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# Microfinance Tradeoffs: Regulation, Competition, and Financing\*

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## *Abstract*

We describe important trade-offs that microfinance practitioners, donors, and regulators navigate. Drawing evidence from large, global surveys of microfinance institutions, we find a basic tension between meeting social goals and maximizing financial performance. For example, non-profit microfinance institutions make far smaller loans on average and serve more women as a fraction of customers than do commercialized microfinance banks, but their costs per dollar lent are also much higher. Potential trade-offs therefore arise when selecting contracting mechanisms, level of commercialization, rigor of regulation, and the extent of competition. Meaningful interventions in microfinance will require making deliberate choices – and thus embracing and weighing tradeoffs carefully.

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## 1 Introduction

Over three decades, microfinance has evolved, mutated, and segmented. Microfinance started as a simple idea--to provide loans to poor entrepreneurs--but today it is a far-ranging and dynamic sector, including institutions that provide savings and remittance services, sell insurance, and offer loans for a wide range of purposes. The sector is bound together by a focus on bringing financial services to the underserved, but institutions vary in the income levels of the customers they serve, the use of subsidy, regulation and governance structures, and the breadth and quality of services offered. While lending remains a core activity, “providing microfinance” now entails a range of possibilities and a variety of models. In choosing strategies, microfinance providers face both new opportunities and trade-offs.

Economists have written extensively on the tradeoffs that result from the combination of (i) customers’ lack of assets which can serve as collateral (ii) banks’ lack of cost-effective monitoring and information gathering mechanisms. The combination has spawned much interesting work on the theory of contracts (Armendáriz and Morduch, 2010), particularly in the context of lending. While important, the focus ignores a broader set of challenges given by high transactions costs. These costs are of limited theoretical interest, but they can make all the difference to how the banks function and who they serve—and whether banks are even viable.

One can get a sense of the role of costs by examining different types of microfinance institutions. We show that the average loan size provided by the median nongovernmental organization (NGO) in our sample is less than a quarter the size of the average loan provided by the median commercial microfinance bank. That difference in loan sizes translates directly into differences in relative costs. While the NGOs in the sample economize on costs, their median operating costs are still roughly double that of the median commercial microfinance bank (when

costs are taken as a share of loan value). Even if information asymmetries were not a major problem, the high transactions costs mean that reaching the very poor with small-scale services remains a tough business and often entails charging high fees or depending on steady subsidies.<sup>1</sup>

This structure of costs leads to practical trade-offs: Should the institution move up-market to provide larger loans and improve financial performance? Is deposit-taking feasible at such scales? Can socially-minded institutions survive commercial competition and regulation without re-defining their missions?

This chapter describes our recent research on important trade-offs that microfinance practitioners, donors, and regulators navigate (Cull et al. 2007, 2009a, 2009b, 2009c). The evidence draws on large, global surveys of microfinance institutions and complements the important body of studies on specific institutions (e.g., Rutherford 2009, Rhyne 2001). The findings establish quantitative benchmarks for conversations among practitioners, experts and regulators about ways to expand financial access.

Among the key findings are: (1) Raising interest rates improves profitability for many institutions but, after a point, higher rates are associated with increased loan delinquencies and diminished profits (unless contractual innovations are in place that limit delinquencies). (2) Financial self-sustainability and serving poor households are not, by definition, incompatible. (3) But most institutions serving the poorest customers earn profits too small to attract investors seeking purely commercial returns (rather than a blend of “social” and financial returns). Still, (4), a substantial share of “non-profits” in fact earn profits, even if they are relatively small. (5) Non-profits do not duplicate the work of commercial lenders: non-profits tend to make far

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<sup>1</sup> We know of no study that separates costs that are purely due to information problems from costs purely due to the lack of scale economies. Some of what are described as basic transaction costs are, at their root, surely due to information problems, but the basic costs of paperwork, risk appraisal, and administration remain. One of the hopes of new technologies like mobile banking is to radically slash these kinds of costs, but it is too early to assess the promise and achievement.

smaller loans on average and serve more women as a fraction of customers, relative to commercialized microfinance banks. (6) Rigorous and regular supervision is critical for deposit-taking institutions, but it is costly; regulatory supervision thus tends to push institutions to serve relatively better-off customers as a way to maintain profitability. And (7) competition, or potential competition from mainstream, formal-sector banks appears to steer microfinance institutions toward serving poorer customers.

The rest of this chapter describes the data and key findings.

## **2 The *MicroBanking Bulletin* Data**

In each of the four studies described below, we use cross-sectional data compiled by the Microfinance Information eXchange (the MIX). The MIX data are of unusually high quality, and we use the subset that is collected and standardized for the organization's biannual benchmarking report, the *MicroBanking Bulletin*. While the summary statistics are available in the *Bulletin* and on the MIX website, we were granted access to the more detailed underlying dataset. Starting with an original dataset on 124 institutions in 49 countries, we incorporated additional observations and data and variables, bringing the largest dataset to 346 institutions in 67 countries.

The data have important qualities. First, they provide multiple indicators to measure topics of interest; for example, the *Bulletin* includes three separate measures of customers' poverty levels. Second, the data are self-reported but are then independently verified to ensure coherence and consistency. Third, the data are adjusted to improve comparability across institutions using different reporting formats and the records are modified to account for implicit subsidies.

The data are not, however, representative of the full population of microfinance institutions. The data over-represent institutions that both have a commitment to financial sustainability and that are willing to comply with the MIX's relatively rigorous reporting standards. Because of this, the institutions are more likely to be industry leaders in terms of financial performance, and the data should be seen as giving a sense of best-case financial possibilities.

Bauchet and Morduch (2010) analyze differences between the MIX dataset and the larger database of the Microcredit Summit Campaign, a microfinance advocacy organization that promotes social change. As expected, they find that the MIX data are more heavily tilted toward financially sustainable institutions, and the latter toward institutions with strong social objectives. For example, the average operational self-sufficiency ratio of institutions reporting to the Microcredit Summit Campaign is 95 percent, compared to 115 percent for institutions reporting to the MIX. The MIX data also tilts more heavily toward Latin America and Eastern Europe, relative to the heavier Asia representation of the Microcredit Summit database.

On top of this general bias, the *MicroBanking Bulletin* adjustments to profit assume an implausibly low opportunity cost of capital. The calculations use a country's deposit rate (as reported by the International Monetary Fund) as the assumed benchmark cost that microfinance institutions would have to pay for capital in the open market. This choice exaggerates measures of profit and artificially shrinks measures of subsidy (Cull et al. 2009a). As the price that deposit-taking institutions typically pay savers for capital, the deposit rate is a justifiable measure of capital costs in some contexts. Most microfinance institutions, however, do not count deposits as their most important source of capital. Moreover, the measure does not account for the transaction costs of servicing deposit accounts. Measures of trends are less clearly affected by

this bias, and Cull et al (2009a) show that the main conclusions here would be even stronger were the bias corrected.

Another issue is with the Financial Self-Sufficiency Ratio (FSS), our preferred metric for an institution's profitability. FSS incorporates figures adjusted to account for different kinds of subsidy to approximate an institution's returns in the absence of subsidized funding. However, FSS analysis captures a "snapshot" of current conditions at a given moment. It cannot indicate an institution's flexibility, nor what strategies its management would pursue if access to subsidized funding dried up. Ultimately, operating on commercial terms is tied to the ability to shift strategies as required. If the need arose, could the institution re-allocate funds and find ways to operate more efficiently? The FSS ratio provides only a rough guide to this question. In this sense, the ratio usefully reveals circumstances at a given slice of time, but it gives only a limited perspective on what might be possible without subsidy.

It is also important to keep in mind that these studies are based on cross-country data, which allows us to draw conclusions about the microfinance landscape but which may offer an imperfect guide to possibilities in specific countries.

Finally, the papers map correlations and patterns in the data. For the most part we are not making strong causal claims (the exception is in our work on regulation, and even there we tread lightly). Most progress in establishing causal relationships has been achieved in micro studies of the sort reviewed in Karlan and Morduch (2009), and World Bank (2008). Still, since many policy questions concern the working of institutions, analyzing institution-level data is critical.

### **3 Contracts**

Economic theory details how problems arising from asymmetric information undermine economic incentives to such an extent that it may be impossible to serve the under-served (Akerlof 1970 and Stiglitz 1974). The major contribution of microfinance has been to demonstrate innovative contracts that, both in practice and in theory, can make commercial lending to the poor viable. Gangopadhyay and Lensink (2009), for example, build on previous work on joint liability borrowing to show how contracts can mitigate adverse selection. Armendáriz and Morduch (2010) show how microfinance contracts reduce moral hazard.

In our 2007 analysis of the MIX data, we investigate the role of contracts empirically (Cull et al. 2007). The study considers lenders that offer different kinds of contracts: conventional bilateral lending agreements, Grameen Bank-style group contracts, and “village banks” that also use group-based methods. Using one observation per institution from 1999 to 2002, we focus on qualitative information on institutions’ lending style, range of services offered, profit status, ownership structure, and source of funds. We include a “lending type” variable that categorizes institutions, separating individual-based lenders, group-based lenders, and village banks. For our profitability regressions, the primary dependent variable is the financial self-sufficiency ratio (FSS), a ratio of revenues and expenses adjusted to account for subsidies. We also regress two other measures of profitability, the operational self-sufficiency ratio (OSS) and return on assets (ROA). A second set of regressions uses “portfolio at risk” as the dependent variable, and a third investigates mission drift by regressing three outreach variables. In this third set, the dependent variables are average loan size over GNP, average loan size relative to the average per capita income of the bottom 20% for the country, and the share of borrowers that are women. While some observers define mission drift narrowly, in terms of the economic level of customers, here we are also concerned with shifts away from an orientation



toward female customers. We control for institutional characteristics, including the institution's age, size, formal profit status, real gross portfolio yield (an approximation of the average interest rate charged by the institution), average loan size (only in the first set of profitability regressions) and region of operation. We also include four financial ratios: capital and labor costs relative to assets, loans to assets, and donations to loan portfolio.

The most telling sign of trade-offs emerges when we investigate how loan repayment rates vary with the interest rates that institutions charge borrowers. The patterns in the data generally line up with theoretical predictions: loan delinquency rates increase with interest rates for individual-based lenders. This pattern is also consistent with evidence from the field showing that demand for microcredit is sensitive to price.<sup>2</sup> We do not find this type of pattern for group lenders or village banks, however. The discrepancy is consistent with the claim that group-based contracts serve their intended purpose in these contexts, effectively mitigating information problems by taking the place of collateral as an incentive to repay loans (e.g., Gangopadhyay, Ghatak, and Lensink 2005). Lenders can then raise interest rates on loans without fearing a substantial weakening of portfolio quality.

We find mixed evidence for trade-offs between profitability and outreach. For both individual- and group-based lenders, serving poorer clients is associated with facing higher average costs. The finding follows from the observation that small loans are costlier to serve (per unit lent) relative to larger loans. After controlling for other factors, though, we find that this relatively large cost burden does not preclude profitability: higher costs are met with higher

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<sup>2</sup> Dehejia, Montgomery, and Morduch (2009) analyze data from a Bangladeshi lender and find that a ten percentage point increase in the interest rate decreases the demand for credit by between 7.3 and 10.4 percent. Karlan and Zinman (2008) also study customers' sensitivity to interest rates, with data from South Africa. They find that demand for credit is "kinked": the customers are more sensitive to interest rate increases than to the lender's standard rates.

interest rates. Our results on the question of mission drift are promising: financially self-sustainable individual lenders tend to lend to both relatively poorer clients and more women, suggesting that the pursuit of profit and social objectives are not incompatible. However, the typical larger and older institution in our sample does not achieve profitability and deep outreach simultaneously.

#### **4 Commercialization**

Commercialized microfinance has been an enduring promise in the field, but not without controversy (e.g., Morduch 2000). Those who argue that commercialization should be *the* path for microfinance tend to dismiss concerns that commercialization can compromise social achievement—and tend to highlight the way in which commercialization can expand scale. Others argue that compromises between financial and social goals are manifest.

Cull et al. (2009a) use an updated and expanded version of the MIX dataset to explore questions around the commercialization of microfinance, jumping into the debate highlighted by the public offering of stock by Mexico's Banco Compartamos. Turning to the global landscape, we focus on eight questions: Who are the lenders? How widespread is profitability? Are loans in fact repaid at the high rates advertised? Who are the customers? Why are interest rates so high? Are profits high enough to attract profit-maximizing investors? How important are subsidies? And, how robust are the financial data?

For this and the other 2009 studies, we incorporate new data to bring the total number of institutions to 346, with at least one observation per institution from 2002 to 2004. For the 2009a paper on commercialization, we use the full dataset, which includes observations from institutions in 67 developing countries, looking for patterns in profitability and outreach related

to institutional structure. We again use FSS as the primary measure of profitability. In addition to the variables listed in section 3, we include the number of active borrowers<sup>3</sup>, operating cost as a percent of loan value, operating cost per active borrower (in PPP\$), return on equity, subsidy per borrower (in PPP\$), and the noncommercial funding ratio.

We show that, despite the attention generated by commercial microfinance, NGOs continue to dominate the sample of microfinance institutions collected for the *MicroBanking Bulletin*, accounting for 45 percent of institutions and 51 percent of borrowers. More than half of the institutions in the sample are profitable (defined as having a financial sustainability ratio above 1), including a large share of microfinance institutions with “non-profit” status. Although, unsurprisingly, a larger share of banks are profitable than of NGOs. Both commercial and noncommercial lenders do quite well in terms of repayment rates, with 30-day portfolio at risk below 4% at the median for all categories.

On average, commercial microfinance banks make loans that are about four times larger than loans from NGOs, suggesting that they tend to serve a substantially better-off group of borrowers.<sup>4</sup> We also find that as a group, NGOs charge interest rates roughly double the size of those charged by commercial microfinance banks.<sup>5</sup> Taken together, these last two findings suggest that the poorest customers tend to pay the most for loans. As surprising as this may be to outsiders, the equation is straightforward: as a group, NGOs make the smallest loans and, as a result, face the highest unit costs. To break even, NGOs must then charge the highest interest rates.

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<sup>3</sup> In the *MicroBanking Bulletin*, “active borrowers” refers to “the number of borrowers with loans outstanding, adjusted for standardized write-offs” (MicroBanking Bulletin, 2005, pg. 57).

<sup>4</sup> In these analyses, the comparisons involve simple averages, not weighted by the size of institutions.

<sup>5</sup> There is much debate (and often confusion) around the prices charged for microfinance. Collins et al. (2009, chapter 5) provide a discussion based on fieldwork in India, Bangladesh, and South Africa.

[Table 1 about here]

The first and fifth rows of data in table 1 show that NGOs serve poorer clients than “nonbank financial institutions” (NBFIs) and banks, but they face significantly higher operating costs as a percent of loan value. The average loan size as a percent of income at the bottom quintile of the population is 48 percent for the median NGO, 160 for the median NBFI and 224 for the median bank, while operating cost as a percent of loan value is 26 for the median NGO, 17 for the median NBFI and 12 for the median bank. Hermes, Lensink, and Meesters (2008) also find evidence for a trade-off between a microfinance institution’s outreach and efficiency. This tradeoff is highlighted in figure 1. To cover these relatively high operating costs, NGOs either have to charge higher rates of interest on loans or accept subsidy. Rows 4 and 6 in table 1 show that they seem to be doing both (as noted above, the real gross portfolio yield approximates the average interest rate charged to customers). Figure 2 depicts the positive relationship between interest rates and costs.

[Figure 1 about here]

[Figure 2 about here]

Most institutions serving the poorest customers earn profits too small to attract profit-maximizing investors. This accounts for the continued importance of subsidies and noncommercial funding to NGOs, which receive 61 percent of all subsidies despite serving only 51 percent of all borrowers. For these NGOs, subsidization amounts to \$233 per borrower at the

median and reaches \$659 at the 75<sup>th</sup> percentile. The data show that while programs reaching poorer clients can fully cover their costs, subsidization remains significant.

The study sharpens the evidence for a trade-off between pursuing profit and outreach by changing the focus from lending type to institutional structure. The findings suggest that a clear trade-off exists, where the depth of outreach is proxied by indicators of customers' poverty levels rather than direct evidence. (For an analysis along similar lines, see Galema and Lensink 2009.)

Table 1 also shows that NBFIs and banks serve a smaller share of women than NGOs. For more than half of NGOs in our sample 85 percent of clients are female, and at least a quarter of them serve women exclusively. The median NBFIs and microfinance banks, on the other hand, serve only 66 percent and 52 percent women, respectively.

We recognize, though, that the issue of mission drift is complicated and poorly defined in terms of shifts in average loan size (a point made well by Dunford 2002 and echoed by Armendáriz and Szafarz 2009). Moving “upmarket” to serve more profitable customers may ultimately allow an institution to reach a larger absolute number of poorer customers and/or women through cross-subsidization, scale economies, or both.

Frank (2008) shows how this distinction matters. She analyzes the relationship between commercial transformation and outreach to women, showing that while commercialization is correlated with a decline in the fraction of female clients served (as a share of total clients), the institutions transformed from NGOs to commercial institutions within her dataset served twice as many women borrowers in absolute numbers relative to the non-transformed institutions.

Disaggregated data are necessary to take the conversation forward, and collecting more customer-level data on poverty levels and financial access remains a top priority. One piece of evidence that attenuates concern with the use of average loan size as a proxy for the poverty

level of customers is provided by Gonzalez and Rosenberg (2006). They find a tight correlation between the fraction of smaller loans a lender provides and its self-reported fraction of poor borrowers served.

## **5 Regulation**

In a third study, again using an updated MIX dataset, we examine the effect of regulatory supervision on the profitability of microfinance institutions (Cull et al. 2009b). In particular, we investigate how regulated institutions manage the financial and administrative burdens of complying with regulation, looking at profits, business orientation, outreach, and the share of employees who work in the field. We also look for evidence that regulation provides benefits by improving loan quality.

We conduct econometric analyses of the dataset described above, and of a subset, the 154 institutions that both reported detailed financial information and were subject to regulatory supervision (2009b). We estimate the impact of prudential regulation on profitability and financial self-sufficiency, using for the key regressors three dummy variables that summarize whether an institution faces prudential supervision and the intensity of that supervision. These dummy variables measure whether (1) an MFI faces a regular reporting requirement to a regulatory authority; (2) the MFI faces onsite supervision; and (3) onsite supervision occurs at regular intervals. We control for the same variables as in the 2007 study on contracts and added a measure of staff concentration and *Premium*, the difference between the interest rates an institution charges its borrowers and the “market” rate for capital. To account for country characteristics, we also include the growth rate of real GDP, the rate of inflation, and an index of institutional development developed by Kaufman, Kraay, and Mastruzzi (2007).

We find that onsite supervision of microfinance institutions varies, even within the same country and among profit-oriented institutions. Whether an institution faces onsite supervision depends on its ownership structure, funding sources, activities, and organizational charter. In terms of trade-offs, we find that microfinance institutions subjected to more rigorous and regular supervision are as profitable as others, despite facing higher costs of supervision. This finding may in part reflect the fact that being regulated often permits institutions to collect deposits and thus gain a cheaper and/or more stable source of capital. For example, Ledgerwood and White (2006, pg. 174) draw on four to six years of data for nine microfinance institutions to report that “experience to date has shown that as transformed institutions mature, deposits as a percentage of funding liabilities increases.”

However, supervision does have a significant impact on outreach. Regulatory supervision is associated with larger average loan sizes, a common proxy for the relative poverty of borrowers, and less lending to women. The finding is consistent with strategic choices by institutions facing high supervision costs to shift away from serving more cost-intensive segments of the population. We also find that supervision is associated with having a higher share of staff concentrated in the head office, a natural response to reporting requirements and formalization.

Mersland and Strøm (2009) also conduct an econometric analysis of the impact of regulation with cross-institution data. In line with our findings on regulation and profitability, they find that regulation does not have a significant impact on financial performance. They do not find evidence for the trade-off with outreach, however. Hartarska and Nadolyuk (2007) also show that regulation does not directly affect the performance of microfinance institutions, either in terms of operational self-sustainability (OSS) or outreach. They find that deposit-taking

institutions have broader outreach, though, suggesting that regulation may offer an indirect benefit by permitting institutions to expand. The innovation in Cull et al. (2009b) is use of the *MicroBanking Bulletin* data and, importantly, use of an indicator for on-site supervision.

Taken together, the evidence underscores the need to take more seriously the “regulator’s dilemma,” a notion developed by David Porteous (the studies are available at [www.financialaccess.org](http://www.financialaccess.org); see also Jay Rosengard’s contribution to this volume).

## **6 Competition**

Our 2009c study turns to the “industrial organization” of the microfinance sector. We investigate the effects of competition on the profitability and outreach of microfinance institutions, focusing on competition from mainstream commercial banks. Here, we combine the MIX dataset with data on bank penetration from 99 developed and developing countries from Beck, Demirgüç-Kunt, and Martinez Peria (2007). Missing data for some of the control variables and imperfect overlap between the datasets reduce the final number of observations to 342, from 238 microfinance institutions in 38 developing countries for our largest regressions incorporating bank penetration variables. The Beck et al. (2007) data provide measures of bank penetration that serve as the key explanatory variables in this analysis: the number of bank branches in a country per capita and the number of branches per square kilometer. We also add banking sector ownership and concentration variables, and two more country-characteristic variables: the share of the population residing in rural areas and rural population growth.

We start from the observation that commercial banks initially were deterred from entering the microfinance niche by the small scale of the transactions that define it, but that the commercialization of microfinance has started to change that mindset. A growing number of



commercial banks are downscaling their operations, opening up services to poorer segments of the population, and competition is emerging as a result. Increased competition could change the industry in a number of ways, some for the better and others less favorably. We again look at MIX data, in search of evidence on where the balance between these competing effects rests.

We look for a relationship between competition and a profitability-outreach trade-off. There are plausible explanations for both a positive and negative relationship. If microfinance institutions facing greater competition from commercial banks attempt to compensate by shifting their loan portfolios away from segments of the population that are perceived as being more costly to serve – i.e. the relatively poor and women – competition may hinder outreach. However, competition could support the financial self-sufficiency of microbanks if the benefits of agglomeration effects and a stronger regulatory environment outweigh negative spillovers, and could lead to deeper outreach.<sup>6</sup>

We find that greater competition, as indicated by greater bank penetration in the overall economy, is associated with deeper outreach by the microfinance institutions, suggesting that competition pushes microbanks toward poorer markets, as reflected by smaller average loans sizes and greater outreach to women. However, in this sample, competition seems to have little effect on the profitability of microbanks. This is a useful finding, as it complements analyses of competition between different microfinance institutions (in contrast to the competition analyzed here, between microfinance institutions and commercial banks). When analyzing competition between microfinance institutions, Armendariz and Morduch (2010, chapter 5) argue that competition can undermine the “dynamic incentives” that are so critical to achieving high loan repayment rates – i.e. customers may be less willing to repay loans if they know that other

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<sup>6</sup> Microfinance experience to date shows competing impacts on costs from serving poorer customers and women. On the one hand, women are relatively more reliable borrowers than men. On the other, women tend to request smaller loans on average, which increases average costs (Armendáriz and Morduch, 2010, chapter 7).

reliable loan sources are available. Credit bureaus can help here (e.g., de Janvry, McIntosh, and Sadoulet, 2008).

## **7 Conclusion**

Microfinance promises improvements in both the efficiency and fairness of capital markets. It promises to correct market failures by improving the allocation of capital and by expanding opportunities for the poor (World Bank 2008). Advocates also aim to reach some of the world's poorest citizens and help lift them from poverty (Daley-Harris 2009). But the global evidence shows that it is hard to do all things simultaneously. In practice, microfinance often entails distinct trade-offs between meeting social goals and maximizing financial performance.

The four studies highlighted here examine tradeoffs that arise in the context of the choice of contracting mechanisms, level of commercialization, rigor of regulation, and extent of competition. Our focus is on both the profitability and outreach of microfinance. The results suggest that developing meaningful interventions requires making deliberate choices – and thus embracing and weighing tradeoffs carefully. The analyses here provide a global picture. The exact nature of these tradeoffs differs across regions, but meaningful tradeoffs need to be recognized and weighed everywhere.

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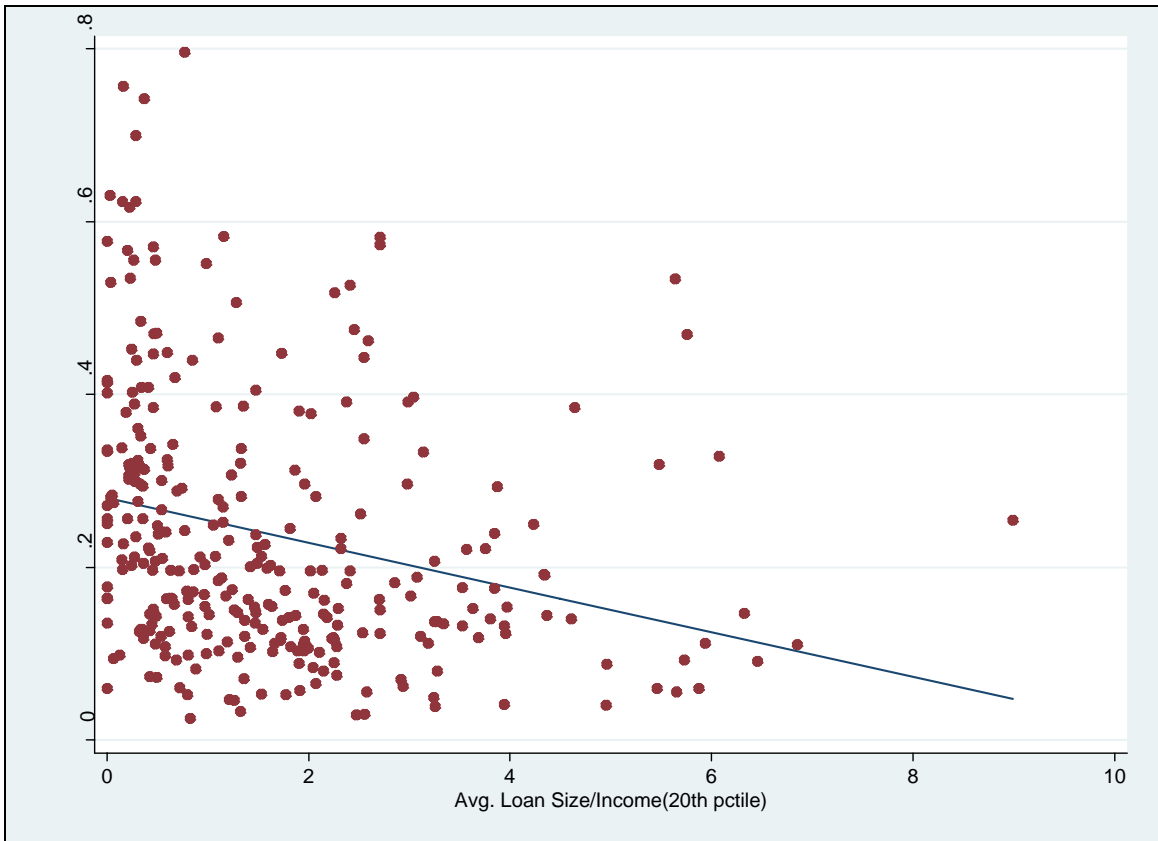
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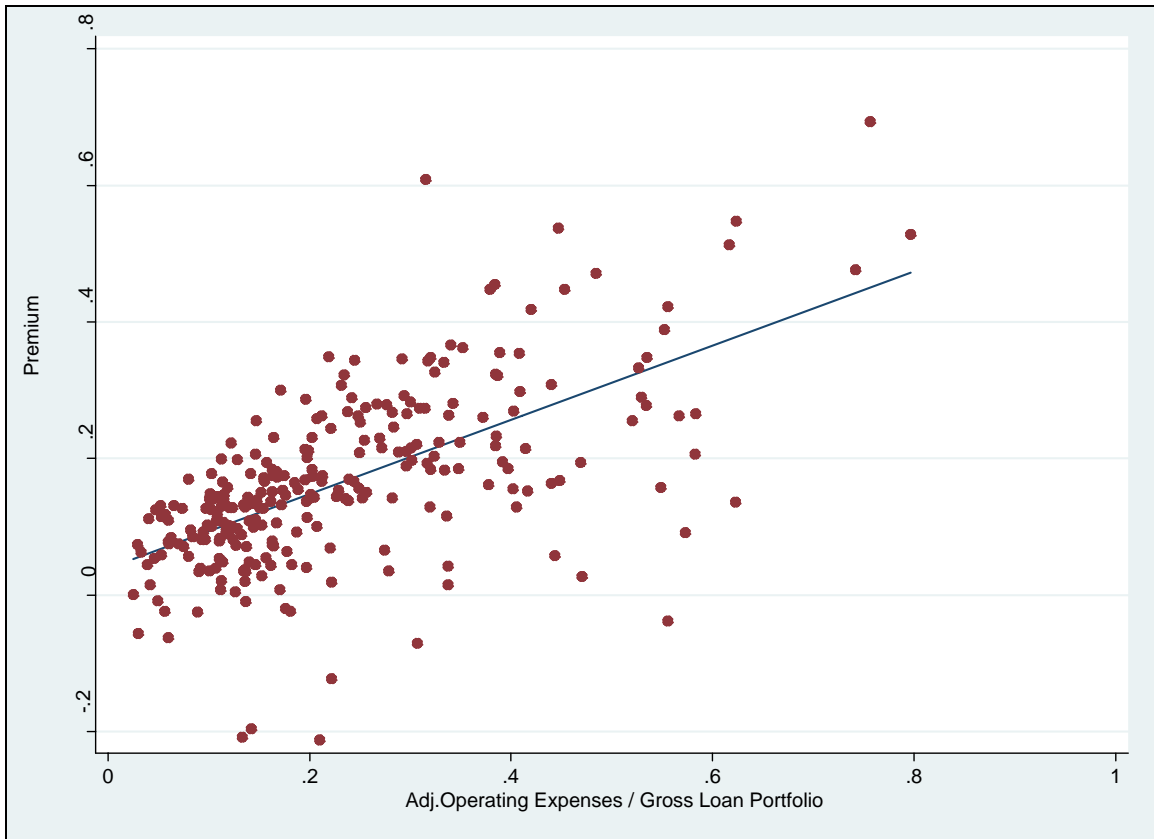
## Tables and Figures

	Non-governmental organizations				Non-bank financial institutions				Banks			
	25 <sup>th</sup> pctile	Median	75 <sup>th</sup> pctile	Median if profitable	25 <sup>th</sup> pctile	Median	75 <sup>th</sup> pctile	Median if profitable	25 <sup>th</sup> pctile	Median	75 <sup>th</sup> pctile	Median if profitable
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
1. Average loan size/income at 20th percentile (%)	27	48	135	60	71	160	247	164	110	224	510	294
2. Active borrowers (thousands)	3.1	7.4	23.0	11.1	4.1	9.9	23.0	9.4	1.9	20.3	60.7	10.4
3. Women as a share of all borrowers (%)	63	85	100	86	47	66	94	67	23	52	58	49
4. Real portfolio yield (%)	15	25	37	26	12	20	26	20	9	13	19	14
5. Operating cost/loan value (%)	15	26	38	21	13	17	24	16	7	12	21	11
6. Subsidy/borrower (PPP\$)	72	233	659	199	0	32	747	8	0	0	136	0
7. Non-commercial funding ratio	0.31	0.74	1.00	0.53	0.16	0.46	0.83	0.41	0.00	0.11	0.22	0.03

**Table 1. Performance Indicators for NGOs, NBFIs, and Banks.** Source: Cull et al. 2009a, *MicroBanking Bulletin* dataset. Subsidy per borrower numbers are donations from prior years plus donations to subsidize financial services plus an in-kind subsidy adjustment plus an adjustment for subsidies to the cost of funds.



**Figure 1. Average costs per dollar lent fall as loans get larger.** Source: Cull et al. 2009a. Horizontal axis gives the average loan size as a fraction of the average income of households at the 20<sup>th</sup> percentile of the national income distribution.



**Figure 2. Interest rates rise with costs.** Source: Cull et al. 2009a. The “premium” is the excess of the microlender’s average interest rate charged to borrowers over the International Monetary Fund’s inter-bank “lending interest rate” that banks in the given countries charge to prime customers (from IMF International Financial Statistics).