Performance and trade-offs in microfinance organizations - does ownership matter?

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PERFORMANCE AND TRADE-OFFS IN MICROFINANCE ORGANIZATIONS – DOES OWNERSHIP MATTER?

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ABSTRACT

Policy advocates argue the case for the transformation of non-government Microfinance Organizations (MFOs) into shareholder owned firms. The argument is that this will bring about superior performance. This paper investigates whether the superiority of shareholder owned MFOs is empirically supported. The findings indicate that the difference between shareholder owned MFOs and non-government MFOs is minimal. Our results contradict established paradigms and policy guidelines in the industry. However, the results are not necessarily surprising since ownership theories do not predict a clear preference for one type of ownership in the microfinance market. Furthermore, findings in general banking markets as well as the pro-poor banking history indicate that mutual and non-profit ownership can compete successfully with investor ownership.

INTRODUCTION

Does the type of ownership a Microfinance Organization (MFO) has make a difference to its performance? Since Prodem in Bolivia was transformed into Banco Sol in 1992, it has been argued that an evolutionary organizational process that transforms non-government MFOs into shareholder owned firms (SHFs) is required (Pischke, 1996). Accounts of successful transformations have been shared (Fernando, 2004), and guidelines on how to transform have been published (Ledgerwood and White, 2006, White and Campion, 2002). The arguments are that SHFs can be regulated by banking authorities, accept deposits, provide a larger range of better quality services, be independent from donors, attract private equity capital and benefit from superior corporate governance because they are privately owned. The claim is clear; SHFs perform better than NGOs. Nevertheless, the issue of transformation has so far created more discussion than action. Of the thousands of NGOs, only about 43 have transformed into SHFs (Hishigsuren, 2006). Now is the time to test the assumed superiority of SHFs compared to NGOs in microfinance markets. Does the type of ownership matter?

A priori, one would consider that SHFs are more profit oriented than NGOs. Similarly, that NGOs should care more about reaching the poorest clients than SHFs. This view is put forward by several policy advocates and illustrated in Rock et al (1998). However, more than a decade ago Dichter (1996) observed (and disliked) the fact that many NGOs in microfinance were driven by the same economic rationalism as profit-oriented banks. Furthermore, not all SHFs are in the microfinance business for profit. They may have a social mission equivalent to NGOs. These two factors suggest that the claimed performance difference between ownership types is not as clear cut as assumed.

Performance in microfinance markets is multidimensional. To allow a comparison of NGOs and SHFs we use Schreiner's (2002) highly conceptual terms to discuss the performance of MFOs. Schreiner's framework is also used by USAID when evaluating MFOs' performance (Woller, 2006). In his framework Schreiner proposes six aspects of social benefits for microfinance clients. The six aspects can all be considered performance dimensions in a MFO. The six dimensions are: cost, depth, breadth, length, scope and worth, where *Cost* is defined as the sum of monetary costs and transaction costs to clients, *Depth* is defined as clients' poverty level or other social preferences like for instance the percentage of women reached, *Breadth* is defined as the number of clients served, *Length* is defined as the time frame of the supply of services and *Scope* is defined as number of types of financial contracts supplied. *Worth* estimates to what the degree the clients value the services. W*orth* is omitted from our discussion since it is subjective and according to Schreiner the most difficult to define and measure. Schreiner's (2002) underlying assumption is that more socially oriented MFOs can trade-off narrow breadth, short length and limited scope with greater depth, while less socially oriented MFOs compensate shallow depth with wide breadth, long length and ample scope. Rock et al. (1998) identify more socially oriented MFOs with NGOs, and the less socially oriented MFOs with SHFs.

We outline ownership theories and hypotheses before we test for the argued differences between the SHF and the NGO in three ways. Firstly, the average of empirical specifications of the five dimensions of performance are compared and tested for significant differences. Then, the specified dimensions are used to predict the organisational type of either NGO or SHF in multivariate logit regressions. Lastly, we test the results for robustness using adjusted values instead of the original variables.

A dataset with high-quality information from 200 non-government or shareholder MFOs in 54 countries is used to carry out the statistical tests. The organisations share a willingness to open their accounts to careful scrutiny by third party rating agencies and to make their reports public. The organisations thus represent the more commercial oriented strata of MFOs.

The findings indicate that the difference in performance between SHFs and NGOs is minimal. NGOs are not more socially oriented than SHFs, nor are SHFs more profit oriented than NGOs. SHFs' superiority in scale and scope do not seem to be related to ownership type, but to the legal constraints which impede most NGOs from mobilizing savings.

The rest of this paper is organized as follows: Section two introduces microfinance policies and ownership theories. Section three outlines the hypothesis and identifies statistical measurements. Information about our dataset is provided in section four. In section five the findings are presented and discussed. Section six concludes.

MICROFINANCE POLICIES AND OWNERSHIP THEORIES

A review of microfinance policy reports reveals that most of them highlight the strengths of SHFs and the weaknesses of NGOs. In particular, they emphasis that NGOs are less commercial and professional because they lack owners with the pecuniary incentive to monitor management (Berenbach and Churchill, 1997, C-GAP, 2003, Chavez and Gonzalez-Vega, 1994, Christen and Rosenberg, 2000, Greuning et al., 1998, Hardy et al., 2003, Jansson et al., 2004, Staschen, 1999). The implicit message is that SHFs benefit from better governance, can access more funding and thus perform better than NGOs.

However, an alternative hypothesis may be that SHFs and NGOs do not perform differently, because they may use the same business model to compete and serve customers in the microfinance market. In fact, different ownership forms are common in the banking and insurance industries (Mayers and Smith, 1983, Hansmann, 1996). In mature bank-markets where different ownership types co-exist, researchers find little evidence to suggest that ownership type influences operational efficiency (Altunbas et al., 2001, Crespi et al., 2004, ESBG, 2004). In a recent large European study Iannotta et al. (2007) found that investor owned banks have higher profitability, but have higher operating costs than non-investor owned banks. In historic terms pro-poor banking has generally been dominated by mutual and non-profit ownership, not by investor ownership (Cull et al., 2006, Hansmann, 1996). The question remains; why do policy makers advocate a shareholder charter for MFOs?

Ownership theories

Most research on the effect of ownership on firm performance is rooted in agency theory indicating that there are agency costs stemming from the separation of ownership and control (Jensen and Meckling, 1976, Fama and Jensen, 1983). These costs can be minimized depending on how ownership is organized and practised. According to this theory, owners with pecuniary incentives are more able to reduce agency costs. The implicit conclusion is that in ownerless non-profit organizations like NGOs, agency costs are higher. However, agency theory also predicts that the non-profit organizations can have an offsetting benefit of reducing customer adverse selection and moral hazard (Hansmann, 1996, Desrochers and Fischer, 2002), since they may be closer to the customers and better able to tap into local information networks. In microfinance where customers generally have lower levels of education, it makes good sense that Macey and O'Hara ((2003) suggest that the relationships with depositors and borrowers are as important to the success of the bank as the manager's

and the board's relationship with its owners. Furthermore, in microfinance where donors are major stakeholders, the principal-agent relationship can equally be applied to the relationship between the MFO and the donor. Donors may have more problems entrusting their money to MFOs owned by profit motivated investors. Therefore, agency costs in microfinance have a multiple nature, one between owners and managers, one between the MFO and its customers, and one between the donors and the MFO.

The theory of ownership of enterprise framed by Hansmann (1996) further develops the agency theory in relation to ownership. According to Hansmann, different costs occur depending on who owns an enterprise. Hansmann argues that costs stem from *market based contracts* between the enterprise and its stakeholders like employees, customers, donors, debt holders, and from the *practice of ownership* between management and the owners as well as between the owners themselves. The argument is that these ownership-costs can be minimized depending on how the ownership is organized. From the theory it can be derived that due to owners' pecuniary incentives, investor owned firms minimize ownership costs stemming from the practice of ownership compared to NGOs. However, compared with SHFs, NGOs are better at mitigating the costs stemming from the market contracts. Hence, according to Hansmann (1996) co-operative and non-profit enterprises can operate successfully in more imperfect markets like those where most MFOs operate.

The fact that most equity holders in SHFs are NGOs, donors or socially oriented investors (Ivatury and Abrams, 2005, Ivatury and Reille, 2004, Goodman, 2005) indicates that the type of ownership probably matters less in microfinance than in other industries. However, certain stakeholders such as banking authorities, some debt holders, depositors and some profit-focused investors are often unique for SHFs. Furthermore, the fact that shareholders are free

to sell their shares and that several of today's equity holders have a limited time horizon to their investments, indicates that managers of SHFs experience a different type of ownership control than may occur in NGOs.

In summary, we observe that the theories do not bring clear predictions regarding the efficiency of different ownership types in microfinance markets. However, the lack of clear prediction can be interpreted as theoretical support for the existence of the multiple ownership types that we observe in the microfinance markets as well as in regular banking markets.

Microfinance studies on ownership and performance

The literature on the performance of MFOs has generally not been concerned with the effect of ownership type. However, Hartarska (2005) in her study on corporate governance in East European MFOs included ownership type as an independent variable in her model. Similarly Cull et al. (2007) included ownership type as a control variable in their study on the influence of lending methodologies on performance. In none of the studies ownership type had a significant influence on the performance of MFOs. In another study Hartarska and Nadolnyak (2007) found that regulation did not affect either social nor financial performance in MFOs. Since most countries don't allow NGOs to become regulated, the Hartarska and Nadolnyak study is of particular relevance for this study.

HYPOTHESIS AND MEASUREMENTS

As outlined in the former section, ownership theories do not provide clear prediction regarding preferred ownership type in microfinance markets. However, Schreiner (2002) assumes that more socially oriented MFOs trade off narrow breadth, short length and limited scope with greater depth, while less socially oriented MFOs trade off shallow depth with wide

breadth, long length and ample scope. Assuming the NGOs involved in microfinance to be generally more socially oriented than SHFs, as indicated in several policy reports and illustrated in Rock et al. (1998), we derive our main hypothesis:

Main Hypothesis

NGOs are more socially oriented than SHFs.

If NGOs are more socially oriented than SHFs, they should have greater depth, shorter length, narrower breadth and more limited scope than SHFs. Regarding differences in costs, the Schreiner (2002) framework does not provide prediction.

We identify measurements able to explain each of the five selected dimensions. We recognize that no single measurement or simple combination of measurements is able to fully explain the completeness of any of the five selected performance dimensions. Alongside the identification of the measurements, we indicate expected performance differences between NGOs and SHFs. When not otherwise indicated, ratio definitions are from Microrate and IADB (2002).

1) Costs to clients

Cost to clients is the sum of monetary costs and transaction costs. We omit transaction costs and concentrate on monetary costs to the clients which become revenue for the MFO. The revenue ratio including most, but not necessarily all, monetary costs to clients is the income yield. In an MFO, the income yield is a function of debt costs, operational costs, loan loss costs and equity costs. We identify measurements for each as follows:

Debt Costs

We use the cost of funds ratio as a measure together with the debt/equity ratio. However, because some firms have negative ratios due to negative equity, we also include the debt/assets measure. Due to legal constraints restricting most NGOs to intermediate deposits as well as the general policy preference in the industry for SHFs, we expect debt costs to be higher in NGOs than in SHFs.

Operational Costs

We employ the operating expense ratio as a measure. Implicit in the policy recommendations is that owners with pecuniary incentives are better able to induce efficient operations. Thus, we expect operational costs to be higher in NGOs than in SHFs.

Loan Losses

In accounting reports, loan losses can be found as write-offs and portfolio at risk and it is the combination of the two which ultimately informs us of the loan losses. Less ownership control indicates that NGOs lack some incentives to follow-up defaulters. At the same time, NGOs, due to their social mission, should be more inclined to accept clients' reasons for defaulting. Yet, for profit-motivated organisations, there can sometimes be a trade-off between slightly increased loan losses and reduced operational costs. Nevertheless, we expect loan losses to be higher in NGOs than in SHFs.

Equity Costs

Equity cost is measured as return on equity (ROE). Equity costs are influenced by managers' interest in securing their own future and reputation, but also depend on the owners' pecuniary incentives. Other factors constant, equity costs should be higher in SHFs than in NGOs.

2) Depth

Depth is defined as clients' poverty level or other social preferences such as the percentage of women reached. An imperfect, but useful and much used proxy for measuring poverty levels among clients is average outstanding loan per client. The percentage of women reached is measured as the percentage of the outstanding portfolio lent to women and as a dummy variable indicating whether the MFO practices a conscious gender bias or not. We expect the NGOs to reach poorer clients and relatively more women than the SHFs.

3) Breadth

Breadth of outreach is the number of clients served. Clients can be both savings clients and loan (credit) clients. Since NGOs in most cases cannot mobilize deposits due to legal constraints, their number of savings clients should in most cases be zero. Excluded from the opportunity to fund loans with savings, together with the difficulty in accessing debt indicate that the number of credit clients as well as the total number of clients should be lower in NGOs than in SHFs.

4) Length

Length of outreach is the time frame of the supply of microfinance. Length is difficult to measure, but profit is a proxy because it signals the ability to sustain the business over time. Since SHFs should have the benefit of lower costs and larger scale, they should be able to enjoy higher profitability and sustain longer than NGOs. Due to considerable variation in debt/equity ratios, profit in the microfinance industry is best measured as ROA and not the ROE.

5) Scope of outreach

Scope of outreach is the number of types of financial contracts supplied. Since the mobilization of deposits is generally reserved for regulated entities, NGOs should, due to the difficulty of becoming regulated, generally not offer voluntary savings. When it comes to the number of credit products being supplied, NGOs are also disadvantaged due to the lack of scale and resources.

In summary, the Schreiner (2002) model implies that NGOs trade off more depth with less breadth, length and scope compared to SHFs. We investigate this by comparing average specifications of the five outreach dimensions in table 2 and 3 for the subgroups of SHF and NGO. Furthermore, if the SHF and NGO differ in dimensions of performance, we should be able to predict organisational type from these performance dimensions. In particular, depth should be an important prediction variable. We study this in a simple logit model where the dummy variable "ownership type" is the binary dependent variable containing the SHF and the NGO types.

Definitions of variables used in the analysis are given in table 1.

Table 1

DATASET

The dataset has been constructed using rating reports made public at the www.ratingfund.org. Reports made by the following five rating agencies are included: MicroRate, Microfinanza, Planet Rating, Crisil and M-Cril. The methodologies applied by the rating agencies have been compared and no major differences in how they assess MFOs have been found. All the five

agencies are approved official rating agencies by the Rating Fund of the Consultative Group to Assist the Poor (C-GAP) (www.ratingfund.org).

The fact that MFOs in the sample are rated means a certain selection bias in that the data is skewed towards the better performing MFOs. However, this is an advantage in our comparative analysis since much background "noise" like very small MFOs or development programmes without the intention to apply microfinance in a business-like manner have been filtered out. This allows for more realistic comparisons of ownership types. Of the rated MFOs, most rating categories are represented in the data. On a uniform rating scale from 0-100%, the average rating grade is 52.8% with a standard deviation of 17.8%.

The rating reports making up the database are from 2000 to 2006 with the vast majority being from the last three years. The rating reports contain financial information for up to four years. The year the rating took place is reported as year 0, while the previous years are reported as year – 1, year -2 and year -3. As required, all numbers in the dataset have been annualized and converted to US$s using prevailing official exchange rates. The rating agencies differ in the information they make available in the reports. Thus, a different N on different variables and in different years is reported.

The dataset consists of 132 NGOs and 68 SHFs. Of the SHFs, 13 are banks and 55 are non-bank financial institutions (NBFIs). Both banks and NBFIs are usually, but not always, regulated by local banking authorities and allowed to intermediate some kinds of public deposits.

RESULTS AND DISCUSSIONS

Trade-offs in outreach?

With the specifications suggested in table 1, tables 2 and 3 show the averages of the five dimensions, while an ANOVA F test gives the significance level of the difference between the two group means. In each year, the extreme values for the debt/equity ratio have been filtered out, that is, cases with values above 20 and below zero are removed. Note that the dataset only contains data from year 0 on Conscious gender bias, the Women percentage and number of Loan products. Thus, these are only reported in year 0.

Tables 2 and 3

Comments are made on all years together. The depth variables are the Average loan amount, the Conscious gender bias, and the Women percentage. Thus, if the depth is higher in NGOs, we expect to find a lower Average loan amount and higher values on the gender variables. We found a significant difference in the Conscious gender bias variable, but when it comes to Average loan amount and Women percentage, the expressed bias does not show up in practice. Note that N differs considerably between these two variables. The fraction of loans provided to women is surprisingly high in SHFs, about two thirds. Thus, the depth hypothesis is not supported.

Do we find the trade-offs with other dimensions? We found significant differences in debt costs. The debt/equity ratio is significantly higher in SHFs than in NGOs in all years. Likewise, the scope is lower in NGOs. We found significant differences in Voluntary Savings as well as in the number of Loan products. The differences are as predicted in our hypothesis. For the breadth dimension, we found significant differences for all clients, but for credit clients only for years -2 and -3. Probably, we need to consider the debt cost, breadth and

scope together. Since NGOs are normally not regulated, they cannot accept deposits. This institutional aspect may explain the significant differences on the variables. Without access to deposits, NGOs have a smaller capital base to fund lending. Therefore we expect both the debt/equity ratio and the voluntary savings to be lower in NGOs.

On the other hand, we find some interesting similarities. For instance, the operating expense ratio is not significantly different in any year, and the ratio is in fact lower in SHFs only for the two most recent years. Thus, we cannot say that SHFs are managed in a more cost-effective manner than NGOs. A second similarity concerns equity costs, specified as ROE. These shows no significant difference in any year, and are lower in year -3 in SHFs. Furthermore, the length dimension, specified as ROA, is consistently higher in NGOs than in SHFs. But again, the differences are too small to be significant. However, the hypothesis was the reverse of what we found. Thus, it seems like the NGO does not sacrifice business opportunities in order to supply credit to poor clients. Perhaps, as a supplier with fewer products, it benefits from specialization.

Do these differences together confirm the trade-off hypothesis? No. The significant differences seem to conform more to the way the SHF and the NGO are regulated. Since most NGOs are not regulated by banking authorities, they cannot offer services to depositors. This is in line with Hartarska and Nadolnyak (2007) who find that regulation per se does not affect the sustainability or outreach of the MFO, but it can have an indirect benefit if this is the only way for a MFO to access savings and thereby access funding.

If our hypothesis derived from Schreiner's framework is correct, we would expect to see significant differences between the ownership types especially for depth. Yet, we find such a

difference only for the intention of serving women, but this did not transform into a higher female share of loans or smaller loans from the NGO. Otherwise, the similarities between the two ownership groups indicate that both have found a sustainable business model for the microfinance market.

Predicting ownership type

We now test our hypothesis by considering performance dimensions simultaneously in logit regressions. While the comparisons of means are a partial analysis, the effects may show up more explicitly when all dimensions are considered together.

In table 4 we report results from logit regressions. The SHF and the NGO constitute the binary dependent variable ownership type. Since SHF is coded 0 and the NGO 1, a positive sign indicates a higher probability for detecting the NGO, a negative sign will pick out the SHF. Thus, from our hypothesis derived from Schreiner's framework, we expect the depth to show a positive relationship to ownership type, while the other dimensions should show negative signs. Specifically, the ROA should be negative.

For the regressions, we have included only those variables that are continuous. These correspond to those variables for which we have observations for each year. For each dimension, we have also restricted the inclusion of variables to only one, except for the cost dimension, where from table 1 we have several sub-groups. In these regressions, there are no control variables. Later, we perform robustness tests to check the results. Table 4 gives estimates for ownership type when debt cost is gauged as the debt level.

Table 4

The omnibus $\chi^2(8)$ test is a Wald test for the null hypothesis that all coefficients in the equation are zero. We can reject this hypothesis in all specifications. The Nagelkerke R^2 measure shows how much is explained. This measure gives values that are usually much smaller than those in linear regression models. Therefore, the statistic shows satisfactory results. Also, the percentage of cases correctly classified indicates that the overall regression performs well. Hence, the power of our statistical model is strong.

Table 4 shows that our measure of depth, average loan amount, is not significant in any regressions. Overall, few significant results are obtained, indicating that it is difficult to pick out the type of ownership from the Schreiner (2002) dimensions. The negative debt level (year -3) and the positive operating portfolio expense ratio (years 0 to -2) have the correct signs according to our hypothesis. So do the results for PaR30. But the ROA (length dimension) is positive and significant in year -1. This is contrary to the hypothesis. Thus, although costs and risk are higher in the NGO, this type of organisation has developed a business model that has an ROA equivalent to or better than the SHF. This indicates that contrary to the hypothesis, the NGO should be as sustainable in the long term as the SHF.

Robustness checks

Are our results upset when other specifications are used? We run robustness tests when the debt/equity ratio is used instead of the debt level, (see table 5), and tests when ROE and ROA are removed in table 6. In the table 5 regressions, the extreme values of the debt/equity ratio are filtered out, that is, cases with negative values and ratios higher than 20 are removed.

Table 5

The results from table 5 parallel those in table 4 to a large extent, although we obtain fewer significant coefficients. The operating portfolio expense ratio, which was important in table 4, is very close to significance in years -1 and -2. The depth variable, average loan amount, is not significant, and while the cost dimension variables, debt/equity ratio and operating portfolio expense ratio, are as predicted, the length variable ROA is positive and does not support the hypothesis. It is also interesting to note that the coefficient values are at about the same size level in both tables. This indicates that our results are robust.

We also performed tests of the relation with ROE and ROA alternatively removed in year 0. The reason is that these variables may be highly correlated. However, the tests in table 6 show that coefficients are barely altered, indicating that our results are robust.

Table 6

Last, we performed several tests that are not reported. Instead of ROE and ROA, we used the adjusted values presented in some rating reports. Instead of the average loan amount, we adjusted the figure by GDP per capita. Instead of the debt level, we used the cost of funds. None of these tests contradict the results already found in tables 4 and 5. The reason for not using adjusted variables in the first place is the loss of observations. This is important, since statistically speaking, the number of observations is already low. The same is the case for control variables. But with the satisfactory robustness results, we consider these shortcomings of minor importance.

Taken together, the Schreiner (2002) dimensions are not successful in differentiating between ownership types. The hypothesis is rejected. NGOs are not more socially oriented than SHFs.

CONCLUSION

We have studied whether ownership type influences the performance of microfinance organizations. Our overall conclusion is that it doesn't. NGOs are not more socially oriented than SHFs, nor are SHFs more commercial oriented than NGOs. We concur with Dichter (1996) when he observed that many NGOs involved in microfinance are driven by the same economic rationality as any other bank. We have tested the hypothesis that greater depth in the NGO is traded off against lower length, breath and scope of operations. We could not support the hypothesis in partial tests of equality of means in sub-groups of NGOs and SHFs, or in multi-variate logit regressions, where the dependent variable is the ownership type containing the NGO and the SHF. In the partial analysis, the differentiating variables are associated with the access to deposits, which many NGOs are denied, and in the logit regressions, the depth variable average loan is nowhere significant, and significant variables contradict the hypothesis. The overall conclusion is that our hypothesis is rejected. NGOs are not more socially oriented than SHFs. Instead, we believe that the NGOs in our sample have found a viable business model that gives NGOs sustainability. The reason is that the ROA is on par, or better, than in SHFs.

The NGOs in our sample represent commercial and business oriented organizations willing to be rated by third party rating agencies. This is not representative for all NGOs in microfinance. Nevertheless, our empirical study does not support policy advocates' preferences for SHFs. Also NGOs can be sustainable, well performing MFOs. Recommending NGOs to become SHFs seems to be premature. A revision of policy

guidelines is recommended. Adaptation of legal frameworks allowing well-performing NGOs to mobilize savings appears to be a better option than transformation, if the objective is to increase NGOs' scale and scope.

Our results contradict established paradigms and policy guidelines in the industry. However, the results are not necessarily surprising. As indicated in the theory section, ownership theories do not predict a clear preference for one type of ownership in the microfinance market. This is further supported by findings in general banking markets as well as the pro-poor banking history, indicating that mutual and non-profit ownership can compete successfully with investor ownership. Furthermore, our results are in line with recent findings in Cull et al (2007) and Hartarska (2005). Nevertheless, we welcome more studies to confirm or question our findings. Furthermore, we call for studies on how to adapt legal frameworks so as to allow well-performing NGOs to mobilize savings. We also encourage qualitative and quantitative studies to compare the governance systems and their effect in SHFs and NGOs.

REFERENCES

ALTUNBAS, Y., EVANS, L. & MOLYNEUX, P. (2001) Bank Ownership and Efficiency. *Journal of Money, Credit, and Banking* 33**,** 926-954.

BERENBACH, S. & CHURCHILL, C. (1997) Regulation and Supervision of Microfinance Institutions. *Occasional Paper* The MicroFinance Network.

C-GAP (2003) Guiding principles on regulation and supervision of microfinance. *Microfinance Consensus Guidelines*

CHAVEZ, R. & GONZALEZ-VEGA, C. (1994) Principles of Regulation and Prudential Supervision and Their Relevance for Microenterprise Finance Organizations. IN OTERO, M. & RHYNE, E. (Eds.) *The New World of Microenterprise Finance* West Hartford, Kumarian Press.

CHRISTEN, R. P. & ROSENBERG, R. (2000) The rush to regulate: Legal frameworks for microfinance. *Occasional Paper* CGAP.

CRESPI, R., GARCIA-CESTONA, M. A. & SALAS, V. (2004) Governance mechanisms in Spanish Banks. Does Ownership matter? *Journal of Banking and Finance* 28**,** 2311-2330.

CULL, R., DAVIS, L. E., LAMOREAUX, N. R. & ROSENTHAL, J.-L. (2006) Historical financing of small- and medium-size enterprises. *Journal of Banking and Finance,* 30**,** 3017-3042.

CULL, R., DEMIGÜC-KUNT, A. & MORDUCH, J. (2007) Financial Performance and Outreach: A global Analysis of Leading Microbanks. *The Economic Journal* 117**,** 107-133.

DESROCHERS, M. & FISCHER, K. P. (2002) Corporate governance and depository institutions failure: the case of an emerging market economy. . CIRPEE, Quebec, Canada.

DICHTER, T. W. (1996) Questioning the Future of NGOs in Microfinance. *Journal of International Development* 8**,** 259-269.

ESBG (2004) European Banking Consolidation: A considered analysis of the retail banking market and the position of the European Savings Banks Group. . Brussels, ESBG.

FAMA, E. F. & JENSEN, M. C. (1983) Separation of Ownership and Control. *The Journal of Law and Economics* 26**,** 301-327.

FERNANDO, N. A. (2004) Micro Success Story, Transformation of Nongovernmental organizations into regulated financial institutions. . Manila, Asian Development Bank.

GOODMAN, P. (2005) Microfinance Investment Funds. . ADA.

GREUNING, H. V., GALLARDO, J. & RANDHAWA, B. (1998) A Framework for Regulating Microfinance Institutions. . The World Bank.

HANSMANN, H. (1996) *The ownership of enterprise,* Cambridge, Massachusetts, The Belknap Press of Harvard University Press.

HARDY, D. C. D. I. O., HOLDEN, P. & PROKOPENKO, V. (2003) Microfinance institutions and public policy. *Policy Reform* 6**,** 147.

HARTARSKA, V. (2005) Governance and Performance of Microfinance Institutions in Central and Eastern Europe and the Newly Independent States. *World Development* 33**,** 1627-1643.

HARTARSKA, V. & NADOLNYAK, D. (2007) Do regulated microfinance institutuions acrhive better sustainability and outreach? Cross-country evidence. *Applied Economics,* 39**,** 1-16.

HISHIGSUREN, G. (2006) Transformation of Micro-finance Operations from NGO to Regulated MFI. . IDEAS, USA.
IANNOTTA, G., NOCERA, G. & SIRONI, A. (2007) Ownership structure, risk and performance in the European banking industry. *Journal of Banking and Finance* 31**,** 2127-2149.
IVATURY, G. & ABRAMS, J. (2005) The Market for Foreign Investment in Microfinance: Opportunities and Challenges. *Focus Note* CGAP.
IVATURY, G. & REILLE, X. (2004) Foreign Investment in Microfinance: Debt and Equity from Quasi-Commercial Investors. *Focus Note* CGAP.
JANSSON, T., ROSALES, R. & WESTLEY, G. (2004) Principles and Practices for Regulating and Supervising Microfinance. . Washington, D.C., Inter-American Development Bank.
JENSEN, M. C. & MECKLING, W. H. (1976) Theory of the Firm: Managerial behavior, agency costs and ownership structure. *Journal of Financial Economics* 3**,** 305-360.
LEDGERWOOD, J. & WHITE, V. (2006) *Transforming Microfinance Institutions,* Washington, The World Bank and The MicroFinance Network.
MACEY, J. R. & O'HARA, M. (2003) The corporate governance of banks. *Economic Policy Review* 9**,** 91-107.
MAYERS, D. & SMITH, C. W. (1983) Ownership structures across lines of property-casualty insurance. *Journal of Law and Economics* 31**,** 351-378.
MICRORATE & IADB (2002) Performance Indicators for Microfinance Institutions. . Washington, Microrate and Inter-American Development Bank.
PISCHKE, J. D. V. (1996) Measuring the trade-off between outreach and sustainability of microenterprise lenders. *Journal of International Development,* 8**,** 225-239.
ROCK, R., OTERO, M. & SALTZMAN, S. (1998) Principles and Practices of Microfinance Governance. *Microenterprise Best Practices* DAI / USAID.
SCHREINER, M. (2002) Aspects of Outreach: A Framework for Discussion of the Social Benefits of Microfinance. *Journal of International Development* 14**,** 591-603.
STASCHEN, S. (1999) Regulation and Supervision of Microfinance Institutions: State of Knowledge. . Eschborn, Germany, GTZ-Working Paper.
WHITE, V. & CAMPION, A. (2002) Transformation - Journey from NGO to regulated MFI. IN DRAKE, D. & RHYNE, E. (Eds.) *The Commercialization of Microfinance* Bloomfield, Kumarian Press.
WOLLER, G. (2006) Evaluating MFIs' social performance: A measurement tool. *microREPORT.* Washington, USAID.

Table 1: Variable definitions	
Variable	Definitions (when available from (Microrate and IADB, 2002)
Cost A Debt cost	*Cost of Funds Ratio* The cost of funds at the end of a given period, that is COF = (Interests and fee expense on funding liabilities)/(Average funding liabilities). *Debt/equity ratio* The ratio of debt to equity at the end of a given period. *Debt/Assets* The ratio of debt to total assets.
B Operational cost	*Operating expense ratio*: The ratio of the operating expenses to the average loan portfolio, thus OER = (Operating expenses)/(Average total loan portfolio).
C Loan losses	*Write-Off ratio* The ratio of loans that has been written off and accepted as a loss, that is WOR = (value of loans written-off)/(average loan portfolio). *Portfolio at Risk (PaR 30)* The percentage of the total loan portfolio with more than 30 days in arrears.
D Equity costs	*Return on Equity* (ROE)
Depth	*Average loan amount* The average outstanding loan amount per loan client at the end of a given year, thus, ALA = (Gross outstanding portfolio)/(Number of active credit clients). *Conscious gender bias?* Does the MFO report having a conscious gender bias? 1 being *yes.* *Women percentage* The percentage of the clients being female or if this is not available, the percentage of the portfolio held by women.
Breadth	*Total number of clients* The total number of clients *active* with the MFO *Number of credit clients* The number of credit clients at the end of the period.
Length	*Return on Assets* The return on assets (ROA) at the end of a given period.
Scope	*Total voluntary savings* The clients' total voluntary savings with the MFO as appeared in the balance sheet at the end of a given period and includes demand and fixed deposits. *Loan products* The number of *loan* products offered by the MFO.

Table 2: The average and standard deviation of the five dimensions of performance in shareholder owned firms (SHF) and non-governmental organisations (NGO), years 0 and -1

	SHF			NGO			F-test
Year 0	Mean	Std	N	Mean	Std	N	Sign
Debt/Equity ratio	3,646	3,978	64	2,137	2,725	115	0,003
Debt level	0,512	0,319	67	0,587	0,283	131	0,096
Operating portfolio expense ratio	0,267	0,220	67	0,295	0,184	130	0,341
Cost of Funds Ratio	0,082	0,059	57	0,081	0,087	120	0,951
Write-Off ratio	0,013	0,017	47	0,020	0,043	98	0,318
PaR 30	0,057	0,072	68	0,052	0,073	130	0,643
ROE	0,119	0,235	50	0,070	0,389	109	0,407
Average loan amount	701,230	657,560	67	562,292	699,577	130	0,179
Conscious gender bias?	0,296	0,461	54	0,452	0,500	115	0,054
Women percentage	0,677	0,300	19	0,758	0,237	55	0,235
Clients	40900	98703	60	17352	24891	131	0,011
Credit clients	25666	52383	66	16839	24775	131	0,110
ROA	0,026	0,088	65	0,040	0,094	129	0,313
Voluntary savings	5058490	17479664	65	26892	150334	123	0,002
Loan products	5,138	4,391	65	3,492	2,234	128	0,001
	SHF			NGO			F-test
Year -1	Mean	Std	N	Mean	Std	N	Sign
Debt/Equity ratio	3,294	3,150	54	1,673	1,700	107	0,000
Debt level	0,526	0,308	56	0,549	0,298	121	0,648
Operating portfolio expense ratio	0,285	0,234	54	0,320	0,206	114	0,326
Cost of Funds Ratio	0,080	0,061	47	0,082	0,111	100	0,936
Write-Off ratio	0,025	0,039	47	0,024	0,035	104	0,875
PaR 30	0,064	0,080	53	0,061	0,086	112	0,827
ROE	0,045	0,261	50	0,004	0,495	109	0,583
Average loan amount	680,869	627,311	53	626,179	886,786	112	0,687
Clients	27449	72211	46	12350	16945	118	0,034
Credit clients	20450	49582	52	12200	16908	118	0,109
ROA	0,003	0,121	52	0,032	0,115	114	0,141
Voluntary savings	2969318	8435670	55	12893	84654	115	0,000

Table 3: The average and standard deviation of the five dimensions of performance in shareholder owned firms (SHF) and non-governmental organisations (NGO), years -2 and -3

	SHF			NGO			F-test
Year -2	Mean	Std	N	Mean	Std	N	Sign
DE	2,985	2,938	52	1,583	1,894	104	0,000
Debt level	0,485	0,339	54	0,516	0,316	113	0,556
Operating portfolio expense ratio	0,305	0,280	51	0,334	0,238	104	0,495
Cost of Funds Ratio	0,076	0,052	46	0,075	0,091	92	0,954
Write-Off ratio	0,021	0,036	49	0,028	0,047	103	0,410
PaR 30	0,064	0,089	52	0,071	0,097	109	0,633
ROE	0,022	0,288	50	-0,086	1,282	107	0,556
Average loan amount	709,543	633,130	39	822,469	1446,844	73	0,644
Clients	26575	70398	46	9744	13955	116	0,015
Credit clients	17605	41548	51	9662	13854	116	0,067
ROA	0,000	0,106	53	0,012	0,157	111	0,604
Voluntary savings	2052636	5150219	53	7568	53001	110	0,000
	SHF			NGO			F-test
Year -3	Mean	Std	N	Mean	Std	N	Sign
DE	3,031	3,164	37	1,616	2,284	72	0,009
Debt level	0,517	0,367	40	0,465	0,302	77	0,418
Operating portfolio expense ratio	0,495	0,658	33	0,410	0,350	64	0,406
Cost of Funds Ratio	0,092	0,077	32	0,078	0,066	52	0,371
Write-Off ratio	0,015	0,021	31	0,024	0,041	73	0,263
PaR 30	0,070	0,085	38	0,075	0,102	74	0,777
ROE	-0,101	0,688	38	0,074	0,580	72	0,160
Average loan amount	680,869	627,311	53	626,179	886,786	112	0,687
Clients	21495	55388	32	7073	10542	80	0,027
Credit clients	15148	34393	37	7192	10513	78	0,063
ROA	-0,016	0,180	40	-0,002	0,165	75	0,689
Voluntary savings	1666170	3607646	42	6679	44028	94	0,000

Table 4: Logit calculations of organisational predictions. Years 0 to -3 when the binary variable ownership type contain SHF, coded as 0, and NGO, coded as 1

	Year			
	0	-1	-2	-3
Debt level	-0.612	-0.949	-1.482	-2.128*
Operating portfolio expense ratio	3.769**	2.407*	1.868*	2.615
PaR 30	6.793	7.935*	5.217	7.745*
ROE	-0.344	-0.455	-0.232	0.964
Average loan amount	0.000	0.000	0.000	0.000
Credit clients	0.000*	0.000	0.000	0.000
ROA	3.753	6.695*	2.912	0.954
Total voluntary savings	0.000**	0.000**	0.000	0.000
Constant	-0.260	0.246	0.996	1.201
Observations	148	144	136	91
Classified correctly (%)	79.1	79.2	79.4	79.1
Omnibus Chi-sq (8) test	0.000	0.000	0.000	0.000
Nagelkerke R Square	0.399	0.377	0.369	0.449

Table 5: Logit calculations of ownership type. Years 0 to -3 when the binary dependent variable ownership type contains SHF, coded as 0, and NGO, coded as 1. Debt/equity ratio is used instead of debt level

	0	-1	-2	-3
DE	-0.097	-0.168*	-0.056	-0.021
Operating portfolio expense ratio	3.576**	2.225	1.899	1.093
PaR	6.642	7.815*	4.215	10.725
ROE	-0.368	-1.149	-0.265	1.244
Average loan amount	0.000	0.000	0.000	0.000
Credit clients	0.000*	0.000	0.000	0.000
ROA	3.319	7.978**	2.748	0.092
Total voluntary savings	0.000**	0.000*	0.000	0.000
Constant	-0.323	0.159	0.416	0.036
Observations	145	142	134	82
Classified correctly	79.3	80.0	69.4	78.0
Omnibus Chi-sq (8) test	0.000	0.000	0.000	0.000
Nagelkerke R Square	0.402	0.393	0.351	0.430

Table 6: Robustness logit calculations of organisational predictions, varying ROE and ROA Year 0.

Dependent Bank-Nf-NGO	All variables	ROE removed	ROA removed
Debt level	-0.612	0.311	-0.854
Operating portfolio expense ratio	3.769**	2.264*	3.753**
Portfolio at Risk (PaR 30),	6.793	8.193*	6.303
ROE	-0.344		0.097
Average outstanding loan amount	0.000	0.000	0.000
Credit clients	0.000*	0.000	0.000*
ROA	3.753	5.161**	
Total voluntary savings	0.000**	0.000**	0.000**
Constant	-0.260	-0.495	0.062
Observations	148	179	149
Classified correctly	79.1	74.8	78.5
Omnibus Chi-sq (8) test	0.000	0.000	0.000
Nagelkerke R Square	0.399	0.354	0.405