs, which have limited possibilities for financing on the financial markets and therefore lower debt / equity ratios, are forced to

generate a surplus to finance their growth. On the other hand, regulated MFIs, with access to financing sources more easily, have greater leverage and are therefore managed to achieve a good return on equity despite a rather low return on assets.

- **Social Performance:**

Awareness and sustainability are two objectives of the MFI operation (Tulchin D, 2003).

Outreach is defined as the social value of MFI production in six aspects, namely depth, breadth, length, reach, user value, and cost to users (Schreiner M, 2002 and Navajas S). These aspects are defined as follows: the depth of this work is defined as the extent to which MFIs penetrate deeper to the poorest, the breadth is measured by the number of borrowers assisted, the length is the length of service the microfinance delivered to a community, the scope of awareness for the number of the variety of services provided (loans, savings, zakat and others), the trouble of users is to know how much customers appreciate the service provided is based on the how it meets the needs of customers, and the cost to users is calculated by the total costs that customers must pay for distributed services as a sum of the costs of the prices (fees) and the transaction costs.

Laville (2001) cite three proxies (types) for measuring the depth of the program: the percentage of women in borrowers, the average loan amount and the average amount of deposits. In order to show an optimal measure of PS, we propose to measure the scope and depth of the program as follows: the amount of deposits and the number of staff and FDR (the ability to repay bank withdrawals by clients (total financing / total deposits).

We used the literature to choose the input and output variables that we summarize in the following table

Table 2: input and output variables

Inputs	Definition	Use in literatures
Total assets	The total wealth available MFI capital and borrowing for its transformation process. It is used as inputs to represent capital for the production approach.	Bassem BS (2008) Kipesha EF(2012) Guti_errez-Nietoet al(2009)

Outputs	Definition	Use in literatures	Objective MFI (efficiency), represented
Exploitation charges	Operating expenses, for example all personnel costs, depreciation, administration costs. It is used as input into the production approach since production process will not be viable in the long run if the outputs were produced at high costs, which must be managed to avoid wastage.	Athan AD(1997)Guti_errez-Nieto B, et al(2007)Guti - Nieto B,et al(2009) Hassan M, Sanchez B (2009)	
NPF = (Total NPL / Tota Financing) measures the level of doubtful debt: the smallest means the best performance	A non-performing loan (NPL) is the sum of borrowed money that the debtor has not made regular payments for at least 90 days. An unproductive loan is either in default or nearly in default. Once a loan is unproductive, the chances that it will be repaid in full are considered significantly lower. . If the debtor starts making payments again on an unproductive loan, it becomes a new execution loan, even if the debtor has not caught up on any missed payments Management indicated by Non-Productive Financing (NPF), which measures the level of bad debts that was to be reserved. The smallest ratio means that the best performance of the bank. This variable is used here as an input into the production approach to represent the risk in the transformation process as less risk is favorable to the business.	As far as we feared, it was not used as an entry in other DEA-microfinance literatures .	
Employee	The labor factor, ie all persons employed by MFIs, including contract employees or advisers registered or not on the MFI employee list	Athanassopoulos AD(1997) Bassem BS (2008) Haq M et alt (2010) Hassan M,Sanchez B (2009) Kipesha E (2012). Sedzro K, Keita M(2009)	

Source: author's work

Return on assets (ROA)	it is a general measure of profitability that reflects both the profit margin and the effectiveness of the institution. However, the value of this ratio in financial decision-making is limited and managers are more interested in whether their institutions have sufficient financial resources to continue serving their clients. It is used as an output in the production approach and proxy for sustainability from an MFI	Guti_errez-Nieto B, (2009) Hassan MK, Sanchez B(2009) (P. Adair I. Berguiga, 2010).	(financial efficiency)
The return on equity (ROE)	Return On Average Equity (Return On Average Equity) = Net Income / Average Equity	Muhammad Farooq and Zahoor Khan (2014)	(financial efficiency)
FDR,	To measure the depth of awareness from the ability of clients repaid their withdrawals using FDR to determine the ability to repay the loan by the borrower . FDR is the ratio between the funding provided by banks to leverage successfully deployed by banks the ability to repay bank withdrawals by customers with relying on loans as a source of cash	Modification of literatures (Muhammad, 2005). use FDR as an index to measure repayment capacity while we use them separately .	(social efficiency)
Amount of deposits	The scope of an MFI refers to the number of clients served . They can be borrowers as custodians. In the case of Indonesia, BPRS are allowed to collect deposits. The BPRS Indonesia Protest therefore refers to the number of borrowers and therefore the amounts of deposits. It is clear that the more a microfinance institution has customers, the more it can benefit from economies of scale and thus cover its fixed costs and be able to make a profit. The larger the scope of a BPRS service, the better its social performance improves. The better the financial results, the more resources BPRS has available to increase both the extent and scope of BPRS.. Here, the deposits are used to resemble the width of the sensitization.	To evaluate the effectiveness of 18 Islamic banks, Yudistira (2003) applies the DEA by specifying a matrix of independent variables composed of 3 outputs (total loans, other income, liquid assets) and 3 inputs (total deposits, administrative costs). , fixed assets).The intermediation approach was chosen mainly because of the participation of Islamic banks in companies involving very high intermediation activities (Dar and Presley, 2000).	(efficacité sociale)

Source: author's work

Tableau 3 : les inputs et outputs DEA

DEA Specifications	Efficiency represented	Input variables	Output variables
	Overall Efficiency	Assets	ROA
		Operating expenses	DEPOSITS
		NPF	FDR
		Staff employed	ROE
	Financial Efficiency	Assets	ROA
		Operating expenses	ROE
		MFN (90 days)	
		Staff	
	Social Eefficiency	Assets	
		Operating expenses	
		NPF	FDR
		Staff employed	DEPOSITS

3- Results analysis

The first step was to calculate the efficiency scores in each province. This procedure evaluates each MFI against peers in their own country. The results presented in the following table (4), show the overall technical efficiency scores or constant scale efficiency, θ CRS, and pure technical efficiency which considers a variable scale yield, θ VRS. The table shows the technical efficiency and the pure technical efficiency of financial and social efficiency.

For the IMFC provinces, note that the minimum average overall efficiency of all IMFIs in the JAYA province is 65.14% θ CRS and 92.229% θ VRS, however, the average maximum overall efficiency of the IMFI total of the province NAD is 94.41% θ CRS and is 96.28% θ VRS.

In recent years, the effectiveness of IMFC has slightly improved, while that of IMFI has improved considerably, or the average pure technical efficiency of IMFC (94.42%) has become better than that of IMFI (87.65%), in the same direction of the IMFC achieve greater technical efficiency and SE of IMFI.

Table 4: Scores of technical efficiency (θ CRS), pure technical efficiency (θVRS) and efficiency of scale (θ SE) for IMFCs

		BATTEN	J AYA	J.TANGAH	TIMUR	NAD	Moyenne
Overall Efficiency	θ CRS	77,277 %	65,14 %	79,647%	86,72 %	94,41%	80,63
	θ VRS	87,33%	76,02%	92,229%	92 ,54%	96,28 %	88,88
	θ SE	78,103%	83,68%	85,34%	93,16%	91,51%	86,36
Financial Efficiency	θ CRS	4,801 %	39,2 %	50,41%	92,70	77,39%	52,9
	θ VRS	78,79%	80,3%	88,93 %	98,92 %	97,23%	88,83
	θ SE	02,71 %	43,81 %	54,953 %	99,59%	79,52%	56,112
Social Eefficiency	θ CRS	77,195%	85,17%	61,41%	83,6%	84,67%	78,409
	θ VRS	87,32 %	91,084%	90,16 %	91,29 %	97 ,29%	89 ,42
	θ SE	78,02 %	93,591%	67 ,8 %	90,83 %	86 ,73%	83,39

Source: author's work

Table 5: Scores of technical efficiency (θ CRS), pure technical efficiency (θVRS) and efficiency of scale (θ SE) for IMFI

		BATTEN	J OUST	J.TANGAH	TIMUR	NAD	Moyenne
Efficience globale	θ CRS	87,92%	65,14%	79,28%	81,05%	84,72%	77,547
	θ VRS	93,13%	76,02%	86,81%	90,72%	91,60%	87,656
	θ SE	94,17%	83,68%	90,84%	88,88%	91,94%	89,902
Efficience financière	θ CRS	46,57%	31,45%	25,28%	27,36%	40,63%	34,258
	θ VRS	77,07%	62,55%	78,04%	85,88%	87,16%	78,14
	θ SE	60,66%	46,89%	31,05%	31,32%	44,71%	42 ,926
Efficience sociale	θ CRS	84,26%	80 ,08%	75,77%	80,32%	79,77%	80 ,04
	θ VRS	90,45%	84 %	85,03%	90,33%	89,81%	87,93
	θ SE	92,87%	95 ,81%	88,51%	88,40%	88,14%	90,75

Source: author's work

a- Islamic and conventional microfinance institution:

Whatever the province, the empirical results show that IMFIs are on average relatively financially inefficient. This supposes that they still have a lot of work to do to better combine the resources available to them in order to best achieve their objective. Indeed, our analyzes

show that the average financial and social efficiency of all IMFI during the study period is respectively 34.258% and 76.43% assuming Constans returns to scale. On the other hand, assuming variable returns to scale, the average financial efficiency is almost doubled for the same period of 78.14% and 86.096% for social efficiency. For IMFC, the average financial efficiency is more efficient compared to the average financial efficiency of the IMFIs such as their score under the efficiency of scale is respectively 45.54% and 86.82% under the variable scale performance.

The difference between the efficiency scores θ CRS and θ VRS augurs economies of scale in the sector. To specify the type of scale efficiencies that best characterizes our sample, from the technical efficiency scores (θ CRS and θ VRS), we calculated the economies of scale (θ SE = θ CRS / θ VRS).

From Table 4 and comparing the mean VRS scores (ETP) to the SEs, we find a total dominance of pure technical inefficiency over inefficiency of scale in determining the technical efficiency for the provinces.

For the average scale efficiency score for each province, we note that IMFIs in three provinces have high scores compared to IMFC (BATTEN MFIs (94.17%), J TANGAH (90.84 %), NAD (91.94)) and the average score for all IMFI is greater than IMFC are respectively 89.902% and 86.36%.

For the IMFI of the province of BATTEN have ES scores of the overall efficiency is of 94.17% against a score of 78.103% for the IMFC and that the score of the efficiency of average scale is 89, 90% for IMFI and 86.36% for IMFC.
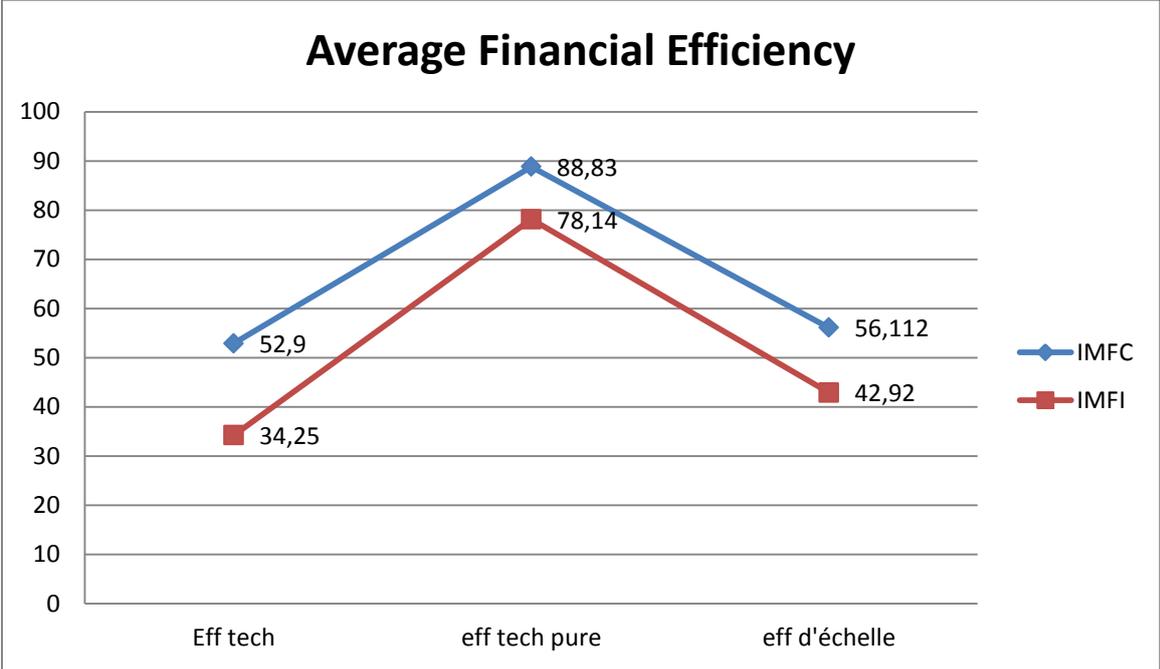
The overall mean technical efficiency score over the entire study period for IMFI is 77, 5475% indicating that the IMFIs in our sample could have produced the same amount of output achieved with only 77, 5475%. inputs used resulting in a loss of 22.4825% of resources. In contrast, the overall mean technical efficiency score for IMFC is 80.63% or a 19.37% loss of resources.

According to Table 5 we find that the score of the average social technical efficiency equals twice the other financial during the same period of study is equal to 80.04% (34.258%) which means that these IMFI do not do not charge interest or margin to their borrowers; the borrowers only repay the amount they borrow no more - via an Islamic contract called Qardh

Hasan and thus IMF cover all of their operation by voluntary donations. Our results abound in the same direction as the Indra widiarto study of IMFI in Pakistan (2014).

When we made a comparison between the two types, we notice that at the level of the financial efficiency the IMFC have a superiority over the IMFI at the level of score some is for the technical efficiency or the pure technical efficiency or the level of scale efficiency as illustrated by the following graph:

Figure 5: Average Financial Efficiency of IMFI and IMFC

Average Financial Efficiency

- IMFC: Eff tech 52,9; eff tech pure 88,83; eff d'échelle 56,112
- IMFI: Eff tech 34,25; eff tech pure 78,14; eff d'échelle 42,92

Source: author's work

In terms of financial scale efficiency, we note that the average score does not exceed 43% and reaches 31.05% for IMFI of J. Tangah province, which gives the source of financial inefficiency for all IMFI is also technically inefficient; it is a question of IMFIs who suffer from a large-scale decline in efficiency vis-à-vis the financial objective. On the contrary, the average social scale efficiency exceeds 87% and reaches 92.87% for BATTEN IMFI.

On the other hand, for IMFC, we note that the average pure technical efficiency score for IMFC is 86.82% and reach 98.92% for IMFI of NAD and that the average technical efficiency is 52.9% per year. This implies that IMFIs do not offer loans in the same way as IMFCs, and therefore the term "total loans" is a generic term used to encompass the equity financing products they use. IMFC earns money from the gap between interest on loans and interest

rates on loans. IMFIs have a similar gap that is defined in terms of profit sharing rates between entrepreneurs (borrowers) and depositors (lenders). Our results abound in the same direction as the study by Jill Johne (2009).

Summing up from the graph above that the mean technical efficiency scores for IMFI and IMFC (θ VRS) are clearly higher than the average technical efficiency scores (θ CRS) this is naturally due to the fact that θ VRS are θ CRS excluding inefficiency of scale (Niazi, 2003).

In the same sense, the comparison of the social efficiency between IMFI and IMFC shows that pure technical inefficiency and technical inefficiency reveal that, whatever the province, pure technical efficiency is always superior to technical efficiency for both types. Financing. for the average score of technical efficiency is 80.04% for IMFI and 78.409% for IMFC and the score of pure technical efficiency is 89.42% for IMFC and 87, 93% for IMFI as illustrated by the following graph:

Graph 6: Mean social efficiency of IMFI and IMFC
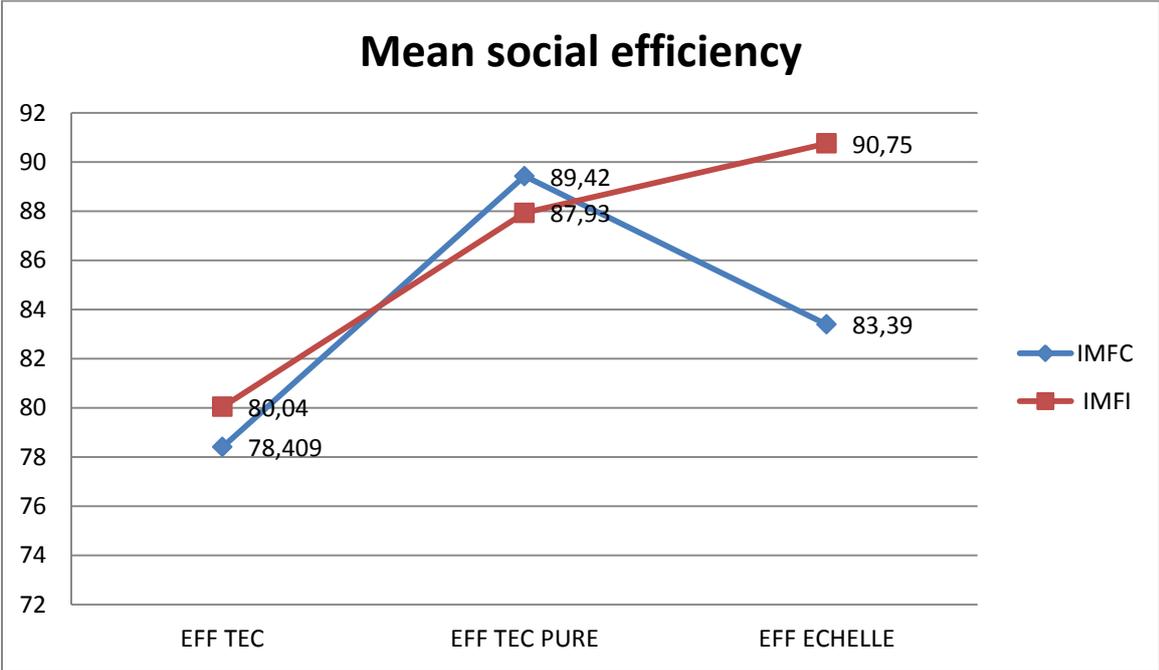
Source: author's work

This result is extended by the fact that the majority of studies shows that IMFI provides a system of non-interest bearing loans for target clients, which is a kind of loan surrendered at the agreed upon period of interest. Sharpa (1995) shows that among the goals of IMFI is to help the poor and establish an improvement in their social situation, providing facilities to

create jobs and projects. In the same sense (Obaidullah, 2008) as the integration of zakat, sadaqa as improved funding sources the social performance of the poor.

Moreover, this result suggests that the inefficiency of Indonesian IMFI is more a result of pure technical inefficiency (management shortfalls related to the problem of under-equipment, the quality of human resources) than scale inefficiency. . This result has a very important policy implication in improving the efficiency of these IMFIs. Indeed, he suggests that IMFI's inefficiency can be explained more by management, know-how, equipment and technology management shortfalls than by the size and volume of the activity. Therefore, an efficiency improvement policy must aim at improving management methods, the level of technology and the quality of human resources, especially for units operating in areas of increasing returns to scale. Our results abound in the same sense of study of Soulama (2008) which determined the presence of technical efficiency and inefficiency at the level of Microfinance Institutions in Burkina Faso.

To identify the nature of scale efficiencies and scale inefficiency, if it exists, we applied another model on the same database. This model is called "Non-Increasing Returns to Scale" (NIRS) .This model has two assumptions:

 The first, when the CRS score is equal to the VRS score for a given MFI, then we are in the presence of an MFI that operates with constant returns to scale (CRS), that is to say, an increase of inputs corresponds to a proportional increase of outputs (this is the case of IMFI).

The second, when the CRS score and the VRS score are different, we notice that the MFI operates with variable returns to scale (VRS), that is to say that a variation of inputs corresponds to a variation. In this case, the returns of scale can be:

• Increasing "increasing returns to scale (IRS)" when the increase in outputs is greater than that of the inputs

• Decreasing decreasing returns to scale (DRS) when the increase in inputs is greater than that of the outputs

To determine the nature of scale performance, we compared RSV scores to NIRS scores. According to Coelli (1998), the MFI carries out:

• Increasing Scale Efficiency (IRS) if the VRS score is different from the NIRS score.

• Decreasing Scale Efficiency (DRS) if the VRS score equals the NIRS score.

The results obtained confirm the previous observations. For example, in BATTEN province, in a sample of 13 IMFIs throughout the study period for overall efficiency, 41.117% of IMFIs operate under a constant scale of return, 11.64% under a return. Decreasing scale and 47,058% under increasing scale efficiency.

For the other provinces, IMFI, which operates on a growing scale, increases twice for J. Ouset Province (81.60%) and NAD (84.30%) .This brings us to note that IMFI. Do not operate in optimal yield, but are more characterized by increasing scale efficiency. Our results are in line with some studies that have determined the relatively high level of economies of scale in banking co-operatives (Lang and Welzel, 1996 for Germany, Fields., 1993 for Turkey, Glass and McKillop, 1992 for Ireland, Kolari and Zardkoohi, 1990 for Finland).

For financial efficiency, we note the same remark as the overall efficiency for IMFI, we find in a sample of 21 IMFS during the entire study period of the province of J.OUEST, 92.30% of IMFI which perform an increasing scale efficiency, 0.234% under decreasing scale efficiency and 0.53% under constant scale efficiency.

At the level of social efficiency for 13 IMFIs for each province of TIMUR and J. TANGAH during the study period, there is also an increasing efficiency of scale of 77.58% and 76.64%, respectively. constant scale respectively of 15.51% and 16.16% and a decreasing scale efficiency of 0.068% and 0.081% as shown in the following table:

Table 7: The nature of scale efficiency		IMFI	IMFC
Overall efficiency	Constant	**0,20716**	**0,24686**
	Croissant	**0,721224**	**0 ,8804**
	Descending	**0 ,096541**	**0,01939**
Financial efficiency	Constant	**0,06036**	**0,1452**
	Croissant	**0,927394**	**0 ,782**
	Descending	**0,012096**	**0,08262**
Social efficiency	Constant	**0,163268**	**0,1622**
	Croissant	**0,6572**	**0 ,777**
	Descending	**0,063174**	**0,092**

Source: author's work

Most conventional and Islamic MFIs are still in a state of increasing scale of performance, accounting for 60%, so they have the potential to spend and improve their performance. In addition, for overall efficiency 72.12% of IMFI and 88.04% IMFC have already achieved the effective level of constant scale performance. In the same direction for financial efficiency, IMIF and IMFC have an average increase in scale of increase of 92, 73% and 78.2%, respectively, and 65.72% of IMFI and 77.7% of IMFC perform. of increasing scale for social efficiency. Thus, in the same sense for social efficiency, regardless of the type of efficiency the average score is very close to zero (0.96% of IMFI and 1.93% of IMFC) reaches an inefficient stage of efficiency of decreasing scale. It can be concluded that there are variables that are inefficient for IMFIs and IMFCs, while various microfinance services have not yet been developed.

b- Social and financial efficiency

Under the first assumption of constant returns to scale, MFIs remain relatively ineffective as some studies have shown (Kobou et al, 2009). In addition, we observe that some efficient MFIs under the assumption of variable returns were not under the technology of constant returns. This reflects the inefficiencies of scale and raises the problem of the critical size of some institutions that would improve their performance and thus their impact in the eradication of poverty. With regard to the central question that this study seeks to answer, namely what objective (social or financial) for IMFI and IMFC Indonesia, the results suggest that the latter are primarily concerned with their financial objectives and that IMFIs are concerned about the social purpose. Indeed, the average difference between the social performance and the financial performance for IMFI and IMFC are respectively 0.0979 (0.8793-0.7814) and 0.0059 (0.8842-0.8883) respectively. under the variable returns of scale. These results are confirmed when we consider the constant returns to scale assumption and the average difference increases to 0, 45782 (0.8004-0.34258) for IMFI and 0.25509 (0.78409-0.529) for the IMFC

Although differences in the difference between the two assumptions can be attributed to several factors (external environment or internal characteristics of MFIs, etc.), it seems to us that the use of private sources of funding is mainly the responsibility of investors who are not not socially responsible. As a result, in recent years, Microfinance in Indonesia and elsewhere has undergone profound changes characterized by many of the crises that have compromised sustainability and sustainability. Considering that financial independence as a criterion that

best meets the social mission, these IMFI have made considerable efforts to design a set of "good practices", aimed at improving its efficiency and attracting private investors are part of a profitability logic. This seems to us to check in the next chapter, which this time addresses the question of the determining factors of these performances.

However, it is important to pay close attention to the conclusions that emerge from this analysis. Indeed, because of data problems, social performance is captured by a proxy (total deposits and FRD), which is far from reflecting the multidimensional property of this notion. Therefore, this measure seems insufficient to reflect the reality of MFIs in the fight against poverty. This opens the door to new research with other richer data.

Conclusion

In this paper, we sought to determine the performance objective of Indonesian IMFCs and IMFIs, using the nonparametric method of Data Envelopment Analysis used to generate the efficiency levels of IMFI and IMFC. Empirical analyzes of data on a sample of 120 MFIs for a quarterly period from 2011 to 2015, show that IMFIs are primarily concerned with their social sustainability and IMFCs are primarily concerned with their financial performance. The gap between social performance and financial performance under the various scale-of-return assumptions attests to this sufficiently. Such results point to the primacy of the "welfarist" approach that largely dominates industry practices both in Indonesia and elsewhere. This social domination for IMFI can be explained by factors of religious meaning.

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