Comparative Study of the Regulatory Framework on Microfinance

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Abstract: Microfinance is a source of financial services for people who are unable to gain access to traditional banking and financial services. Microfinance is based on two ways of being able to deliver financial services to people. Proponents of microfinance believe that this could be the way to help poor people out of poverty. This paper will analyze this relationship and look at the impact of both regulations and supporting institutions on various indicators of MFI performance for a sample of 79 countries. This will be done in order to determine if MFIs in countries with regulations that should be conducive to microcredit, result in a statistically significant increase in cost per borrower. These types of insights are important as the results will highlight a framework of regulation that a country trying to spur economic growth (through microfinance) could implement to create the highest likelihood of success for existing and upstart MFIs. The countries which are sampled are stratified by income, using a classification system created by the World Bank based on gross national income.

INTRODUCTION

Microfinance is a source of financial services for people who are unable to gain access to traditional banking and financial services. Microfinance is based on two ways of being able to deliver financial services to people. One, relationship-based banking which involves offering customers a broad array of financial products and services at more favorable terms in order to strengthen their relationship with customers, and two, group-based banking which involves several people coming together to apply for services as a group such as loans. Proponents of microfinance believe that this could be the way to help poor people out of poverty. This economic concept of microfinance has begun to gain especially large scrutiny in more recent years.

The research of Muhammad Yunus formalized the idea of microfinance and the subsequent creation of the Grameen Bank in Bangladesh established the practice. These two individuals established and began the shaping of the microfinance industry today. Technological changes in recent years have played a role in enhancing the microfinance industry and making microfinance an even more accessible option for those who can benefit from it. This has amplified the importance of fostering an environment appropriate for establishing successful microfinancing.

As is applicable with most financial products, the regulatory structure of the loan environment is likely a central determinant in the relative success of the microfinance institutions ("MFI") who offer micro-loan services. For an MFI, whose general mission is to make small loans that can be re-paid by low-income earners, success can be defined as the ability to keep costs low, allowing for lower interest rates on loans while still maintaining profitability. Conversely, if interest rates are too high, repayment rates will likely suffer, and solvency becomes an issue.

This paper will analyze this relationship and look at the impact of both regulations and supporting institutions on various indicators of MFI performance for a sample of 79 countries. This will be done in order to determine if MFIs in countries with regulations that should be conducive to microcredit, result in a statistically significant increase in cost per borrower. These types of insights are important as the results will highlight a framework of regulation that a country trying to spur economic growth (through microfinance) could implement to create the highest likelihood of success for existing and upstart MFIs. The 79 countries which are sampled are stratified by income, using a classification system created by the World Bank based on gross national income.

The analysis of this information will use a multiple regression model, which will allow for a

highlighting of the various regulatory elements that are most applicable in making MFIs successful.

LITERATURE REVIEW

The previous literature based on microfinance institution performance and its relation to regulatory and institutional variables is limited. Ahlin et al. (2010) found a positive relationship between economic performance and the financial position of MFIs. Similarly, it found that operating costs, default rates, and interest rates were all lower in those countries with a "deeper financial sector." An additional finding, which has significant relevance to this paper, is that MFIs not only do worse when institutions are more advanced, but some even do substantially worse. The income level of the country also has a relation to the ability of a MFI to maintain operations, of an inverted-U pattern. The results indicate richer countries create an easier opportunity for MFIs to break even, partially due to the increase in loan sizes that can be made, but this only extends so far; even richer countries make it more difficult to break even. For institutional variables, an increase in stability does not result in a change in overall MFI growth. A lower-level of corruption can create faster extensive MFI growth. Government effectiveness, and to some extent, regulatory quality, are shown to relate to higher operating costs. The regulatory quality further has a positive effect on the cost of capital. None of these relate to self-sufficiency, however, due to the creation of higher interest markups to compensate for the increased costs. The time required for contract enforcement mechanisms to take place has a positive association with loan delinquency rates and is negatively related to interest rates.

Demirguc-Kunt (1999) used institutional variables and looked at their relation to commercial banks, as opposed to MFIs, for a sample of 80 countries. The independent variables used were the net interest margin to reflect a rough measure of efficiency of the bank and the ratio of before tax profit to total assets as a proxy to profitability. The study used a regression analysis, looking at the effect of various regressors on the independent variables. The weighted least squares method was used, with the weights being the inverse of the number of banks for a specific country, correcting for the varying number of banks in each country. The regressors used in the study included factors relating to macroeconomic environments, tax policies, deposit insurance policies, market conditions and institutional variables. With specific regard to the institutional context variables, which is the primary element studied in this research, it was concluded that contract enforcement has a negative relationship with both the efficiency and profitability measures. The paper posited that lower

contract enforcement results in higher risk for the banks, requiring larger margin spreads to compensate for this; similarly, a lower degree of contract enforcement means banks require compensation in the form of higher profitability. An institutional variable relating to the degree to which the legal systems are able to solve disputes in an orderly manner had a negative relationship, with similar rationales as the contract enforcement variable. Furthermore, factors such as credit rights and differences in financial structure were shown to have larger effects on margins and profitability for developing countries as opposed to developed countries.

Further work by Demirguc-Kunt (2004) looked further at the regulatory environment's effect on commercial banks' net interest margins and overhead expenses. The regression controlled for bank concentration and macroeconomic and financial control variables, using a least squares estimator with random effects technique. The results show that increased regulation on bank entry and restrictions on bank activities that are inhibitive result in higher net interest margins. However, the findings also indicate that better institutions, such as property rights, have a negative correlation with interest margins. This paper will look to see if similar trends exist for MFIs, which often operate in legal forms different from those of commercial banks.

For microfinance institutions, there have been many studies done that look especially at one country or a few countries in a general geographical area. Loubière et al. (2004) looked at the characteristics of three Latin American countries—Bolivia, Colombia, and Mexico— to determine some optimal specifications for microfinance regulation. Using qualitative analysis, they found the desired characteristics of a microfinance market include safety and soundness for the system (especially depositors), competition, growth of coverage, expansion and innovation in product offerings, fair treatment of borrowers, and independence from public subsidies. It goes further and suggests that the supervisory agencies for financial institutions should approach microfinance "with fresh minds," instead of applying the same commercial banking rules to MFIs. For those institutions which don't accept deposits, direct regulation by a banking authority had been avoided in the three countries studied, but there should be policing mechanisms for these smaller entities. These regulatory agencies must develop technical literacy with the mechanisms of microfinance and the contracts with traditional commercial systems. The study suggests that MFIs can be effective with any type of governance system, whether shareholder-owned, limited liability companies, cooperatives or NGOs. However, the risk created for contributors to shareholder-owned companies

offer "stronger frameworks for financial prudence." Capital minimums should not be set exceeding low; this would result in too many institutions without the proper scale to be profitable and in a larger number of MFIs which must be supervised. A reduction in the number of entities to be supervised will result in more effective supervision. The development of credit bureaus increases knowledge of the clients of MFIs, and gives more indicating on their total indebtedness which helps calculate repayment capacities and credit risk.

Christen et al. (2003) indicate that MFIs are more expensive to supervise than full-service banks by a factor of 30, and similarly states that administrative costs make up a large expense within supervised MFIs. In terms of policy recommendations, they conclude that microfinance institutions must be able to move towards becoming licensed and supervised financial intermediation entities and that appropriate regulation must be drafted. The designers of this legislation, however, should pay heed to the effectiveness and costs of supervision.

Berenbach et al. (1997) highlight the importance of regulators taking an approach that is appropriate for microfinance. Restrictions that may be appropriate for commercial banks, such as non-secured lending restrictions, reporting standards, portfolio examination, and operational cost ratios, may need to be evaluated with specific regard for microfinance to determine whether different values need to be set or whether it should be implemented at all; these traditional approaches to regulating and supervising commercial entities do not match the "unique risk profile of a microfinance institution." When regulation is needed, it should be geared towards the growth of the microfinance sector while helping to protect the soundness of the overall financial system. However, they suggest that unregulated MFIs have had freedom allowing them to "adapt operating methods to serve their target markets effectively." The authors believe small, regional MFIs that are not deposit-taking institutions are not conductive to regulation. The MFI risk profile is created by their interaction of four different types of risks: ownership and governance risk, management risk, portfolio risk, and new industry risk. Ownership and governance risk can be managed with an appropriate ownership composition involving private investors who are local who contribute personal resources (and thus stand to lose personally if the MFI fails); an NGO as majority shareholder will not be as effective. Further, the MFI must have independent management with appropriate oversight. To counter management risk, there should be internal auditing procedures built-in to the MFI's processes and have thorough documentation of operating methods. With regard to portfolio risk, a more conservative approach should be used than with commercial banks, due to the short-term nature of the loans. Documentation should be used extensively for loans, but should not be burdensome as to not "add significant costs and undermine its profitability." Due to the young nature of the MFI industry, MFIs should be limited in their products and services that may be offered, with new products being tested before broad implementation.

A report by CGAP (2000) indicated the importance of the separation of the ideas of regulation and supervision, noting that "the most carefully conceived regulations will be useless, or worse, if they can't be enforced by effective supervision." The report also observed that due to the structuring of many MFIs as NGOs, as opposed to a for-profit structure, there are less serious concerns about ensuring the financial success of the institution from the board members who are intended to provide oversight; the article posits that ownership without significant personal money at risk, as in the case of many MFIs, will not be as effective in maintaining the MFI as a going concern. With regards to supervision, the article suggests that MFI supervision will likely be more costly due to the "generally smaller asset base, their much larger number of accounts, their high degree of decentralization, and finally the more labor-intensive nature of inspecting their portfolio." An important facet of microfinance and their interest rates is the simple fact that interest rates must be higher than those of standard commercial banks, due to the increased difficulty of managing a larger number of loans of a small amount as opposed to fewer loans of larger amounts. MFIs have high administrative costs, rarely lower than 10% of their portfolio value, which requires a high compensating interest rate. The implication is that lower limits on maximum interest rates result in some borrowers being unable to find loans.

Campion et al. (2010) states qualitatively that the determinants of microfinance interest rates in Latin America and the Caribbean include individual factors of the MFIs such as operating costs and loan losses; however, there are also external factors. Weak contract enforcement capabilities create risk for lenders, affecting interest rates. Further, political risks rising from changing regulations and an insufficient regulatory environment affect MFI costs and thus interest rates. The article recommends MFIs monitor their operating environment and work as an industry to influence regulations in ways that support the institutions. Therefore, policymakers need to create a regulatory framework that strengthens MFIs and recognizes the differences that exist between them and commercial banks.

Crabb (2006) studied the relationship between the success of microfinance institutions and the degree of economic freedom in their countries. The success of these MFIs were judged on a variety of

factors from the Microfinance Information Exchange (MIX) organization including their operational self-sufficiency, gross loan portfolio, return on assets, portfolio at risk greater than 30 days ratio, borrowers per staff, and number of active clients. This study suggests that government intervention in the operations of MFIs reduce an MFI's ability to achieve sustainability. It stresses that governments need to provide good economic environments if MFIs are to be able to help reduce the amount of poverty in a country.

Assefa et al. (2013) studied the effect of competition among MFIs on their performance. Specifically this study analyzed the effect on a MFI's outreach, loan repayment, efficiency, and financial performance. This study found that competition is negatively related with a MFI's outreach while being associated with rising default rates. Increased intense competition also leads to declining efficiency and deteriorating financial performance. This study suggests that MFIs should work together to decrease some of the harmful effects that are associated with competition. Suggestions given include not trying to undercut other MFIs' loan rates in order to steal customers and information sharing among MFIs to help prevent customers who have defaulted on loans at one MFI to turn to another MFI.

DATA

To select the countries used for this analysis, a stratification of countries by the World Bank is used which classifies countries as low-, lower-middle-, upper-middle-, and high-income economies. To create these groups of similar-income economies, the World Bank utilizes the Atlas method which "reduce[s] the impact of exchange rate fluctuations in the cross-country comparison of national incomes" (http://econ.worldbank.org/WBSITE/EXTERNAL/ DATASTATISTICS/0,,contentMDK:20452009~pa gePK:64133150~piPK:64133175~theSitePK:23941 9,00.html). The Atlas conversion averages the current year's and two previous years' exchange rates adjusted by inflationary rates. For increased sample sizes, countries with larger quantities of

MFIs are used within each income category. One important data source is the Microfinance Information Exchange (MIX) database. Another important data base is the Global Microscope on Microfinance Environment, provided by the Economist Intelligence Unit (EIU).

For each group of low-, lower-middle-, upper-middle-, and high-income economies the countries were sorted by the number of microfinance institutions in each of them. For each country we researched the specific banking laws and regulations for each country to collect qualitative data over each country about the strictness of its laws and regulations over microfinance institutions. Four different categories were used to determine the strictness of the regulations imposed on microfinance institutions. One, if there were specific microfinance institution laws in place in the country to govern these institutions. Two, if the microfinance institutions were required to have a minimum start-up capital requirement. Third, if there were interest rate restrictions on the amount of interest the institutions could charge on the loans that they give out. Fourth and final, if there are additional financial ratios that need to be maintained by the institutions throughout their operations. The last three categories were evaluated by whether the specific requirement was imposed by specific microfinance laws or the regular banking laws of the country.

The table below contains the data collected over the four criteria researched for each country. Each country was given a yes, no, or a question mark if information could not be found about the specific question asked about the country. Table 1 summaries the overall number of Microfinance Institutions in each income level category. The income level was divided into four different levels, Low-income economies (LIE), Lower-middle income economies (LMIE), Upper-middle income economies (UMIE), and High-income economies (HIE).

Table 2 summaries regulatory framework including Microfinance Institutions Laws, MFI start-up capital requirement, MFI interest rate restrictions and other financial ratios requirements.

Table 1. Microfinance Environment by Income Level

Category	Number of Countries	Number of MFIs	Income Level
LIE (low-income economies)	16	491	$1,025 or less
LMIE (lower-middle income economies)	33	980	$1,026 - 4,035
UMIE (Upper-middle income economies)	29	765	$4,036 - 12,475
HIE (High-income economies)	1	4	$12,476 or more

Table 2. Microfinance Regulatory Framework by Income Level

Category	MFI Laws Existed	MFI Start-up Capital Requirement	MFI Interest Rate Restrictions	Additional Financial Ratios Requirements
LIE	10	5	0	1
LMIE	22	15	4	3
UMIE	22	15	12	1
HIE	0	1	1	1

Table 3. Microfinance Loan Amount by Income Level

Category	Total Amount of Loan	Average Amount of Loan	Total Number of Borrowers	Average Number of Borrowers
LIE	16,649,300,000	1,040,581,250	24,314,401	1,519,650
LMIE	45,387,762,198	1,375,386,733	69,534,195	2,107,097
UMIE	1,910,052,900,000	6,586,389,310	25,344,259	873,940
HIE	600,000,000	600,000,000	33,085	33,085

Table 3 summaries the total amount of microfinance loan, average amount of loan per country in each income level category, total number of borrowers, and average number of borrowers in each country.

EMPIRICAL RESULTS AND ANALYSIS

In order to test the hypothesis what effect a country's regulatory framework has on the cost of borrowing for microfinance clients, we run multiple run multiple regression using the EIUs scoring and the Microfinance Information Exchange's (MIX) data bases. We formed the following hypotheses:

H1: Microfinance Loan Amounts are not affected by Regulatory Framework.

H2: Microfinance Loan Amounts are not affected by Total Number of Borrower.

H3: Microfinance Loan Yield is affected by Regulatory Framework.

Table 4 reported the results from multiple regressions. We can reject the hypothesis H1 that microfinance loan amounts are not affected by regulatory framework. The coefficient is significant at less than 5% level. However, hypothesis H2 can't be rejected which means it's unclear if microfinance loan amounts are affected by the number of borrowers. The coefficient is not significant at 5% level.

We used each country's average gross portfolio yield as the proxy of dependent variable of average interest rate charged. This is calculated by dividing aggregate MFIs adjusted loan portfolio revenues by the average gross loan portfolio. The regression results suggested that a country's regulatory framework was correlated to a firm's yield on gross portfolio with a positive coefficient of .0019.

Table 4. Microfinance Loan Amount

R square	.1363
Intercept	-1,968,660,833 (0.21)
Number of Borrowers	110.86 (0.43)
Regulatory Framework	1,778,044,066** (0.007)

N=76
Numbers in parentheses represent P-value
**significance at less than 5%

Table 5. Impact of Regulatory Framework on the Yield

R square	.1045
Intercept	.2105** (0.02)
Regulatory Framework	.0019** (0.34)

N=76
Numbers in parentheses represent P-value
**significance at less than 5%.

CONCLUSION

It is believed that successful regulatory frameworks are flexible enough to accommodate different types of microfinance institutions. As demonstrated throughout this paper, many governments have fallen short of establishing a sound regulatory environment by imposing unnecessary interest rate caps, extending subsidies to institutions that compete directly with NGOs – all of which creates unfair competition and prevent microfinance institutions from achieving self-sustainable situation.

Governments need to make sure a stable macroeconomic and political environment exists that allows for businesses to flourish and willing to continue in offering social services to the poor population not served by the private sector. Regulatory authorities need to understand how microfinance portfolios differ from the larger collateralized portfolios of traditional banks. However, this framework should not overburden the government financially, nor be over restrictive that it will limit the amount of microfinance institutions due to unfair competition.

Government should ensure an environment that assists in decreasing the cost of borrowing, specifically interest rates, not by imposing rate ceilings, but by enhancing investors' confidence in microfinance institutions. It should be an environment where NGOs and MFIs can operate effectively.

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