

The Impact of Internationalization on Micro Finance Institutions' Performance

Abstract

This study examines how various aspects of internationalization of Micro Finance Institutions (MFIs) affect their financial and social performance. Grounded in transaction cost and agency theory, we argue that there are multiple ways that internationalization of MFIs might affect performance. Specifically, we argue that one can distinguish between four internationalization effects; global knowledge access, global monitoring, global funds access, and global affiliation/networks. This study utilizes data from 290 MFIs in 61 developing countries – assessed over four years. We find that internationalization of MFIs enhance their social performance, but do not affect their financial performance.

Keywords: Micro-finance, corporate governance, internationalization

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1. Introduction

Microfinance is the supply of banking services to micro-enterprises and poor families (UN 2006, Helms 2006). Christen et al. (2004) reports that as many as 500 million poor persons benefit from access to savings services, and more than 100 million have outstanding loans with microfinance providers (Summit, 2007). The development enhancing aspects of microfinance was recently recognized when the Nobel Peace Prize was given to Mohammed Yunus and Grameen Bank in 2006. However, relatively little is known about what drives the performance of microfinance institutions (Cull et al 2007), and even less is known about the affects from internationalization of such organizations.

Anecdotal evidence suggests that the microfinance industry is subject to strong international influence from capital providers (by donors, by lenders, or by equity holders), knowledge transfers (best practices, policy guidelines, strategic planning, software etc.), and extensive networks - such as Accion International, Women's World Banking, Finca or Opportunity International. In fact, our data from 290 institutions in 61 countries suggests that as much as 38% of MFIs have an international initiator, 41% have international commercial debt, 51% have international subsidized debt, 24% have at least one international director, and 33% are members of a recognized international network. However, the performance impact of such global influence has not been addressed by existing research. Within the micro finance industry there is often a perception that international influence on MFIs is "*to accelerate innovative domestic market solutions*" (C-GAP 2006, p. viii). This implies that as MFIs develop and mature one should expect that international influence be reduced (Helms, 2006).

Thus, “exit strategies” are often high on investors’ and donors’ agendas, and the building of locally “driven” MFIs is by many considered an objective in itself.

Existing research on microfinance has mostly dealt with the impact from accessing banking services, the economics of group lending and policy issues on how to build and regulate an inclusive financial sector (Aghion and Morduch 2005; Helms 2006). Cross-country issues related to transfer of funds, knowledge and networks have not been on the agenda. We believe decades of international business research can be used to better understand the economics of MFIs.

International business research shows that internationalization tend to produce firms with higher performance (e.g., Tallman and Li, 1996; Morck and Young, 1991). Commonly there are three broad arguments for such higher performance; (i) economics of scale – especially knowledge (e.g., Dunning, 1977; UNCTAD, 2003, (ii) lower cost of capital from global capital (Stulz, 1999; Bekaert and Harvey, 2000;) and (iii) better corporate governance (Oxelheim and Randøy, 2003). We suggest MFI can potentially benefit from the same kind of advantages.

Whereas international business research typically concentrates on multinational firms reaching “out”, in this study, we focus on the individual micro-finance entity – as it typically reaches “north” for resources and support. This implies that our perspective is one of the “global South”: How can an MFI in the developing world benefit from internationalization? The focus of the study is on the *economic* performance of the MFI – being measured in terms of real ROA¹, as well as performance indicators such operational costs and portfolio growth. Since the rating score provided by the rating agency is considered first and foremost to be based on the MFI’s financial performance and not their social performance (Gutiérrez-Nieto, 2007), we include the rating score as a proxy for future financial performance of the MFI. Moreover, since microfinance has a dual nature, one financial, the other developmental, we

¹ Debt/Equity levels in MFIs differ considerably. Comparison of economic performance is therefore best measured using ROA and not ROE.

also include a proxy for social performance – outreach to the poorest customers measured in terms of average size of loans. Maybe the level of internationalization influences more the one than the other part of the microfinance nature?

2. International influence in the microfinance industry

Internationalization is rather extensive in the microfinance industry. There are global conferences (such as The Inter-American Forum on Microenterprise) and global, web-based, microfinance information platforms. For example, Mix Market (www.mixmarket.org) seeks to facilitate international information exchange between MFIs investors, donors and different service providers. Currently (March 2008) www.mixmarket.org lists 1157 MFIs in 99 countries, 99 international lenders and 165 market facilitators such as rating agencies, networks and support service providers. Besides, the web-based hub www.microfinancegateway.org lists 7250 documents, 446 international consultants, 135 vacant jobs and 40 upcoming events as of May, 2008.

Today all major multilateral development organizations, like the IMF, the World Bank, The Asian Bank, the EU, the UN and the Inter American Development Bank dedicate funding and research to microfinance. Specialized agencies like the Consultative Group to Assist the Poor (www.cgap.org) provide the industry with specific universal guidelines and issue policy recommendations. The international recognition for microfinance as a development tool culminated with the UN declaring 2005 as the year of Microcredit and the Nobel's peace prize being awarded to Mohammad Yunus and his Grameen Bank in 2006.

Increasingly microfinance is becoming an investment opportunity, and the industry is composed by both for-profit and non-profit entities. Interestingly, a number of international banks such as Citi Bank, HSBC, Deutsche Bank, BNP Paribas, ABN Ambro and Barclays are engaged in microfinance activities and now hold a portfolio in MFIs of more than 500 million US dollars (ING, 2006). Recently international holding companies are emerging following the

model of Procredit Holding which now has a total portfolio of nearly 400 million invested in 22 national MFIs around the globe (Reille and Forster, 2008). Between 2004 and 2006 the total stock of foreign capital investment in microfinance more than tripled to US\$ 4 billion, and 40 specialized international investment funds have been established during the last three years (Reille and Forster, 2008).

Other examples of international influence are the many networks like FINCA, Opportunity International, Women's World Banking providing their members with knowledge and information, and the operational planning software Microfin which has now become a business standard in hundreds of MFIs around the globe (www.microfin.com).

Modern microfinance, as pioneered by Mohammad Yunus, was born in a philanthropic development culture. Historically, the focus was on the built up of local capacity and the gradual exiting of international founders. Still, several in the microfinance community consider international participation in MFIs to be transition phenomena. In their view, the ultimate goal is to build local MFIs as an integrated part of the national financial system – with local owners and focus on relations with domestic stakeholders. This view is articulated by Hendricks 2003 (page...):

[..] a bilateral donor project is expected to design a microfinance institution or program, to build the necessary capacity, and, when the project ends, to have established an operation that has developed enough momentum to achieve financial sustainability on its own.

Thus, to some the inflow of international capital and expertise - increasingly with a profit motives - is a threat. Such arguments are commonly based on ideology or politics and not on empirical facts. So far few have asked the question to what degree international participation influences MFIs' performance or customer satisfaction. This paper thus aims on filling this void by bringing in empirical evidence as to how international stakeholders influence MFIs' performance.

3. How Internationalization Might Improve MFI Performance

The Model

The ongoing process of internationalizing of financial markets offers MFIs greater financial flexibility. This provides an MFI – just like international oriented firms have done previously (e.g., Stulz, 1999; Oxelheim et al, 1998) – the ability to increase the availability and reduce the cost of capital. However, it requires that the MFI is able to efficiently overcome cross-country information gaps (transactions costs) and the ability to monitor/control international exchanges (agency costs).

The theoretical foundation for this study comes from two sources: transaction cost theory and agency theory. Transaction cost theory provides the economic rational for why transfer of knowledge (for example microfinance banking skills) or technology (software, manuals etc) is advantageous. As highlighted by Dunning's eclectic paradigm (Dunning, 2000) – internal transfer of know-how should only occur when the market is not able to provide the appropriate price mechanism. With respect to financial services to the poor – which have to be “produced” locally – the main issues relate to transfer of capital and transfer of know-how.

Agency theory emphasizes that when ownership and management is separate – then incentives and control are needed to induce managers (agents) to maximize profits - or other organizational goals. Specifically, boards play an important monitoring role in order to reduce agency costs in both for-profit and non-profit firms (Fama and Jensen 1983; Speckbacher 2008)(Dalton et al, 1998; Dalton et al., 1999). For example, in relation to monitoring the MFI - an international director can take on a special independent role as he/she is less part of vested domestic interests. International debt is another very different governance “mechanism” that can facilitate monitoring. Such debt can potential reduce MFI agency costs by forcing the MFI to be more performance oriented.

This study is focused on MFI performance – the dependent variable. Since MFIs operate in an environment where social as well as financial performance is highlighted (Economist, 2008)(Morduch 1999) – we chose to address both aspects of performance. Our main indicator of financial performance is Return on Assets (ROA), as it “summarizes” the financial success of the MFI’s business model. However, as most MFIs state a dual mission; being financial sustainable and serving the poor, we include average outstanding loan as a proxy to measure to what degree the MFI reach out to poor customers. Based on the above discussion, we apply a model of MFI performance that incorporates various dimensions of international influence, MFI specific control variables from past research, and country control variables.

MFI **financial** performance = f (international initiator, international commercial debt, international director, international network membership + MFI specific control variables + Country control variables)

MFI **social** performance = f (international initiator, international subsidized debt, international director, international network membership + MFI specific control variables + Country control variables)

Hypotheses

We identify four distinct sources of global influence within MFIs; global knowledge access (International initiator), global funds access (international commercial and subsidized debt), global monitoring (international board member), and global affiliation/networks.

Having an international founding (initiator) agency/firm will most likely affect the MFIs ability to access knowledge – both in terms of practices/skills and in terms of hardware. Given the scale economy of knowledge and the fact that transaction costs are reduced with common ownership (if shareholder owned) or common identity (non-profit) – we expect that MFIs with an international initiator will have higher performance. This performance might take the form of higher financial performance (ROA) and/or social performance (broader outreach in terms of smaller average loan).

Hypothesis 1a: There is a positive relation between an international initiator and MFI's financial performance

Hypothesis 1b: There is a positive relation between an international initiator and MFI's social performance

The corporate governance literature highlight how debt is a powerful disciplining “mechanism” – particularly related to corporations with free cash flow (Schleifer and Vishny, 1997). For MFIs – this is the case when they reach self sufficiency or have excessive funding from donors. We argue that agency costs are reduced when MFIs have undertaken commercial debt (H2a) – or subsidized debt (H2b). Since most of the providers of commercial funding to microfinance pursue a “double bottom line” (Reille and Forster, 2008), we argue that debt has the same kind of effects on social performance as on financial performance. We therefore suggest that both commercial debt (H2c) and subsidized debt (H2d) provide stronger monitoring which leads to higher social performance.

Hypothesis 2a: There is a positive relation between international commercial debt and MFI financial performance

Hypothesis 2b: There is a positive relation between international subsidized debt and MFI financial performance)

Hypothesis 2c: There is a positive relation between international commercial debt and MFI social performance

Hypothesis 2d: There is a positive relation between international subsidized debt and MFI social performance

Past research suggests that firm's performance depends on the monitoring and decision-making undertaken by its board of directors (Schleifer and Vishny, 1997). Furthermore, Oxelheim and Randøy (2003) have found that internationalization of boards enhance firm performance – as these global board members facilitates the transfer of value enhancing corporate governance practices. Thus, we argue that MFI international board

members can reduce agency costs and facilitate higher MFI performance – either (or both) as financial performance and social performance.

Hypothesis 3a: There is a positive relation between international board membership and MFI financial performance

Hypothesis 3b: There is a positive relation international board membership and MFI social performance

Being a member of a prestigious or recognized international network – such as Women’s World Banking - is a major step in a MFI’s development. We suggest that such a membership provides a quality screening that carries with it the potential for reduced transaction costs in relation to the MFI’s interaction with other organizations. If a MFI “misbehaves” – it could potentially be excluded – such that membership provides a cap on opportunism. This can facilitate more cost effective transfers of know-how, technology, and even funds. Moreover, since international networks in microfinance pursue dual objectives (Isern and Cook 2004), we suggest that the reduced transaction costs due to a global network membership can enhance MFI performance – with respect to either or both the financial and the social performance.

Hypothesis 4a: There is a positive relation between global affiliation/network membership and MFI financial performance

Hypothesis 4a: There is a positive relation between global affiliation/network membership and social performance

Control variables

Control variables are those typically included in microfinance research and are to a large extent taken from Cull et al (2007). Furthermore, we use the country variable Human Development Index (HDI) and include regional dummies in regressions to further streamline the analysis.

Variables included in the study:

Variables	Explanation/definition	Hypotheses Social and financial performance
Dependent variables	Dependent variables included in the study	
ROA	Operational net income divided on average annual assets and adjusted for country inflation	
Rating grade	The rating score provided by the rating agency*	
Operational costs	Labor and operational costs divided on average annual loan portfolio	
Portfolio growth	Percentage annual growth in loan portfolio	
Average loan	Average outstanding loan per loan client	
Independent variables	Independent variables included in the study	
International initiator	Whether or not the MFI was initiated by an international agent Yes = 1, No = 0	+
Member international network	Whether or not MFI is a member of an international microfinance network Yes = 1, No = 0	+
Member global network	Whether or not the MFI is a member of the global microfinance network Yes = 1, No = 0	+
International board members	Number of international board members	+
International commercial debt	Whether or not the MFI holds international commercial debt Yes = 1, No = 0	+
International subsidized debt	Whether or not the MFI holds international subsidized debt Yes = 1, No = 0	+
MFI control variables	MFI level control variables included in the study	
MFI experience	The years since the MFI started microfinance operations	
Credit methodology	Whether or not the main credit methodology is based on individual liability Yes = 1, Group liability = 0	
Ownership type	Whether or not the MFI is a shareholder firm (SHF) Yes = 1, No = 0	
Assets	The natural logarithm of the MFI's assets	
Regulation	Whether or not the MFI is regulated by banking authorities Yes = 1, No = 0	
Portfolio at Risk	The fraction of the loan portfolio being 30 days or more overdue	
Average loan**	Average outstanding loan per loan client	
Country variables	Country level control variables included in the study	
Region Latin America	Countries from Latin America	
Region Africa	Countries from Africa south of Sahara	
Region MENA	Countries from Middle East and North Africa	
Region EECA	Countries from Eastern Europe and Central Asia	
Region Asia	Countries from Asia and the Pacific	
HDI	Human Development Index. A composite country index covering life expectancy, education, and income (GDP per capita)	

* The rating agencies apply different rating scales that have been uniformed on a 0 - 1 scale.

** Average loan enter as an independent variable in the economic regressions

4. Methodology and Data

The dataset contains information from risk assessment reports made by five rating agencies specialized in microfinance: MicroRate, Microfinanza, Planet Rating, Crisil and M-Cril. All MFIs included have received financial support from the Ratingfund (www.ratingfund.org). Thus, the decision to become rated by an international agent and to apply for funding from Ratingfund already indicate that the MFIs included are internationally oriented. Comparisons of the methodologies applied by the rating agencies reveal no major differences in MFI assessment. The source of information should therefore influence the data only to a minor degree. However, the five rating agencies differ in their global orientation as Micro Rate, Microfinanza and Planet Rating operate worldwide while Crisil and M-Cril mostly concentrate their efforts in Asia.

The rating agencies differ in their emphasis and the abundance of available information. Thus, a different N on different variables and in different years is reported. When needed, all entries in the dataset have been annualised and dollarised using official exchange rates at the given time. The rating reports comprising the database are from 2000 to 2007, with the vast majority being from the last four years. Thus, the data set comprises 290 MFIs in 61 countries and four years of data for each, at most.

The dataset has a certain sample selection bias, since only rated MFIs enter. They represent the MFIs with the intention to practice microfinance in a business oriented manner and are the best hopes when it comes to reaching the dual goal of developmental and financial performance.

5. Empirical Findings

Descriptive statistics

Table 1 provides descriptive statistics for the variables used in the study.

Table 1 about there

Multivariate statistics

Up to four years of observations on 290 MFIs gives a panel data structure that should be handled with appropriate panel data methods. Our explanatory variables are often fixed over the entire period. This precludes the use of fixed effects and differencing methods. We use the random effect method that takes care of time effects. Since the random effect has two error terms, a feasible estimator comes from generalised least squares (GLS). The method proceeds in several steps, in order to establish error terms of MFI specific inputs that are constant over time, of the overall error term, and their correlation for the same individual MFI. We implement the estimation with the 3SLS methodology (Greene 2003) where the GLS estimation is input, which gives estimates with lower standard deviation than estimation with GLS alone. In order to test for the overall fitness of the model, we run an exclusion test for the null hypothesis that all coefficients in the regression together are equal to zero.

Multicollinearity among variables is a potential problem in regressions with many related variables. We confront this problem by running several regressions, first regressions where one or a subset of variables are run and then a regression containing all variables. If significant variables' coefficient estimates are similar across regressions, we should have faith in the results.

Our overall results reveal that MFI internationalization significantly increases social performance (with one exception), but not financial performance (with one exception). This is true for both our measures of financial performance: inflation adjusted return on assets (Table 2) and score by rating agencies (Table 6). We interpret the results as an indicator that

international influence (typically from the developed economies) is more concerning about the social performance than the financial performance of MFIs. These results are particularly interesting in relation to the microfinance schism debate in the industry (Morduch 2000). Specifically, some argue that a more commercialized microfinance industry is better able to serve the poorest members of the community, since their profit motive leads them to be more efficient and more willing to seek out new markets for their loan products (Christen and Drake, 2002)(Rhyne 1998). Others argue that a more commercialized MFI will drift away from the poor customer segment (Woller, Dunford et al. 1999; Woller 2002). Even if most MFIs struggle to keep be self sufficient and often depend on donor support (Microbanking Bulletin, 2007), the international actors seem to be more concerned with the development enhancing aspect of microfinance with suffering financially. These results are also stable across for-profit and non-profit MFIs (not reported).

Table 2 about there

The empirical tests reveal that an international initiator (H1a) does significantly enhance a MFI's standardized rating grade – but not accounting performance (ROA). This suggests that the perceived performance is better with an international initiator – which might indicate that the international rating agencies themselves consider internationalization to be beneficial for the MFI - or alternatively they might emphasize both the social and the financial wellbeing of the MFI (different from in the main findings of Gutierrez-Nieto, 2007). The social performance – as indicated by the smaller average loan size to the microfinance customers – is significantly higher for MFIs with an international initiator (Table 4). This finding is particularly interesting, given the fact that the existence of an international initiator does not increase operating costs (Table 3). However, having an international initiator reduces the MFI's portfolio growth somewhat (significantly 10%-level). The lower growth might be

the price that the MFI have to pay for pursuing smaller and commonly poorer customers.

Table 3 about there

The empirical tests do not support the notion that commercial debt (H2a) and subsidized debt (H2b) enhance financial performance. This is true for both our measures of financial performance. We find that debt has a significant effect on social performance: commercial debt (H2c) and subsidized debt (H2d) provides higher social performance (Table 4). This suggests that debt is an active governing mechanism in MFIs and that the debt holder, even the commercial debt holder, emphasizes client's social performance over their financial performance. These findings are particularly interesting when considering the fact that such international debt does not affect operational costs or portfolio growth. It also indicates that international lenders are indeed concerned with the social part of microfinance (Reille and Foster, 2008).

Table 4 about there

Our tests show that international directorship (from the “global North”) do not affect financial performance (H3a) – but enhance social performance. One explanation might be that such board members are more motivated by the social performance – and enhance organizational governance to such ends. Our data also reveal that international directorship do not affect operational costs or portfolio growth. This suggests that international directorship enhance MFI performance by enhancing monitoring - i.e., better performance without any negative impact on growth or costs.

Table 5 about there

33% of the MFIs in our sample are members of well known international networks. Our data reveals that such membership enhances social performance but not financial performance. We argue that the positive effect on social performance can be attributed to better transfer of knowledge and “best practices”, and/or due to better monitoring of management - as poor social performance could potential exclude the MFI from the network. This better social performance does not negatively affect portfolio growth or operational costs – which makes it even more robust.

Table 6 about there

6. Concluding Remarks and Policy Recommendations

This study reveals that key dimensions of internationalization affect MFI performance – however – mostly related to the social performance. Our overall conclusion is that more internationally influenced MFIs are performing better than mere domestic connected MFIs. Our results suggest that a MFI can benefit from being founded or co-founded by an international entity. We argue that international connections can reduce transaction costs and enhance transfer of knowledge and debt. MFIs with internationally recruited directors can potentially help to monitor the MFI, and also facilitate transfer of fund and knowledge. Finally, we argue that international network membership can enhance transfer of knowledge and strengthen monitoring MFI activities.

This study is of particular importance – as it contradicts a commonly held view in the industry. It is common to assume that international influence is only a “necessary evil” – and that such influence should only be a stepping stone on the route to a independent domestic

market solution. Our interpretation is that MFIs can accrue long term benefits from international involvement. The finding that international influence mostly affects the social performance of the MFI - could bring about a reassessment of the role of international actors. In an industry where most MFIs struggle to become financially viable, there is certainly a need for influence which can enhance the MFI's financial performance, not only its social performance. Further research could address more closely what activities these international actors provide that are able to influence MFIs' performance.

The scope (four years of data), breath (61 countries) and rigorous of this study (7 control variables and multiple country controls), makes us confident that our results are well founded. We also argue that our predictions are supported by agency theory and transaction costs theory. There are of course limitations to this study. First, we are using proxies for important variables, such as social performance. Future research could go further into a broader set of indicators of social impact. Second, this study does not address the underlying processes that lead to higher performance. Third, the direction of causation could be reversed (with the exception of the exogenously given international initiator) – as more successful MFIs are able to recruit international board members, hold international debt, or be members of international networks.

Table 1: Descriptive statistics

	Avg.	Std.	Min	Max	Obs
Dependent variables					
ROA real rate	-0.043	0.132	-0.900	0.700	858
Operational cost to loan portfolio	0.275	0.217	0.002	1.653	971
Average loan	771	1348	1.000	24589	949
Loan portfolio	4585764	6574032	3411	59731394	997
Rating grade	0.469	0.254	0.000	1.000	290
International dimensions:					
International initiator	0.377	0.485	0.000	1.000	288
International commercial debt	0.406	0.491	0.000	1.000	257
International subsidised debt	0.514	0.500	0.000	1.000	257
International director	0.558	1.201	0.000	6.000	217
International network member	0.328	0.471	0.000	1.000	290
MFI specific control variables:					
MFI experience	9.163	7.329	-2.000	79.000	999
Individual loan (methodology)	0.533	0.500	0.000	1.000	272
SHF (ownership type)	0.284	0.452	0.000	1.000	289
Assets (size)	14.879	1.365	9.856	19.337	977
Regulation (dummy)	0.314	0.465	0.000	1.000	290
Average loan	771	1348	1.000	24589	949
Portfolio at risk (30 days)	0.068	0.102	0.000	0.980	910
Country control variables:					
Latin America	0.327	0.469	0.000	1.000	290
Africa south	0.234	0.424	0.000	1.000	290
Middle East/Northern Africa	0.083	0.276	0.000	1.000	290
EECA	0.207	0.406	0.000	1.000	290
HDI-country index	0.684	0.120	0.338	0.863	274

Notice that categorical variables have far fewer observations than the continuous. These are assumed constant for the four years of observations for each MFI.

Table 2: Return on Assets (ROA) real (%) as dependent variable

	Knowledge	Funds	Monitoring	Network	All
Constant	-59.251 ¹	-57.430	-51.337 ¹	-60.282 ¹	-56.313 ¹
International dimensions:					
International initiator	-0.728				-0.114
International commercial debt		1.981			2.321
International subsidised debt		-0.165			-2.402
International director			0.037		-0.847
International network member				0.681	-0.737
MFI specific control variables:					
MFI experience	0.025	0.116	-0.014	0.022	0.043
Individual loan (methodology)	0.535	1.395	2.090	0.844	2.425
SHF (ownership type)	-2.072	-1.575	-1.190	-2.200	-2.146
Assets (size)	3.242 ¹	3.010 ¹	3.230 ¹	3.275 ¹	3.728 ¹
Regulation (dummy)	-2.324	-1.733	-0.914	-2.254	-1.609
Average loan	0.416	0.092	-0.098	0.501	-0.521
Portfolio at risk (30 days)	-0.232 ¹	-0.236 ¹	-0.106 ³	-0.226 ¹	-0.097
Country control variables:					
Latin America	0.209	-2.302	0.109	0.289	-0.935
Africa south	-0.294	-2.182	0.944	-0.195	0.182
Middle East/Northern Africa	-6.584 ⁵	-9.750 ²	-4.086	-6.330 ⁷	-5.466
EECA	-3.157	-6.990 ⁵	-3.060	-3.166	-4.487
HDI-country index	15.345 ¹⁰	17.625 ¹⁰	1.972	14.772 ¹⁰	1.060
Wald test	0.000	0.000	0.000	0.000	0.000
N	666	531	519	669	413

Table 3: Operational cost to assets (%) as dependent variable

	Knowledge	Funds	Monitoring	Network	All
Constant	96.051 ¹	105.792 ¹	85.570 ¹	99.502 ¹	92.458 ¹
International dimensions:					
International initiator	2.911				-2.210
International commercial debt		1.702			1.655
International subsidised debt		1.564			1.050
International director			0.497		0.093
International network member				1.466	1.372
MFI specific control variables:					
MFI experience	-0.095	-0.103	-0.095	-0.138	-0.110
Individual loan (methodology)	-3.399	-2.835	-2.686	-3.813	-1.368
SHF (ownership type)	-0.536	-0.012	-2.201	-0.163	0.140
Assets (size)	-4.535 ¹	-4.919 ¹	-4.124 ¹	-4.651 ¹	-4.736 ¹
Regulation (dummy)	2.613	1.058	4.631	2.481	3.700
Average loan	-4.474 ¹	-4.337 ¹	-4.571 ¹	-4.413 ¹	-4.122 ¹
Portfolio at risk (30 days)	0.046	-0.057	0.075	0.020	-0.014
Country control variables:					
Latin America	1.029	2.873	-2.789	0.869	-3.011
Africa south	-1.979	-1.111	-6.835	-2.518	-7.484
Middle East/Northern Africa	20.571 ¹	22.070 ¹	17.085 ¹	19.729 ¹	19.630 ¹
EECA	-1.076	1.368	-4.575	-1.116	-4.725
HDI-country index	-1.512	-8.893	8.157	-1.580	9.782
Wald test					
N	712	570	552	716	441

Table 4: Average loan as dependent variable

	Knowledge	Funds	Monitoring	Network	All
Constant	-2.669 ¹	-2.824 ¹	-3.896 ¹	-2.932 ¹	-3.879 ¹
International dimensions:					
International initiator	-0.383 ¹				-0.274
International commercial debt		-0.354 ⁴			-0.189
International subsidised debt		-0.073			-0.131
International director			-0.075		-0.005
International network member				-0.244 ¹⁰	-0.003
MFI specific control variables:					
MFI experience	-0.027 ¹	-0.023 ²	-0.024 ²	-0.026 ¹	-0.016
Individual loan (methodology)	0.346 ²	0.415 ¹	0.502 ¹	0.384 ¹	0.490 ¹
SHF (ownership type)	-0.442 ²	-0.363 ¹⁰	-0.251	-0.431 ³	-0.286
Assets (size)	0.205 ¹	0.203 ¹	0.238 ¹	0.209 ¹	0.226 ¹
Regulation (dummy)	0.211	0.297	0.110	0.220	0.093
Portfolio at risk (30 days)	-0.001	-0.004 ³	0.002	-0.002	0.000
Country control variables:					
Latin America	0.097	0.102	-0.117	0.102	-0.051
Africa south	0.030	0.025	-0.352	0.030	-0.342
Middle East/Northern Africa	-0.256	-0.191	-0.341	-0.232	-0.384
EECA	0.130	0.185	-0.171	0.047	0.046
HDI-country index	0.798	0.982	1.777 ⁶	0.974	2.129 ⁶
Wald test	0.000	0.000	0.000	0.000	0.000
N	712	570	552	716	441

Average loan is filtered: MFIs with average loan below USD 100 and above USD 10,000 are removed

Table 5: Portfolio growth as dependent variable

	Knowledge	Funds	Monitoring	Network	All
Constant	0.220	-0.001	0.445 ¹⁰	0.083	0.634
International dimensions:					
International initiator	-0.095 ¹⁰				-0.140
International commercial debt		0.012			0.031
International subsidised debt		0.002			0.078
International director			0.006		0.042
International network member				-0.072	-0.112
MFI specific control variables:					
MFI experience	-0.005	-0.004	-0.005	-0.002	-0.009
Individual loan (methodology)	-0.024	0.001	0.015	0.001	-0.020
SHF (ownership type)	-0.093	-0.099	-0.102	-0.075	-0.200 ¹¹
Assets (size)	1.091 ¹	1.128 ¹	0.970 ¹	1.112 ¹	0.955 ¹
Regulation (dummy)	0.072	0.065	0.086	0.059	0.160
Average loan	-0.028	-0.021	-0.028	-0.027	-0.021
Portfolio at risk (30 days)	-0.001	-0.003	0.001	-0.003	0.000
Country control variables:					
Latin America	0.008	0.046	0.031	0.004	0.073
Africa south	0.004	0.004	0.011	-0.009	0.026
Middle East/Northern Africa	-0.041	-0.010	-0.023	-0.028	-0.072
EECA	-0.110	-0.147	-0.142	-0.134	-0.183
HDI-country index	-0.231	-0.127	-0.424	-0.146	-0.585
Wald test	0.000	0.000	0.000	0.000	0.000
N	498	399	391	502	311

Table 6: Standardised rating grade regressed on the continuous variables' averages

	Knowledge	Funds	Monitoring	Network	All
Constant	-6.590 ¹	-6.829 ¹	-5.537 ¹	-6.300 ¹	-5.377 ¹
International dimensions:					
International initiator	0.235 ⁴				0.160
International commercial debt		-0.056			0.050
International subsidised debt		0.114			0.083
International director			-0.014		-0.034
International network member				0.125	0.081
MFI specific control variables:					
MFI experience	-0.011 ¹⁰	-0.013	-0.012	-0.013 ⁶	-0.008
Individual loan (methodology)	0.152	0.133	0.181	0.141	0.196
SHF (ownership type)	-0.077	-0.059	-0.046	-0.088	-0.028
Assets (size)	0.405 ¹	0.424 ¹	0.348 ¹	0.398 ¹	0.322 ¹
Regulation (dummy)	0.001	0.010	0.033	0.018	0.028
Average loan	-0.089	-0.133	-0.104	-0.106	-0.077
Portfolio at risk (30 days)	-5.989 ¹	-6.698 ¹	-6.009 ¹	-6.163 ¹	-6.574 ¹
Country control variables:					
Latin America	0.017	-0.018	-0.143	0.012	-0.052
Africa south	0.257	0.249	0.373 ⁹	0.257	0.439 ⁶
Middle East/Northern Africa	0.110	0.049	0.081	0.076	0.228
EECA	0.109	0.110	0.041	0.131	0.103
HDI-country index	0.999 ⁸	1.182 ⁵	0.965	0.880	0.962
Wald test	0.000	0.000	0.000	0.000	0.000
N	183	170	145	184	136

Average loan is filtered as before. The rating grade has been standardised to have average 0 and standard deviation of 1 within each group of agency reports (five rating agencies).

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