Economics World, Sep.-Oct. 2016, Vol. 4, No. 5, 197-215
doi: 10.17265/2328-7144/2016.05.001

The Determinants of the Performance and the Sustainability of Conventional and Islamic Microfinance Institutions

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The purpose of this paper is to study the factors determining the performance (organizational, social, and financial) of conventional and Islamic microfinance institutions and their impact on maintaining the sustainability of these institutions. A panel data on a sample of 333 conventional and 49 Islamic microfinance institutions (MFIs) between 1996 and 2012 of six different regions is used for this purpose and analyzes using the simple linear regression technique. The results show that the sustainability measered by operational autonomy (OSS) of Islamic MFIs (IMFIs) is sensitive to their social performance (SP), while the sustainability of Conventional MFIs (CMFIs) is sustained by their Financial Performance (FP) measured by return on assets (ROA). Thus, these latter seem to deviate from the main social objective focusing more on profitability. Indeed, this judgement is confirmed when the results also showed that their (CMFIs) FP is positively affected by the quality of credit portfolios which reveals the category of the targeted clients (the poorest of the poor are abandoned). On the contrary, FP of IMFIs seems to be mainly supported by their specific source of funding through the islamic financial contracts where the results revealed that their profitabilty is positively affected by their capital structure. Moreover, the results show that the organizational performance positively affects the sustainability of the two categories of MFIs.

Keywords: conventional microfinance, Islamic microfinance, organizational performance, social performance, financial performance, sustainability

Introduction

Over the past three decades, microfinance has been considered as an alternative solution for global poverty alleviation (Koveos & Randhawa, 2004; Shaw, 2004; Brau & Woller, 2004). It is presented as a solution for sustainable development. The essential role of MFIs is to expand economic opportunities and financial markets to the poor (Copestake, Johnson, & Wright, 2002; Seibel & Agung, 2006; Seibel, 2008; Wright & Copestake, 2004). Thanks to the microfinance mechanism, poor people who are excluded from formal financial system can have access to financial services. Microcredit is considered as the main financial service offered by MFIs. Also, microfinance clients have the opportunity of saving small amounts. Moreover, services like micro-insurance or remittance services are provided by MFIs in the most developed systems.

Poverty focused microfinance institutions based on Islamic principles are lagging behind compared to

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conventional microfinance institutions (Ahmed, 2002; Segrado, 2005). Sharing the same social and financial objectives, Islamic microfinance brought more variety to this sector. The Islamic microfinance concept was developed as an alternative for Muslim borrowers; based on Islamic financial contracts (Karim, Tarazi, & Reille, 2008). It offers services respecting the principles of the Islamic law (Sharia). The basic principles of Islam insist strongly on justice, social inclusion, and the sharing resources between rich and poor. Furthermore, Islamic microfinance exceeds the concept of microcredit by including charity in finance, in its Islamic form, i.e. the Zakat (alms) and Waqf (endowment), in order to assist the poor's basic needs and necessities, and to avoid the over indulge of productive loans into consumption purposes (Ahmed, 2007; Wilson, 2007). Zakat represents the third pillar of the Islamic faith. The word Zakat in Arabic means to grow or to increase and when referred to people it means to improve or to become better (Seibel, 2008). An Islamic MFI can exploit the Zakat fund in two different ways. First, after the collection of the recommended amount of Zakat (a percentage usually 2.5% of the total wealth accumulated in a year) the institution then distributes it to specific group of beneficiaries which are listed in eight different categories in the Holy Quran and this mechanism helps islamic microfinance to reach the poorest of the poor. Thus, the social objective is fulfilled. Second, IMFIs can benefit from Zakat fund for their own good by employing it to cover operating expenses. However, in Islamic legal terminology, Awqaf (plural of Waqf) are used as a form of endowment, where a particular property (an asset) or an income devoted to socio-economic welfare development programs specifically poverty alleviation through different Sharia compliant products (Ahmed, 2007). Furthermore, IMFIs offer a varied package of Sharia-compliant products e.g. the Murabaha contract which is the most prevalent (El-Zoghbi & Alvarez, 2015) with total portfolio of assets almost US $ 413 million in 2011 (Nimrah & Mohammed, 2011). Also, in the second place, "Qard Al-Hasan" an interest free benevolent loan that relies on subsidies and donations, and other Islamic financial products such as Musharaka, Mudaraba, Salam contracts, etc. (Mohammed, 2011). Sharia-compliant products are considered investment instruments (i.e., the Mudaraba and Musharaka contracts) except the Murabaha contract and Qard Al-Hasan, which are the Islamic alternative of regular debt instruments. These instruments could be the solution of substantial Muslim population observing religious prohibition of interest, struggling to avoid common financial products and prefer microfinance products that respect the principles of their faith.

The microfinance industry has expanded remarkably fast (Gonzales, 2010). MFIs strive for financial sustainability but also empowerment of the poor. Sustainability in simple terms refers to the long-term continuation of the microfinance programme and the clients continue to benefit from these services. For microfinance, sustainability can be viewed at several levels and can relate to organizational, managerial, and financial aspects. According to Meyer (2002), sustainability can be measured in two stages, there are operational self-sufficiency and financial self-sufficiency. Operational sustainability refers to the ability of the MFI to cover its operational costs from its operating income. While MFIs are financially self-sufficient when they are able to cover their costs and expenses from their own generating income. Sustainabilty of microfinance is hence becoming more complex and debatable issue from different angles.

In this perspective, the research focuses on the determinants of the performance and the sustainability of conventional and Islamic microfinance institutions. In particular, this study is interested in three types of performance namely, organizational, social, and financial performance. Thus, this paper makes an original contribution in identifying the controllable factors that may be taken into account in the management of MFIs to enable the microfinance sector to continue performing and serving the poor. To the best of the authors' knowledge, unlike several number of studies which focused on only two type of performance namely, social

and financial performance (Adair & Berguiga, 2010; Venkata, Kumar, & Gupta, 2011; Jebli, 2012; Anand & Sandhya, 2012), this is the first study to examine conjointly three kinds of performance (organizational, social, and financial performance) and the sustainability for a large set of conventional and Islamic microfinance institutions and to determine the major differences between the two types of microfinance.

Section 2 contains a brief comparison between conventional and Islamic microfinance institutions (MFIs). Section 3 exposes the literature review of the different factors determining the performance and the sustainability of the MFIs followed by the hypothesis of this research. Section 4 presents the methodology, including the theoretical models. The 5th section presents the data, the descriptive statistics of the selected variables, and the analysis of the endogenous variables. Section 6 exposes the empirical results, and finally, section 7 concludes the paper.

Conventional and Islamic Microfinance

According to Ledgerwood (1999), microfinance refers to the provision of financial services to low-income clients. Financial services are generally composed of deposit operations and credits. In addition to financial services, many MFIs provide social services, such as management training, coaching, and others (Boye, Hajdenberg, & Poursat, 2006). There are several characteristics that distinguish conventional microfinance from Islamic microfinance (Ahmed, 2002). Table 1 represents the converging and diverging elements between conventional and Islamic microfinance. From this table, we note that both conventional and Islamic microfinance institutions mobilize external funds and savings as their financial sources but Zakat (the third of the five basic pillars of Islamic faith) and Waqf (holding and preserving certain physical assets to the long term benefit for the society) are specific sources of funding islamic microfinance (Ahmed, 2002; Ben Abdelkader & Ben Salem, 2013). Islamic microfinance can also maximize social services by using Zakat to meet the basic needs and increase the participation of the poor (Abdul Rahman, 2007).

Also, conventional microfinance offers interest-based financial services, while Islamic microfinance employs Islamic financing instruments, i.e. Murabaha contract, Mudaraba contract, etc. That Islamic microfinance institutions do not give cash to their clients as loans are not allowed in Islam unless there is no interest or any incremental amount charge on that loan (Abdul Rahman, 2007), i.e. Qard Al-Hasan, which is an interest-free loan, is the only type of loan allowable by the Shariah. Table 2 presents in brief some of the different types of Islamic financial products according to their affiliation principles and their purposes.

Conventional microfinance shows its limits particularly at the very high interest rates (up to 30%). Becoming more and more an integral part of the local and international economic and financial system, conventional microfinance faces the same problems of the financial sector in general. These microfinance lenders usually charge the poorest higher rates than the less poorer. In such a situation, the microcredit is not always the solution. Some even argue that disbursing credit to the poor to make financial gains out of the same cannot be the aim of microfinance institutions. Furthermore, the reduced targeting of the poorest and the most vulnerable individuals is considered a limitation of the conventional microfinance sector, which is supposed to include this category of customers excluded from the formal financial and banking sector. However, the Islamic microfinance approach is based on the sharing of risks and fixed repayment benefits and the transparency in a way to protect social welfare and justice. Islamic microfinance utilizes Islamic financial instruments which are based on Profits and Losses Sharing (PLS) schemes rather than loan. Moreover, Islamic microfinance targets not only women but also the family as a whole.

Table 1

Comparison of Conventional and Islamic Microfinance

Convergence elements	Conventional microfinance	Islamic microfinance
Social objective	Reduce poverty, achieve social equality and financial inclusion	
Institutional objective	Achieve financial independence, to touch high performance and ensure sustainability	
Target population	Excluded from the formal financial system	
Institutional risk	Risk of payment default	
Divergence elements	Conventional microfinance	Islamic microfinance
Specifications of the target population	Women in particular are more targeted	Targeting the whole family
The poorest of the poor	Neglected	Classified at the beginning of the awareness list
Adherence to moral values	Discontinued due to the use of abusive interest rates	A basic pillar
Type of products offered (assets/financing method)	Traditional financial products (having small amounts either for credit or savings) based on the interest: microcredit, micro-savings, micro insurance, and money transfer services.	Islamic financial products specific to the nature of the target population, based on the principle of profit and loss sharing: Qard Al-Hasan, micro-Ijaran, micro-Takaful, micro-savings (in the form of Islamic financial contracts), contract Salam, Istisnaa, Mudaraba, Murabaha, Musharaka ...
Liabilities	External funds + deposits	External funds + Islamic deposits (Wadiah form of Mudaraba investment) + Islamic charitable sources (Zakat, Waqf)
Funding method	Grant credits	Finance small and micro projects with direct investment through Islamic contracts + grant loans without interest (al Qard Hassan al)
Transferring funds	Transfer of money	Transfer of goods
Withheld at the conclusion of the contract	Part of the funds deducted as launching of the contract	No deduction
Encouraging employees to work	Monetary	Monetary and religious
Treatment with defects	Group centre of pressure and threat	Group centre, common warranty and Islamic ethics
Social development program	Secular social behavioral and ethical development	Religious (including behavior, ethics, and social)

Table 2

Different Types of Islamic Financial Products

Affiliation principle/purpose	Type of contracts
Sale-based principle contracts/Funding contracts	Murabaha Contract: it is a contract of sale, where an intermediary buys an asset the cost and profit margin (markup) are made known and agreed upon all parties involved at the compmencement of the contract. It is not an interest-bearing loan, yet similar in structure to a rent to own arrangement, the intermediary retains ownership of the asset until the loan is paid. Salam Contracts: it is a sale whereby the seller undertakes to supply some specific goods to the buyer at a future date in exchange for an advanced payment of the price in full. Istisna' Contract: it is a construction contract with a progressive funding process, where a party undertakes to produce and sell a specific product to be made according to agreed upon specifications at a pre-determined price.
Profit-sharing principle contracts/Investment contracts	Musharaka Contracts: a contract between two or more partners sharing both profits and losses. Instead of charging interest as a creditor, the financier will achieve a return in the form of a proportion of the actual profits earned, according to a predetermined ratio. However, unlike a traditional creditor, the financier will also share in any losses. Mudharaba Contracts: it is a partnership in which one partie provides the capital and the other provides the labour or the skill. The capital provider is known as Rab Al-Mal while the counterpart is known as the Mudarib. It is a trust contract, the mudarib is not liable for losses except in case of breach of the requirements of trust.

Table 2 continued

Affiliation principle/purpose	Type of contracts
Lease-based principle contracts	Ijara Contracts: it is a medium-term financing means and it can operate on the operating or the financial lease mechanism. It is similal to a conventional lease in which the owner rents or leases his property or goods to a lessee for a specified number of periods for a fee. The difference between the two is that in an operating lease, the asset is returned to the owner at the end of the lease term whereas in a financial lease, the asset is transferred to the lessee at the end of the lease term.
Benevolent-loan principle contracts	Qard Al-Hasan: it is an interest free loan, the only type of loan that is recongnized in the Islamic law, where the borrower only repays the principal amount and the financial institutions are prohibited from charging profit.
Saving contracts	Wadiah Contract: it is a safekeeping conhtract based on the principal of trust. Modern Islamic banks practice Wadiah in their savings and current account.

The financial and economic crisis of 2008 revealed other challenges that conventional microfinance faces. Barlet (2009) showed that these new challenges or risks can be divided into three "groups" of vulnerability for MFIs: the worsening of the economic conditions, the threats associated with the funding and liquidity, and the potential damage of the microfinance reputation.

However, Islamic microfinance has not been able to achieve a successful financial model which allows it to reach a large number of clients on a cost-effective basis. Islamic microfinance institutions are still unable to convince Islamic banks to invest in their portfolio because they are perceived as a very risky sector. Moreover, the Islamic microfinance sector suffers from a lack of qualified personnel in the field. It is a disadvantage that it can affect the quality of services and the credibility to the Sharia compliance. A problem intensified by the unavailability or the lack of the risk management tools is specific to the Islamic industry. These institutions have an urgent need for the introduction of risk management techniques consistent with the standards and specificities of its business.

Literature Review and Hypotheses

Although microfinance institutions are "non-profit" institutions, with a primarily mission to reach the poor excluded clients, non financial parameters are always employed to assess their performance. The focus on social performance appears to be at the expense of the financial health of MFIs. However, the procedures and the methodologies to assess the sustainability are scarce.

According to Ledgerwood (1999), the performance indicators are usually in the form of reports, which is a comparison of a set of financial data with another. The concepts of sustainability and performance are explained differently over time with various assumptions and determinants (Ayayi & Sene, 2010; Hartarska & Nadolny, 2007; Mersland & Strom, 2009; Ahlin, Lin, & Maio, 2010; Bourguiga & Adair, 2010; Allaire, Ashta, Attuel-Mendes, & Krishnaswamy, 2009; Jebli, 2012; Agarwal & Sinha, 2010; Ejigu, 2009; Regassa & Negash, 2014). This study focuses on identifying factors that affect the organizational performance, social performance, financial performance, and sustainability of microfinance institutions.

Factors Explaining Organizational Performance

Organizational performance of MFIs is based primarily on the capacity of its human resources. This implies a clear division of functions (management, operations, audit, human resources...) and codified procedures to be rigorously enforced. Boye et al. (2006) indicated that a structure is viable at the organizational level if it has the structures, processes, and human resources to operate effectively in line with the strategy that is attached to it. Such a structuring effort is a key issue of the sustainability of MFIs. The ratio of Operating

Expenses and the ratio of Personnel Expenses represent the efficiency of the credit operation indicators (Ledgerwood, 1999), also called management indicators (Séne, 2010). Organizational effectiveness of microfinance institution measures their ability to overcome the costs of their operations. Based on the studies already mentioned, the present study supposes the following hypothesis:

H1: There is a negative relationship between expense ratios and organizational performance.

Factors Explaining Social Performance

Social performance reflects a measure of the MFI's intentions to have a social impact and proper integration in its environment (Boye et al., 2006). It clarifies the objective of the struggle against poverty for a microfinance institution. With the absence of harmonized and standard indicators worldwide, proxies are employed, which essentially measure the social impact in terms of degree or scope (Adair & Berguiga, 2010).

"The number of customers" is used as a measure of the scale of outreach of an MFI services in several studies (Mersland & Strom, 2009; Luzzi & Weber, 2006). In addition, Hartarska and Nadolnyak (2007) and Hartarska (2005) used "the logarithm of the number of active borrowers".

Mersland and Strom (2009); Ayayi and Sene (2010); De Crombrugghe, Tenikue, and Sureda (2008); and Hartarska (2005) used "the average loan balance per borrower" in order to evaluate the depth of outreach. The lower the average is, the more the MFI is targeting the poorest. Other researchers used "the percentage of female borrowers" among the MFI clients to measure the depth of outreach (Cull, Demirguç-Kunt, & Morduch, 2007; Ayayi & Sene, 2010; Luzzi & Weber, 2006).

Several studies showed that the scope of an MFI refers to the number of served clients. It is clear that the more clients a microfinance institution has, the more it can benefit from economies of scale and thus cover its fixed costs and make a profit (Hartarska, 2005; Luzzi & Weber, 2006; Hartarska & Nadolnyak, 2007; Mersland & Strom, 2009; Adair & Berguiga, 2010; Jebli, 2012). According to the studies already mentioned, the second hypothesis is formed as follows:

H2: The greater the scope of services of a microfinance institution, the greater its social performance improves.

Factors Explaining the Financial Performance

Financial performance is the ability of an MFI to cover the set of its expenses by its income and finance its growth (El Kharti, 2013). Financial performance is mainly measured by financial and operational self-sufficiency, as well as the achievement of profitability maximizing the efficiency and productivity i.e. "return on equity (ROE)" and "return on asset (ROA)" (Sene, 2010; Adair & Berguiga, 2010). The ROE is particularly important for private entities with shareholders seeking profits. However, given that most of the MFIs are nonprofit, this ratio is rather used as an alternative indicator to measure the commercial viability (Ledgerwood, 1999). Unlike the ROE, the ROA measures the profitability regardless of the underlying funding structure of the institution, and enables to compare profit and nonprofit MFIs.

To determine the factors that have a relationship with the financial performance, Ayayi and Sene (2010) analyzed a sample of 217 MFIs in different legal forms, originating from 101 countries in different parts of the globe. Their study covers the period between 1998 and 2006. The authors used financial self-sufficiency as an independent variable in their model. The results showed that the factors that have a positive impact on the financial performance of MFIs are, in order of importance, the quality of the loan portfolio measured by portfolio at risk followed by the interest rate applied and the quality of management (as measured by the ratio of operating expenses and the ratio of personnel expenses) and finally, the scale of activities of MFIs and their

ages: these two factors are statistically significant but have less influence on the financial performance of MFIs. Jebli (2012) analyzed a sample of 10 Moroccan micro-credit associations (MCA), over the period between 2003 and 2010. In this study, the author used the operational self-sufficiency and profitability of assets to determine the factors affecting the financial performance. The results show that the factors that have a positive impact on the financial performance of the MCA are the scale of outreach measured by the number of active borrowers, the level of debt indicator of the financing structure, measured by the ratio of debt to equity and the portfolio quality measured by portfolio at risk.

The financial performance is measured by three accounting ratios commonly used for this purpose: the return on assets (ROA), return on equity (ROE), and cash flow ratio (Ledgerwood, 1999; Ayayi & Sene, 2010; Bruett, 2005; Hartarska, 2005; Cull et al., 2007; Mersland & Strom, 2008; 2009).

H3: A good control of portfolio quality and a balanced financial management improve the financial performance.

Measurement of the Sustainability of MFIs

The sustainability of a microfinance institution can be defined as the ability to generate sufficient revenues to cover up all the operational and financial expenses (Epstein, Buhovac, & Yuthas, 2010). Ducroux (2001) showed that a sustainable institution is an institution that has gained its independence on the organizational, technical, financial, institutional, and social level.

The combination of three types of performance i.e. organizational, social, and financial performance generates the sustainability of microfinance institutions (Boye et al., 2006). Many empirical studies used two levels of self-sufficiency (operational and financial) as determinants of the sustainability of MFIs. The first aspect of the financial, operational self-sufficiency was used by Hudon and Niyongabo (2009) as a determinant of sustainability for 83 microfinance institutions rated by PlaNet rating for the period between 2002 and 2005. The results of the study showed that the organizational structure or the experience of the MFIs has no role in the sustainability of the studied MFIs.

Several previous researchers (Tucker, 2001; Stephens, 2005; Schreiner, 2002) attempted to assess the indicators that affect sustainability in its financial aspect. Tucker (2001) found that both staff productivity and organizational structure of the MFI (such as NGOs, for-profit organizations, and cooperatives) have a positive impact on the sustainability of MFIs. Stephens (2005) identified the number of years in practice as factors explaining the sustainability of MFIs showed some differences according to the geographical location. Results indicated that the number of borrowers and the ratio of the operating expenses were positively related to the sustainability of the studied MFIs. Schreiner (2002) found that the degree of the scope has a negative impact on the financial self-sufficiency as an indicator of the sustainability of the MFIs studied. Under this perspective, the fourth hypothesis is formulated as follows:

H4: The microfinance institution must attain organizational, social, and financial performance to ensure its sustainability and continue to serve its clients.

Methodology and Model Specification

To assess the performance and sustainability of MFIs, the study resorted to several variables. Unlike previous studies, this study gauges the determinants of each different type of performance of conventional and Islamic MFIs separately. Then on another stage, it analyzes the impact of this performance on sustainability.

Organizational Performance

To study the organizational performance of conventional and Islamic MFIs, this empirical research estimated the following model:

Model 1:

$$ABPCOijt = \alpha 0 + \alpha 1 OERijt + \alpha 2 PERijt + \varepsilon t \quad (1)$$

with:

i = 1, ..., 382 (conventional and Islamic MFIs);

j = 1, ..., 17 (years of 1996-2012);

t = 1, 0 ("1" if the MFI is Islamic, "0" if the MFI is conventional);

ABPCOijt = the number of active borrowers per loan officer of the observed MFI *i* at time *t*;

OERijt = operating expenses ratio of the observed MFI *i* at time *t*;

PERijt = personnel expenses ratio of the observed MFI *i* at time *t*.

Social Performance

The model used to estimate the determinants of the social performance of conventional and Islamic MFIs is written as follows:

Model 2:

$$ALBPBijt = \beta 0 + \beta 1 NABijt + \beta 2 PFBijt + \beta 3 Lnassetijt + \beta 4 Ageijt + \varepsilon t \quad (2)$$

with:

ALBPBijt = the average loan balance per borrower of the MFI *i* observed at time *t*;

NABijt = the number of active borrowers of the MFI *i* observed at time *t*;

PFBijt = the percentage of female borrowers of MFIs observed *i* at time *t*;

Lnasset = a control variable retained as an indicator of the size of the IMF *i* observed at time *t*;

Age = a control variable represents the age of the MFI *i* observed at date *t*.

Financial Performance

In order to analyze the determinants of financial performance of all the MFIs, the following regression is employed:

Model 3:

$$ROAijt = \gamma 0 + \gamma 1 PaRijt + \gamma 2 Rcijt + \gamma 3 Deijt + \gamma 4 Caijt + \gamma 5 BPSMijt + \varepsilon t \quad (3)$$

with:

ROAijt = return on assets of the MFI observed *i* at time *t*;

PaRijt = Portfolio at Risk of MFIs observed *i* at time *t*;

Rcijt = the risk coverage for the MFI *i* observed at time *t*;

Deijt = the debt to equity ratio of The IMF *i* observed at date *t*;

Caijt = the capital/total asset ratio of the IMF *i* observed at time *t*;

BPSMijt = the control variable is: borrowers per staff member of IMF *i* observed at date *t*.

Sustainability

As shown below the model used to estimate the durability of conventional and Islamic MFIs:

Model 4:

$$OSSijt = \delta 0 + \delta 1 ABPLOijt + \beta 2 ALBPBijt + \delta 3 ROAijt + \varepsilon t \quad (4)$$

with:

OSSijt = operational self-sufficiency of IMF *i* observed at time *t*.

Data and Variable Analysis

Data and Descriptive Statistics

The present study uses a panel dataset of 333 conventional MFIs located in six different regions and 49 Islamic MFIs in five different regions, from January 1996 to December 2012 (Table 2). The data were extracted from the Microfinance Information Exchange database (MIX-www.mixmarket.org).

Table 3

Geographical Distribution of Conventional and Islamic MFIs Sample

Africa			East Asia and the Pacific			Eastern Europe and Central Asia			Latin American and the Caribbean			Middle East and North Africa			South Asia		
Countries	Number of MFIs		Countries	Number of MFIs		Countries	Number of MFIs		Countries	Number of MFIs		Countries	Number of MFIs		Countries	Number of MFIs	
	CMFIs	IMFIs		CMFIs	IMFIs		CMFIs	IMFIs		CMFIs	IMFIs		CMFIs	IMFIs		CMFIs	IMFIs
South Sudan		1	Malaysia		1	Uzerbekstan		1	Argentina	7		Syria		1	Afghanistan	3	2
Benin	3		Cambodia	8		Albania	7		Belize	14		Iraq		4	Bangladesh	12	1
Burkina Faso	4		China	2	1	Armenia	13		Bolivia	11		Egypt	1	2	India	12	1
Burundi	2		East Timor	1		Azerbaïdjan	13		Brazil	11		Jordan	1	2	Nepal	7	
Cameroun	6		Fiji	1		Bosnia and H.	2		Chile	4		Lebanon	2		Pakistan	9	13
Chad	1		Indonesia	2	8	Bulgaria	7		Colombia	8		Morocco	7		Sir Lanka	2	
C R D	2		Laos	3		Croatia	1		Costa Rica	4		Palestine	1	2	Bhutan	1	
Ivory Coast	1		P.N.Guinée	7		Georgia	5		Dominicain R.	3		Tunisia	1				
Ethiopia	3		Philippines	7		Kazakhstan	1		Ecuador	3		Yemen	1	7			
Gambia	1		Samoa	1		Kosovo	4	2	Elsalvador	4							
Ghana	2		Thaïland	1		Kyrgyzstan	9	1	Guatemala	4							
Guinea	3		Tonga	2		Macedonia	3		Haïti	3							
Kenya	4		Vietnam	2		Moldove	2		Honduras	4							
Liberia	1					Mongolia	2		Jamaïque	1							
Madagascar	4					Montenegro	2		Mexico	10							
Mali	3					Romania	1		Nicaragua	5							
Mozambique	2					Russia	3		Panama	3							
Nambia	1					Serbia	4		Paraguay	5							
Niger	3					Tadjikistan	2		Peru	9							
Nigeria	1					Turkey	2		T. and T.	1							
Rawanda	1					Ukraine	8		Venezuela	1							
Senegal	2																
South Soudan	1																
Swaziland	1																
Tanzanie	1																
Togo	1																
Zimbabwe	1																
Uganda	3																

Descriptive statistics for Conventional and Islamic MFIs are presented in Table 3. Islamic MFIs are more recent and younger (max 23 years) compared to the conventional MFI (max 65 years), which could be considered as one of the reasons that conventional MFIs are reaching more clients (CMFI: max: 6,700,000 vs. IMFI: max: 440,461). On the contrary, IMFIs touch a 100% of female, the kind of borrowers who are considered as the poorest of the poor suggesting that Islamic MFIs are better at promoting women empowerment. By observing the financial statements, it can be clearly seen that both types of MFIs show in different proportions, an operational self sufficiency (CMFI: max: 18.4365 vs. IMFI: max: 4.3434). This could be explained by the registered results of their Return on Asset (CMFI: max: 5.84 vs. IMFI: max: 0.8985). As well as by their ability of risk covering (CMFI: max: 1,958.55 vs. IMFS: max: 243.0927). Furthermore, in the Table 4, the average of

the debt ratio of Conventional MFIs is largely superior to the same ratio of Islamic MFIs. This implies that debt is one of the external sources that conventional MFIs use to accomplish their mission.

Table 4

Descriptive Statistics of Conventional and Islamic MFIs Variables

	Panel A: Conventional MFIs					Panel B: Islamic MFIs				
Variables	Observations	Mean	Std. deviation	Min	Max	Observations	Mean	Std. deviation	Min	Max
Age	5661	10.8321	9.266481	0	65	833	3.831933	5.422583	0	23
CA	5661	0.2601517	0.3149229	-1.5695	3.8777	833	0.2047425	0.337604	-0.5421	1
NAB	5661	68,669.66	9.266481	0	6,710,000	833	11,627.34	39654.37	0	440,461
PFB	5661	0.4106789	0.3149229	0	99.56	833	0.2151941	0.3415474	0	1
BPSM	5661	81.65	1.824153	0	884	833	46.58463	72.87417	0	349
ROA	5660	0.0056517	98.14734	-13.91	5.84	833	-0.0022905	0.0760938	-0.8085	0.8985
OSS	5660	0.7414309	0.9506945	-4.4525	18.4365	833	0.442308	0.6324504	-0.0981	4.3434
OER	5661	0.1409663	0.794335	-1.3329	4.3266	833	0.098155	0.3132824	0	6.33
PER	5661	0.0581783	0.2546391	0	3.17	833	0.0477279	0.1094705	0	1.0911
PaR	5661	1,043.235	0.1163211	0	5,904,301	833	0.0251461	0.0732515	0	0.632
RC	5661	2.293591	78,473.3	-3.8349	1,958.55	833	1.318275	14.70779	0	243.0927
Assets	5661	4.30^{e}+07	35.35536	0	5.60^{e}+09	833	9,215,101	3.51^{e}07	0	4.61^{e}+08
Lnasset	5661	11.08245	2.31^{e}+08	0	27.96309	833	6.749979	7.60592	0	19.94898
DE	5661	7.802808	7.40011	-2,478.24	24,137	833	0.7439136	39.93604	-878.62	611.82
ALBPB	5661	114,043.5	2,671,947	0	1.03^{e} + 08	833	282.8151	737.4535	0	7573
ABPLO	5660	120.851	200.297	0	2365	833	75.28571	137.9573	0	827

Analysis of Endogenous Selected Variables

Figures 1-4 expose the evolution of the dependent variables of each estimated models, respectively the number growth of active borrowers per credit officer of conventional and Islamic MFIs (Figure 1), the average loan balance for all the studied MFIs (Figure 2), the ROA ratio (Figure 3), and the annual average operational self-sufficiency of conventional and Islamic MFIs (Figure 4) over the period studied (1996-2012).

The following four figures are the evolution of the performance and persistence variables of Islamic and conventional MFIs (1996-2012).

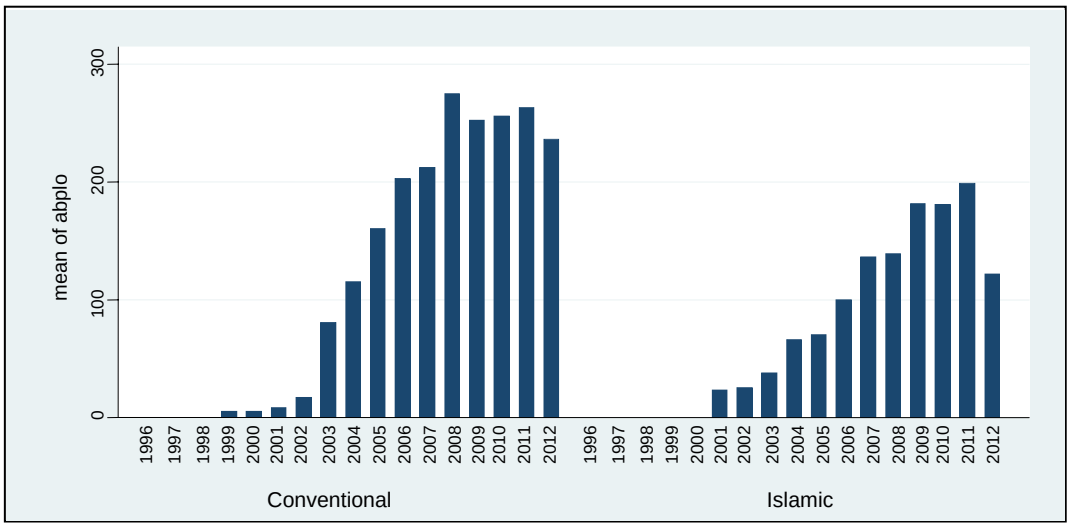

Figure 1. The number of active borrowers per credit officer.

Figure 1 shows an upward trend of the productivity ratio before, during, and after global financial crisis of 2008 for the Islamic MFIs. Therefore, productivity is high within these institutions. Moreover, it can be noticed that this ratio increased in 2008 and then decreased in 2009 for conventional MFIs. However, as can be seen that the productivity ratio remained stable during the first two years of the crisis (2007-2008), and then rose in 2009 for the Islamic MFIs. The decrease of this ratio may be due to the decrease of the number of active borrowers.

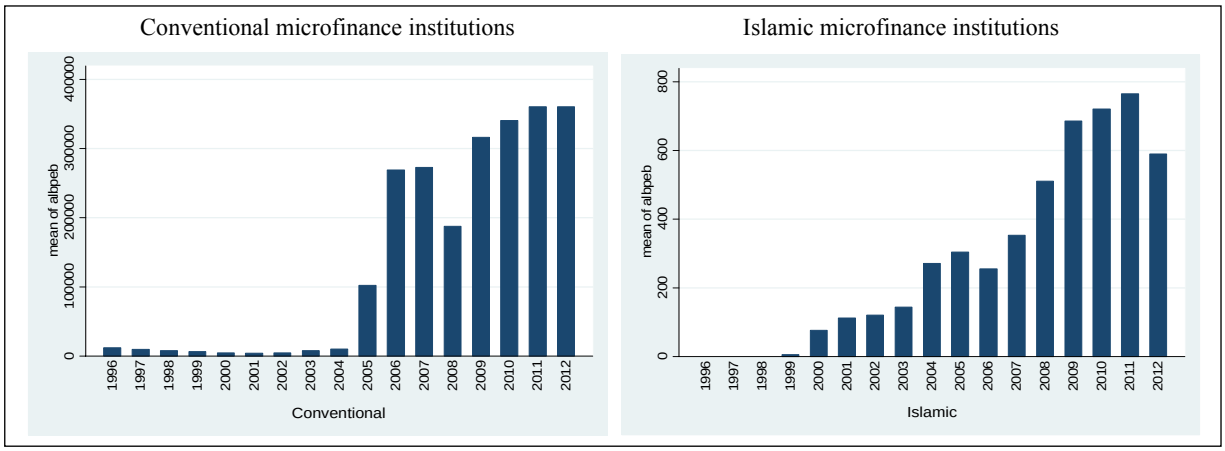

Figure 2. The average loan (ALBPB).

By observing Figure 2, it can be noticed that the average loan of conventional MFIs has increased since 2005 suggesting that they have gone from an industry that target the poor and the poorest during their very first years of existing, then they directed their attention to financing medium and small projects whereas the poorest are neglected. Contrariwise, the Islamic MFIs are targeting the poor, due to the low average balance of loans that they offer to their customers. Even the upward or downward evolution does not seem stable. The average balance of loans of Islamic MFI does not exceed the minimum that conventional MFIs offer.

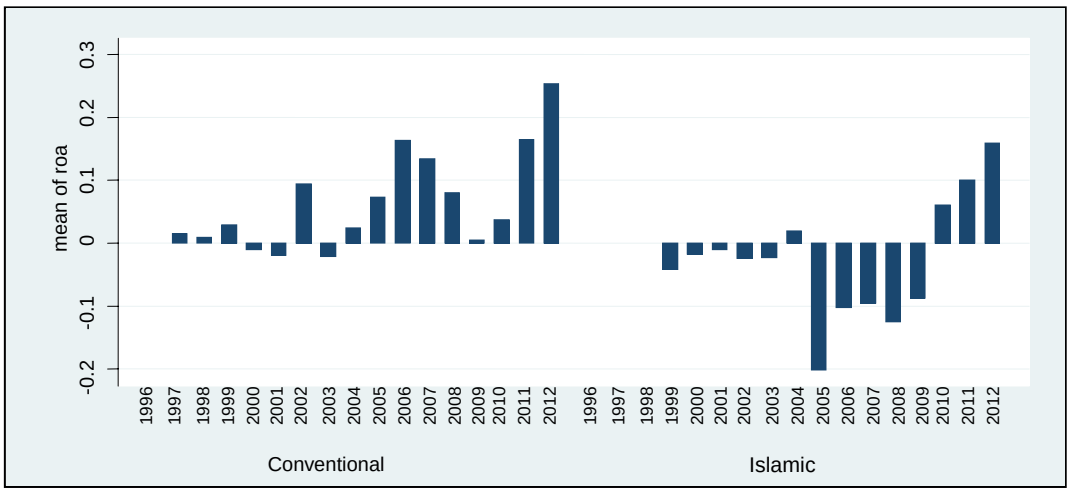

Figure 3. The ROA ratio.

Figure 3 shows the low profitability of assets of Islamic MFIs. However, the heterogeneity in case of conventional MFIs can be observed at the beginning of the study period. Even if this deficit has been observed

since 2004, it remains fairly weak and unstable. Moreover, it may as well notice the influence of the global crisis of 2008, through the declined profitability of assets for CMFIs in 2009. The same is also noticed in the case of IMFIs. The return on assets of the two types of microfinance institutions, ended with a rising trend over the last three years of the study period.

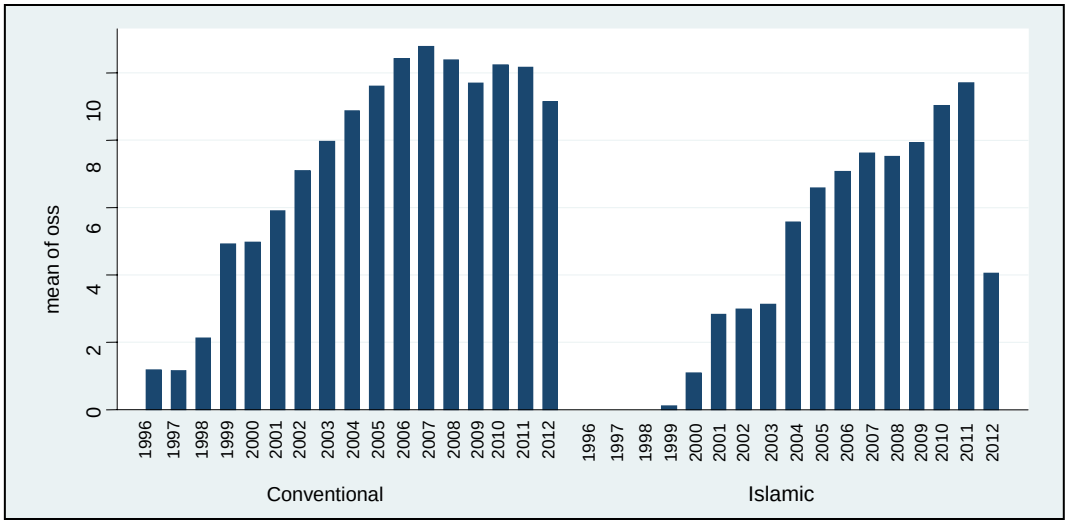

Figure 4. The annual operational self-sufficiency.

Figure 4 notes that this annual average was over 100% in the case of conventional MFIs throughout the study period except for 2001 and 2003. It should be recalled that if an MFI has an operational self sufficiency greater than 100%, thus, this MFI reaches its financial viability. It therefore has the ability to continue to operate its business without needing to be subsidized. The average of the operational self sufficiency variable on the studied period is equal to 122.04% (Table 3). The situation is different in the case of Islamic MFIs but this can be explained by the fact that IMFIs are still recent.

Empirical Results

This section presents the estimation results of the determinants of the three types of performance already presented above, and the sensibility of sustainability to each one of them for conventional and Islamic MFIs.

Determinants of Organizational Performance

Table 5 presents the regression results of the organizational performance model. Panel "A" concerns the conventional MFIs and the panel "B" the Islamic MFIs.

Table 5

Estimation Results of Organizational Performance (ABPLO)

Variable	Coefficient	Std. error	*t*-statistic	Prob.
Panel A: Conventional MFIs				
OER	-6.99706	13.81899	-2.68	0.007
PER	5.11067	30.25178	16.89	0.0000
Panel B: Islamic MFIs				
OER	6.12004	17.54001	0.35	0.148
PER	9.160623	50.19595	9.25	0.0000

The ratio of operating expenses (OER) measures the costs necessary for the institution to provide its credit services. Efficiency is affected by the increase or decrease of the operating costs compared to the average loan portfolio. The lower this ratio is, the more efficiency improves. A negative coefficient is showed for conventional MFI, which is equal to -6.99706, the more that ratio increases, the more the organizational performance is weakened and and vice versa. Or in the case of Islamic MFIs, the OER ratio does not affect organizational performance. The ratio of personnel expenses is statistically significant as an explanatory variable of organizational performance measured by the number of active borrowers per loan officer (ABPLO) for both types of MFIs. Normlly, a negative effect is expected, in other words, a lower personnel expense ratio indicates a greator profit for the institution. Yet, the regression results showed a positive effect of these type of expenses. It indicates that personnel expenses were averagely stable during the period of this study for both type of microfinance institutions, thus posively affected their organizational performane.

Determinants of Social Performance

Table 6 reports the estimation results of the factors explaining social performance. The panel "A" concerns conventional MFIs and the panel "B" concerns Islamic MFIs.

Table 6

Determinants of Social Performance (ALBPB)

Variable	Coefficient	Std. error	*t*-statistic	Prob.
Panel A: Conventional MFIs				
NAB	1,366.21	11,186.681	2.03	0.043
PFB	0.0076801	0.136354	0.06	0.955
Age	782.81	553.329	3.80	0.000
Lnasset	390.21	797.78	0.63	0.526
Panel B: Islamic MFIs				
NAB	560.9376	78.26964	7.17	0.000
PFB	0.0019342	0.0007354	2.63	0.009
Age	53.4302	4.780244	11.18	0.000
Lnasset	43.42121	2.884129	15.06	0.000

According to the estimation results, the NAB of conventional MFIs negatively influences their social performance as measured by the ALBPB (the average loan balance per borrower). This means that the more conventional MFIs affect a large number of borrowers, the lower its average balance per loan. The variables age and size (Lnasset) positively influence the social performance of conventional MFIs, with coefficients respectively equal to 12.198 (Prob. 0.0000) and 6.5888 (Prob. 0.090). Thus, the activities of conventional MFIs record low average loan balances, when they are ancient, big in economic size, and reach high percentages of women who are considered the most vulnerable.

With statistically significant positive coefficients the explanatory variables NAB and PFB equal to 53.4302 (Prob. 0.0000) and 43.42121 (Prob. 0.001) respectively, affected the average loan balance of Islamic MFIs. The more Islamic institutions affect a large number of borrowers and specifically more women, the more they provide financing on average amounts.

Determinants of Financial Performance

Table 7 presents the estimation results of the financial performance model. Panel "A" concerns conventional MFIs and "B" concerns Islamic MFIs.

Table 7

Estimation Results of Financial Performance (ROA)

Variable	Coefficient	Std. error	*t*-statistic	Prob.
Panel A: Conventional MFIs				
CA	0.0072416	0.0046202	0.94	0.292
PaR	0.0914967	0.0173013	1.57	0.000
RC	0.0091052	0.0003574	-1.17	0.241
DE	-0.116046	0.003239	-1.2	0.066
BPSM	28.2273	24.01063	1.16	0.001
Panel B: Islamic MFIs				
CA	0.0232309	0.0085543	0.82	0.007
PaR	-0.0015109	0.003735	-2.05	0.000
RC	0.0001418	0.001766	0.14	0.222
DE	-0.0000124	0.0000651	-0.19	0.212
BPSM	12.150103	11.001284	0.3	0.008

There is a positive relationship between capital structure measured by capital to asset ratio (CA) and finanacial performance of islamic microfinance institutions (increase in 1% of CA corresponds to increase of ROA by 2.23%). This relationship is statistically significant at the 5% level. The increase of capital leads to a reduction of external borrowing which increases the IMFIs performance. The capital must capture the overall safety and soudness of these institutions. It indicates the ability of an islamic MFI to absorb the expected losses. Thus, the varied composition of the IMFIs capital structure plays a crucil role in improving their financial performance.

The results reported a significant positive (0.0914967/*P*-value: 0.000) effect of the portfolio quality measured by Portfolio at Risk ratio (PaR) on the financial performance measured by Return On Asset (ROA) of conventional microfinance institutions. The *P*-value is significant in case of potential future bad debts. This measure represents the oustanding amount of all loans that have one or more installments of principal past due by a certain number of days. It is a measure of the risk to the entire portfolio that the late payments indicate. Thus, a higher percentage of the PaR ratio indicates poor loan recovery. According to these results, CMFIs in average maintain a good control of their portfolio quality and seem to significantly and positively affect their financial performance. This result implies that for 1 unit increase in PaR the financial performance of CMFIs increases in average by 0.0914967.

On the contrary, a significant negative relationship between PaR and ROA has been reported for their Islamic counterparts. In Table 7, the regression coefficient of the PaR equals -0.0015109 and is significant at the 5% level, which means that for 1 unit increase in PaR the financial performance of IMFIs reduces by 0.0015103.

Finally, the results showed a significantly positive impact of the productivity of the stuff members on the financial performance of conventional and Islamic microfinance institutions.

Determinants of the Sustainability of Conventional and Islamic MFIs

Table 8 presents the estimation results of the relation among social, organizational, and financial performance and the sustainability of conventional and Islamic MFIs.

Table 8

Determinants of the Sustainability of Conventional and Islamic MFIs

Variable	Coefficient	Std. error	*t*-statistic	Prob.
Panel A: Conventional MFIs				
ROA	0.043658	0.0104433	4.18	0.0000
ALBPB	0.005379	0.0003719	1.45	0.148
ABPLO	0.001335	0.0000496	26.94	0.0000
Panel B: Islamic MFIs				
ROA	0.018833	0.0218194	0.86	0.388
ALBPB	0.000257	0.0000239	10.8	0.0000
ABPLO	0.002217	0.0001276	17.38	0.0000

To achieve their sustainability, conventional MFIs count on their financial performance. The variable indicating financial performance as measured by ROA shows a positive and significant coefficient equal to 0.043658. This ratio measures the MFI's ability to use their assets to generate returns, which reflects both the profit margin and the efficiency of the institution. The ratio of operational self-sufficiency OSS compares the revenues and expenses. Thus, following this result, it can be concluded that the more conventional MFIs reach high operating results, the more they will be able to achieve their autonomy.

The variable referring to social performance as measured by the average loan balance per borrower (ALBPB) is statistically insignificant. This variable seems to have no impact on the self-sufficiency of conventional MFIs measured by the operational self-sufficiency ratio. The average loan is the most commonly used indicator among microfinance agency rating, donors, and even investors to measure the degree of MFI outreach to poor customer segments (Bhutt & Tang, 2001; Cull et al., 2007). Conventional MFIs affect the majority of those who are excluded from the formal financial system worldwide; this feature does not allow them to ensure the survival of the sector. This means that the customers targeted by microfinance institutions are poor, excluded, and have financing needs. Therefore, they are obliged to accept high interest rates for microcredit. Meanwhile, the number of borrowers increased in conventional MFIs, and even interests increased, due to two reasons: an external reason linked with the economic situation and the instability of exchange rates and inflation; and an internal reason, connected to the fact that conventional MFIs use the increase in interest as sort of guarantee. However, the average amount of loan per borrower (ALBPB) increases due to two reasons. The primary reason is due to the increase of the denominator, which means the increase of the number of borrowers. The second reason is the fact, with time, the high interest overwhelms these poor borrowers who will be unable to repay their obligations. Thus, conventional MFIs resort to increase the average loan amount as a means of security. Therefore, mission drift occurs when the size of the average loan increases. This indicates that an MFI has moved into new customer segments, either because it begins to include customers who are better off or because existing clients experience success and are thus able to take on larger loans. In recent years, critisims of the sector have emerged, arguig that interest rates are too high, that borrowers take on more loans than they can repay and that there is no impact on poverty alleviation. This judgement is in concordance with many other studies which claimed that the microfiannce industry is witnessing a mission drift movement (Tulchin, 2003; Yunus, 2007; Ghosh & Tassel, 2008; Amendariz & Szafarz, 2011; Amendariz, Despallier, Hudon, & Szafarz, 2011; Abrar & Javaid, 2014). Also, in concordance with the findings of Banerjee, Duflo, Glennerster, and Kinnan (2015), who were the first to randomized impact evaluation, indeed found no impact

on poverty reduction, gender gap, health, or education. However, This conclusion could only remain in average since the database is composed of MFIs for different regions and different countries which should be taken into consideration, also the regulation status of these institutions and the recent commercialization movement, since regulated commercial microfinance institutions are in high probability of mission drift for achieving more of financial objectives.

A positive relationship (significant coefficient equal to 0.001335) is also recorded between operational self-sufficiency and organizational performance as measured by the "ABPLO" indicator. This allows us to say that the durability of conventional MFIs is sensitive to their organizational performance.

The empirical estimation results of the theoretical model for the sustainability of Islamic MFIs show that the financial performance measured by return on assets (ROA) does not significantly affect their operational autonomy (OSS). The coefficient of the social performance measured by the average loan balance per borrower is statistically significant with a positive sign. Although Islamic MFIs serve only a minority of the total poor in the world, this seems to be the reason for their continuity and the sustainability of the sector, serving a limited number of customers and affecting an average balance which is low compared to that of conventional MFIs, it seems to positively impact the autonomy of Islamic MFIs. This is due to the nature of Islamic financial contracts which do not overwhelm the beneficiaries. Borrowers find flexibility by engaging in this type of collaborative funding. In addition, they satisfy their needs with respecting their religious standards. On this particular point, in order to guarantee their continuity Islamic, MFIs rely on the realization of their operational performance.

Conclusion

This study deals with the emerging Islamic microfinance sector compared to conventional microfinance. Specifically, the paper studies the determinants of financial, social, and organizational performance and sustainability on a sample of 382 MFIs over a period of 17 years.

The results reveal that the number of borrowers affected by Islamic MFIs remains very low compared to their counterparts. In addition, the economic size and seniority help conventional MFIs to further improve their social performance. On the financial side, conventional MFIs rely heavily on debt and the productivity of their personnel to perform financially. However, Islamic IMFs rely rather on financial capital invested and staff productivity.

In order to guarantee their existence, Islamic MFIs show more potential in depending on the social performance compared to their conventional counterparts.

Conventional MFIs financially outperform their Islamic counterparts in their way towards sustainability. They rely on their organizational and financial performance in order to continue serving their clients.

Overall, the results provide extensive evidence on the factors that contribute to the performance and the suitability of Islamic microfinance institutions against its conventional counterparts. The Islamic law compliance and the specificity of offered financial products permit a steady increase of clients, which will result in improving social performance, and therefore ensuring their sustainability.

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