

# Microfinance Meets the Market

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May 2008



## Abstract

Microfinance institutions have proved the possibility of providing reliable banking services to poor customers. Their second aim is to do so in a commercially-viable way. This paper analyzes the tensions and opportunities of microfinance as it embraces the market, drawing on a data set that includes 346 of the world's leading microfinance institutions and covers nearly 18 million active borrowers. The data show remarkable successes in maintaining high rates of loan repayment, but the data also suggest that profit-maximizing investors would

have limited interest in most of the institutions that are focusing on the poorest customers and women. Those institutions, as a group, charge their customers the highest fees in the sample but also face particularly high transaction costs, in part due to small transaction sizes. Innovations to overcome the well-known problems of asymmetric information in financial markets were a triumph, but further innovation is needed to overcome the challenges of high costs.

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This paper—a product of the Finance and Private Sector Team, Development Research Group—is part of a larger effort in the department to study different policies to improve access to financial services. Policy Research Working Papers are also posted on the Web at <http://econ.worldbank.org>. The authors may be contacted at [rcull@worldbank.org](mailto:rcull@worldbank.org) or [ademirguckunt@worldbank.org](mailto:ademirguckunt@worldbank.org).

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## **Microfinance Meets the Market**

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Forthcoming, *Journal of Economic Perspectives*

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In April 2007, Banco Compartamos of Mexico held a public offering of its stock in which insiders sold 30 percent of their holdings. The sale was over-subscribed by 13 times, and Compartamos was soon worth \$1.6 billion (for details of the story, see Rosenberg, 2007; Malkin, 2008; Accion International, 2007). A month before the offering, the *Economist* (2007) had written: “Compartamos may not be the biggest bank in Mexico, but it could be the most important.” Compartamos’s claim to importance stems from its clients—not from their elite status, but from the opposite. The bank describes them as low-income women, taking loans to support tiny enterprises like neighborhood shops or tortilla-making businesses. The loans the women seek are small—typically hundreds of dollars rather than many thousands—and the bank requires no collateral. It is a version of “microfinance,” the idea associated with Muhammad Yunus and Grameen Bank of Bangladesh, winners of the 2006 Nobel Peace Prize. For Yunus, microfinance can unleash the productivity of cash-starved entrepreneurs and raise their income above the poverty line. It is a vision of poverty reduction that centers on self-help rather than direct income redistribution.

For the supporters of Compartamos, its public offering heralds a future in which microfinance routinely attracts investment from the private sector, freeing it from the ghetto of high-minded, donor-supported initiatives. As testimony to the power of profit, Compartamos’s supporters point to the institution’s aggressive expansion, fueled largely by retained earnings: between 2000 and 2007, Compartamos grew from 60,000 customers to over 800,000, quickly making it one of the largest “microlenders” in Latin America. Microlenders can and should compete shoulder-to-shoulder with mainstream commercial banks, supporters say, vying for billions of dollars on global capital markets (for example, Funk, 2007).

But Muhammad Yunus (2007) was not among those rejoicing: “I am shocked by the news about the Compartamos IPO,” he announced. “When socially responsible investors and the general public learn what is going on at Compartamos, there will very likely be a backlash against microfinance.” Yunus’s reaction was prompted by Compartamos’s very high interest rates. At the time of the IPO, Compartamos’s customers were paying interest rates of 94 percent per year on loans (once 15 percent value added taxes are included). In 2005, nearly one-quarter of the bank’s interest revenue went to profit, which in turn propelled the success of the public

offering.<sup>1</sup> For Yunus, the high interest rates and large profits were unconscionable, extracted from Mexico's poorest citizens. A leader of one nongovernmental organization in Latin America argued that Compartamos's strategy is "socially, economically, and politically dangerous and should be morally condemned" (Velasco, 2007).

The competing reactions reveal diverging views around the possibilities and limits of microfinance, a polarization captured colorfully by Connie Bruck (2006) in *The New Yorker*. Yet there are also areas of shared vision. Most important, all agree that the demand for reliable financial services is huge. We estimate that roughly 40 to 80 percent of the populations in most developing economies lack access to formal sector banking services (Beck, Demirguc-Kunt and Martinez Peria, 2007; World Bank, 2007). All sides agree that access to reliable financial services might help hundreds of millions, perhaps billions, of low-income people currently without access to banks, or at the mercy of exploitative moneylenders. Muhammad Yunus and Grameen Bank led the way by showing that with donor support a wide range of poor and very poor customers are bankable—they can borrow and save steadily and pay substantial fees.

But the role of fully-commercial, profit-seeking institutions in providing such microfinance loans is controversial. In Yunus's (2007) depiction, Compartamos is nothing but a brute moneylender, the very beast that Grameen Bank was built to root out. For Yunus, microfinance institutions should be "social businesses" driven by social missions (Malkin, 2008). After all, like most other microfinance institutions, Compartamos could have instead substantially reduced interest rates (and profit rates) and nonetheless expanded, but at a somewhat slower pace (Rosenberg, 2007).

For Compartamos's supporters, though, the high profits allowed Compartamos to serve hundreds of thousands of poor customers who otherwise would have had even worse financial options. They ask: would *not* serving them be a better moral outcome? The Compartamos initial public offering makes it possible to imagine investors funding microfinance globally at \$30 billion per year (Funk, 2007), rather than the current \$4 billion (as estimated by the donor

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<sup>1</sup> The Banco Compartamos initial public offering also netted the two founders of Compartamos tens of millions of dollars each in paper profits, though it is unclear how much will ultimately be realized (interview with Carlos Danel, co-founder of Banco Compartamos, April 22, 2008, Tarrytown, New York).

consortium Consultative Group to Assist the Poorest, 2008). This hope makes it possible to imagine serving over 1 billion low-income customers, rather than the 133 million counted in 2006 or the 175 million projected for 2015 (Daley-Harris, 2007). Microfinance “has lost its innocence,” a Compartamos-supporter declared. “To mourn this loss of innocence would be wrong...To attract the money they need, [micro-lenders] have to play by the rules of the market. Those rules often have messy results” (von Stauffenberg, 2007).

In the next section, we offer an overview of the economic logic behind microfinance institutions, describe how the movement from socially oriented non-profit microfinance institutions to for-profit microfinance has occurred, and lay out some of the unanswered questions about the role of commercialization in microfinance. We then seek answers to some of these questions by drawing on a data set that includes most of the world’s leading microfinance institutions. The evidence suggests that investors seeking pure profits would have little interest in most of the institutions we see that are now serving poorer customers. This evidence, and other points in our discussion, will suggest that the future of microfinance is unlikely to follow a single path. The clash between the profit-driven Banco Compartamos and the “social business” model of Grameen Bank offers a false choice. Commercial investment is necessary to fund the continued expansion of microfinance, but institutions with strong social missions, many taking advantage of subsidies, remain best placed to reach and serve the poorest customers and some are doing so on a massive scale. The market is a powerful force, but it cannot fill all gaps.

### **The Evolution of Microfinance**

The greatest triumph of microfinance is the demonstration that poor households can be reliable bank customers. The received wisdom at the start of the 1970s held that substantial subsidies were required to run financial institutions serving poor households in low-income countries. Government banks often shouldered the task of serving the poor, usually with a focus on farmers. However, most state-run banks were driven by political imperatives, and so they charged interest rates well below market rates and even then collected loan repayments only half-heartedly. The risks inherent in agricultural lending together with the misaligned incentives led to institutions that were costly, inefficient, and not particularly effective in reaching the poor (for example, Conning and Udry, 2007).

Beginning in the 1980s, microfinance pioneers started shifting the focus. Instead of farmers, they turned to people in villages and towns running “non-farm enterprises”—like making handicrafts, livestock-raising, and running small stores. The shift brought advantages: non-farm businesses tend to be less vulnerable to the vagaries of weather and crop prices, and they can generate income on a fairly steady basis. The top microlenders boast repayment rates of 98 percent and higher, achieved without requiring that loans be secured with collateral. The experiences—taking place in cities and villages in Latin America, Africa, and Asia—refute decades of assertions that the way to serve the poor is with massive subsidies.

The high loan repayment rates for microfinance institutions were credited to new lending practices, especially “group lending” (also called “joint liability” lending), and economic theorists took note.<sup>2</sup> In the original models, customers were typically formed into small groups and required to guarantee each others’ loan repayments, aligning their incentives with those of the bank. Today a broader set of mechanisms is recognized as also contributing to microfinance successes—especially the credible threat to deny defaulters’ access to future loans, with or without group contracts.

These banking successes should be celebrated. They pave the way for broadening access to finance for hundreds of millions, perhaps even billions, of low-income people who today lack ready access to formal financial services. Such access on its own is not yet proven to increase economic growth or to reduce poverty on a large-scale level—and, as a general proposition, we doubt that it will on its own. However, such access can do something more modest but critical: it can expand households’ abilities to cope with emergencies, manage cash flows, and invest for the future – basic financial capabilities that most of us take for granted but that are especially critical for low-income households operating on tight margins. In addition, microfinance institutions have proven particularly able to reach poor women, providing the hope of breaking gender-based barriers. In most places men dominate farming decisions, but women play larger

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<sup>2</sup> There is now a rich literature following Stiglitz (1990). Subsequent contributions include Conning (1999) and Rai and Sjöström (2004). See also the references in Armendáriz and Morduch (2005, chapters 2, 3, and 4). Gine et al. (2007) analyze simulated microfinance scenarios in Peru as a way to disentangle the overlapping mechanisms through which microfinance lending practices work to hold down default rates.

roles in running household side-businesses, and women have quickly become the main microfinance clients, even in countries where gender equality is far from the norm. By 2000, 95 percent of Grameen Bank's customers were women, and we show below that women have become a focus of microfinance worldwide, though the average share of women served is substantially lower for commercial microfinance institutions than for nongovernmental organizations.

*The big leap: profit-making poverty reduction*

In the 1980s and 1990s, policymakers took a big leap, arguing that the new microfinance institutions should be profitable -- or in the prevailing code language, they should be "financially sustainable." The argument for emphasizing profit-making microfinance institutions proceeds in three steps. First, it holds that small loans are costly for banks to administer but that poor households can pay high interest rates. Moneylenders, it is often pointed out, routinely charge (annualized) interest rates of over 100 percent per year, so, it is reasoned, charging anything lower must be a benefit; CGAP (1996) articulates this argument sharply. Within reason, this argument holds, *access* to finance is more important than its price. The second part of the argument holds that subsidies were at the root of problems in state banks, and that, even in nongovernmental institutions, ongoing subsidization can weaken incentives for innovation and cost-cutting. The third part of the argument holds that subsidies are not available in the quantities necessary to fuel the growing sector, so that if the goal is to spread microfinance widely, no practical alternative exists to pursuing profitability and, ultimately, full commercial status.

In this spirit, donors encouraged both nonprofit and for-profit microfinance institutions to raise interest rates. Use subsidies sparingly, donors argued, and only in the start-up phase: Earn ample profits, and expand as rapidly as profits allow. Commercialize. Attract private investors.

This argument that microfinance institutions should seek profits has an appealing "win-win" resonance, admitting little trade-off between social and commercial objectives. The idea that commercial businesses can be part of the solution to eliminating poverty has been celebrated in business best-sellers like C. K. Prahalad's (2004) *The Fortune at the Bottom of the Pyramid*:



*Eradicating Poverty through Profits*, and is spawning interest in microfinance at top business schools. However, the argument rests on empirical assertions that might or might not be true.

For example, take the claim that many poor households will pay high interest rates without flinching, and the related claim that the existence of moneylenders implies the insensitivity of most borrowers to interest rates. Moneylender loans are often taken for short periods of less than a month, however, and are often used as a short-term patch to meet pressing consumption needs--while microfinance loans are typically held for several months at minimum and are targeted at business investment. The standard Grameen Bank loan, for example, had a one-year term. The most typical informal-sector loan is in fact not an expensive loan from a moneylender, but rather a loan from a neighbor or relative, typically without interest at all. Moreover, it is not obvious that using subsidies surely cripples incentives in non-profit institutions. Nor that subsidized funds are sharply limited or will soon dry up. Nor that private investors will reliably evince interest in microfinance over the long term relative to their other options. Nor that for-profit institutions have the greatest possibility for reaching the greatest numbers of very poor people, relative to non-profits that take such outreach as their explicit mission. The billions of dollars of foreign investment so far comes from donor agencies and "social investors," not investors seeking maximum financial returns (CGAP, 2008).

The data presented in this paper do not speak to all of these empirical assertions, especially the broader issues about the ability of microfinance institutions to increase overall rates of economic growth, but they do help to illuminate key issues around commercialization and the place of non-profit organizations in the microfinance industry. We show that poor households can and do pay relatively high interest rates on micro-loans; that modest subsidies can be used without notable efficiency losses (repayment rates remain high, for example); that non-profits generally target poorer households than for-profits, and that many of those non-profits are fully covering costs. We do not find that the typical commercial banks replicate the outreach of the typical non-profits, and the data thus suggest strong reservations about embracing commercialization as the single way of the future. Still, we expect that the private sector will be a growing part of microfinance: the gaps in access are large and the private sector has proven to

be innovative, fast-growing, and especially ready to adopt new technology. The challenge is to embrace the opportunities of the market while recognizing the potential trade-offs.

### **A Portrait of the Microfinance Industry**

Data on the microfinance industry are available from several sources, each with strengths and weaknesses. We use data from the Microfinance Information Exchange (the MIX), a not-for-profit organization that aims to promote information exchange in the microfinance industry and collects data on microfinance institutions. Some data is publicly available at <http://www.mixmarket.org>, including basic financial measures for a large number of participating organizations. The organization also publishes the *MicroBanking Bulletin*, which reports more detailed financial information, adjusted in certain ways for comparability, but while group and subgroup averages are available, it is not possible to identify data for specific organizations. The *Bulletin* is available at <http://www.mixmbb.org/en/index.html>. Another source, the Microcredit Summit Database, contains information on the largest number of microfinance institutions, but provides to the public only limited information about them, including summary information, the number of all borrowers, female borrowers, and “poorest” borrowers. Annual reports for this data are available at <http://www.microcreditsummit.org>.

For the analysis in this paper, we use a more detailed version of the data from the Microfinance Information Exchange that is not publicly available, but to which the World Bank Research Department has access through a negotiated agreement. These data include outreach and impact data, financial data, audited financial statements, and general information on specific microfinance institutions. The data set is relatively large, covering 346 institutions with nearly 18 million active microfinance borrowers and a combined total of \$25.3 billion in assets (in purchasing power parity terms). Most of the borrowers -- about 10 million--are in the top 20 largest institutions, which shows how the microfinance world has segmented into some very large organizations alongside many smaller, community-based organizations with membership in the thousands.<sup>3</sup> We look at the most recent data during the period from 2002-2004.

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<sup>3</sup> In the larger data set of Gonzalez and Rosenberg (2006), which includes the data from the Microcredit Summit Database, 91 percent of the 1565 institutions they analyze in 2003-4 are small, collectively serving just a quarter of the borrowers. The other three-quarters are served by just 145 institutions.

A critical strength of the data set is that the numbers are adjusted to show the roles of both explicit and implicit subsidies—and, to the extent possible, to bring them into conformity with international accounting standards. (There are no international standards now, and Grameen Bank, for example, has claimed profitability even in years when its earnings from business have not fully covered its costs. For an anatomy of Grameen’s accounting from the 1990’s, see Morduch 1999.) The adjustments in our data include an inflation adjustment, a reclassification of some long-term liabilities as equity, an adjustment for the cost of subsidized funding, an adjustment for current-year cash donations to cover operating expenses, an in-kind subsidy adjustment for donated goods and services, loan loss reserve and provisioning adjustments, some adjustments for write-offs, and the reversal of any interest income accrued on non-performing loans.

One strength of the sample is that the microfinance institutions have been selected based in large part on their ability to deliver quality data. A disadvantage is that participation in the database is voluntary. (Grameen Bank, for example, chose not to participate during our sample period.) The data set is thus not representative of all microfinance institutions, and the sample is skewed toward institutions that have stressed financial objectives and profitability. However, the institutions collectively serve a large fraction of microfinance customers worldwide, and the set favors the institutions best-positioned to meet the promise of microfinance – that is, to both reduce poverty and create sustainable financial institutions.

While the data set lacks direct measures of outreach to the poor, it includes proxies that include average loan size, the fraction of borrowers that are women, and the fraction living in rural areas. These indicators are correlated with each other, and also with self-reported measures of household poverty. Thus, at a broad level, these measures of outreach help to distinguish between institutions serving the poorest customers versus those that focus on individuals with low-incomes (but who are substantially better off than the poorest).

The limits of the data set are addressed in part through comparisons with the parallel work of Gonzalez and Rosenberg (2006). They also analyze the Mix Market data, but they merge it with two larger data sets – the Microcredit Summit Database and a broader, unadjusted

database from the Microfinance Information Exchange. The two other data sets have information on a wider range of institutions, forming a total of 2600 institutions world-wide and serving 94 million borrowers, but the data are largely self-reported and unadjusted. For the most part, the comparison reinforces our conclusions.

### **Eight Questions**

The data allow us to focus on eight basic questions about the microfinance “industry”: 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? How robust are the financial data? The answers then take us back to reconsider the initial questions of subsidy, profit, and social impact in microfinance.

#### *Who are the lenders?*

The clash between Grameen Bank and Banco Compartamos described at the start reflects the variety of institutions huddled under the microfinance umbrella. The first column of Table 1 shows the composition of our sample of leading institutions. Three-quarters of the institutions are either nongovernmental organizations (NGOs) or “non-bank financial institutions.” Just 10 percent are microfinance banks. (The “rural banks” are state-run banks, and since there are only a handful of them, they are not the focus here.)

The groups turn out to be quite distinct. Microfinance banks, and to a lesser extent credit unions, are likely to have for-profit status. Nongovernmental organizations have non-profit status. Non-bank financial institutions are in a broad category that includes both for-profits and non-profits such as nongovernmental organizations that are specially regulated in return for being allowed to assume additional roles, including, for some, taking deposits. From the economics standpoint, the main difference between for-profit and non-profit status is the ability to distribute profits (Glaeser and Shleifer 2001). If non-profits earn revenues greater than costs, they have to plough them back in to the business to further social missions. For-profit institutions, in contrast, can do what they wish with after-tax profits. But, as we show below, important differences emerge in the outreach and scale of the institutions.

The second column shows that while the microfinance banks made up just 10 percent of the institutions in the sample, they are relatively large, accounting for over half of all the assets of the institutions in the sample (converted into purchasing power equivalents to yield \$25.3 billion in total assets). Nongovernmental organizations, in contrast, make up 45 percent of the institutions but can claim just 21 percent of the total assets. For all institutions, the loan portfolio is their most important asset; the result implies that banks lend in much higher volume than others.

Nongovernmental organizations, though, reach more borrowers in total. The third column shows that nongovernmental organizations can claim about one-half of the 18 million customers in this data set, with banks claiming one-quarter. Donors at large aid agencies have pushed hard to encourage the commercialization of microfinance, but the evidence here suggests that nonprofit microfinance agencies still matter in a big way. That impression is reinforced in the data of Gonzalez and Rosenberg (2006), which shows that nongovernmental organizations served one-quarter of the 94 million borrowers seen in 2004, with self-help groups serving another 29 percent. (Self-help groups are a variant of microfinance commonly seen in India and are typically organized by nongovernmental organizations linked to banks.) Microfinance banks and licensed non-bank financial institutions served just 17 percent of all borrowers. Government institutions—often inefficient and substantially-subsidized--over-shadowed the banks by serving 30 percent of all coverage. In terms of borrowers, the greatest scale of outreach at this juncture is thus not from commercial institutions but from others. Trends in outreach will likely shift toward private sector banks as they grow and spread, but today nongovernmental organizations and other non-profits maintain a large and distinct niche.

The last two columns in Table 1 show that non-profits also serve more women than banks, and they use more subsidies. While nongovernmental organizations serve half of all borrowers in the sample, they serve three-quarters of the female borrowers. Banks, in contrast, serve a quarter of all borrowers but just 6 percent of the female borrowers. (Note that only 290 of the 346 institutions report on their coverage of women, and nongovernmental organizations are more likely to report, which is telling in itself.) The final column of Table 2 shows the

reliance on subsidized funds. We count \$2.6 billion in subsidized funds (in purchasing power parity-adjusted dollars) fueling the institutions. Of this, the microfinance nongovernmental organizations take a share that is disproportionate in terms of the number of customers reached and, especially, in terms of their assets. Banks absorb subsidies too, but in much smaller quantities.

### *How widespread is profitability?*

The data on profitability start with an important finding: earning profits does not imply being a “for-profit” bank. Most microfinance institutions in our sample that have total revenues exceeding total costs in fact have “non-profit” status. They are earning profits in an accounting sense, but as non-profits they cannot distribute those profits to investors. The distinction is important, as it means that the microfinance industry’s drive toward profitability does not necessarily imply a drive toward “commercialization,” where the latter status reflects institutions that operate as legal for-profit entities with the possibility of profit-sharing by investors. If anything, the profit data here signal the strength and growth of nongovernmental organizations.

Figure 1 sets the scene with a plot relating profitability and the extent of non-commercial funding. The measure of profitability on the vertical axis is the “financial self-sufficiency ratio,” a measure of an institution’s ability to generate sufficient revenue to cover its costs. The financial self-sufficiency ratio is adjusted financial revenue divided by the sum of adjusted financial expenses, adjusted net loan loss provision expenses, and adjusted operating expenses (*MicroBanking Bulletin*, 2005, p. 57). It indicates the institution’s ability to operate without ongoing subsidy, including soft loans and grants. Values below one indicate that it is not doing so. The horizontal axis gives the “non-commercial funding ratio,” which is defined as the sum of donations plus non-commercial borrowing plus equity, divided by total funds. The ratio is zero if all funds come from either commercial borrowing or deposit-taking. The ratio is 1 if the institution draws funds from neither source, instead relying on donations, borrowing at below-market interest rates or equity.<sup>4</sup> The gently downward sloping line shows a weak link between

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<sup>4</sup> Here, donations are defined as: donated equity from prior years + donations to subsidize financial services + an in-kind subsidy adjustment. Equity is the sum of paid-in capital, reserves, and other equity accounts; it does not include retained earnings or net income. Commercial borrowing refers to borrowing at commercial interest rates (though in practice it can be hard to determine where the market would set those rates). Non-commercial

lower profitability and greater reliance on non-commercial funding. This result makes sense since institutions pursuing social goals are well-positioned to use subsidies, while profit-seeking institutions are most likely to pursue commercial capital.

More important is the scatter plot of data points, each representing a microfinance institution. Many points are above the threshold for profitability, and many are on the left of the graph, indicating low reliance on soft (subsidized) funds. This is the hope of commercial microfinance. But note too that an ample number of institutions are above the threshold and to the right, funded by social investors of various stripes. The solid circles represent institutions with for-profit status, while the empty circles are non-profits. While the for-profits tend to cluster to the northwest in the figure, the non-profits are spread broadly—and many are in the profitable range. These distinctions would persist even after using regressions to control for age, location and financial structure.

The success of non-profits stems from the support of social investors, whether individuals or institutions, who have turned to microfinance in a big way: in 2007, such investors put \$4 billion into microfinance (CGAP, 2008), a total that has been rising fast. Social investors range from international financial institutions like the World Bank's International Finance Corporation to major mutual fund families like TIAA-CREF, in addition to individuals investing \$100 or so (at zero financial return) through internet-based sites like Kiva.org. But even if called "investors," ultimately they also provide subsidies (equal to the size of the investment multiplied by the difference between the microlenders' cost of capital if obtained through the market and the financial return, if any, taken by the social investor). For microfinance to continue expanding on these terms, institutions will need to maintain access to a stream of subsidized funds—and that will depend on the ability to prove the institutions' social worth relative to other social interventions. The evidence below shows that subsidized institutions look different from others (in ways that are consistent with their having greater outreach to the poor), but better evidence is needed to strongly make the case.

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borrowing, in parallel, is borrowing at concessional interest rates (with the same caveat as above). Total funds are the sum of donations, equity, deposits (both savings and time deposits), commercial borrowing, and non-commercial borrowing.

Table 2 shows the profitability of different types of institutions and borrowers in a different way. The bottom row of Table 2 shows that, of the 315 institutions with data on profits, 57 percent were profitable according to the adjusted MIX data. Moreover, since profitable institutions tend to serve more customers, 87 percent of all borrowers were served by profit-making institutions. Given that our data set is a self-selected sample of leading institutions, we also look to evidence from the larger data set of Gonzalez and Rosenberg (2006). There, profit-making institutions are again much larger than others. But they find that only 44 percent of borrowers from microfinance institutions are served by profit-making institutions (in their data, profits are self-reported, so this estimate is likely an upper bound). The average is dragged down by some large and very unprofitable government banks. When focusing on private institutions and nongovernmental institutions, about 60 percent of borrowers are served by (self-described) profitable institutions. Most borrowers from profit-making institutions are customers of nongovernmental organizations.

As Table 2 shows, not surprisingly, banks are more likely to be profitable than others (73 percent of institutions are profitable), and nongovernmental institutions less profitable (54 percent). But because nongovernmental institutions are numerous and some are very large, eight million of the customers in the sample served by profit-making institutions are served by nongovernmental organizations. Banks serve under four million customers in the sample. Not all NGOs aim for profitability, and some that are profitable prefer to keep non-profit status since it often reduces the weight of regulation and taxes. But we will show that when it comes to serving poorer households and women, profit-making NGOs look much more like subsidy-dependent NGOs than they look like commercial banks. The bottom line so far is that, among these leading institutions, nongovernmental organizations are far from peripheral: they serve more borrowers overall and more borrowers on a profit-making basis.

#### *Are loans repaid?*

Much has been made of the fact that microcredit innovations allow lenders to get their money back, even in the absence of collateral. The second panel of Table 2 divides the sample by lending method. Individual lending refers to traditional lending relationships between the bank



and individual customers. Solidarity group lending refers to the group contracts that were made famous by Grameen Bank, and the “village bank” approach captures a participatory lending method also based around group responsibility for loan repayments. The group-lending contracts (i.e., “solidarity group lending”) are the best-known microfinance innovations, but Table 2 shows that microfinance and group lending are far from synonymous. This is another place in which we see a split between types of institutions. In our data, two-thirds of microfinance banks lend through individual methods. In contrast, three-quarters of nongovernmental organizations lend through one of the two group-based methods.

Lending approaches correlate with broader social missions. The village banks generally aim to reach the most costly-to-reach and poorest customers; the solidarity group lenders also pursue poorer households, and the individual lending approach is better-suited to going “up market” and making larger loans. The profitability figures in the bottom panel of Table 2 echo this pattern, with the village banks being least profitable (43 percent of institutions), the solidarity group lenders slightly more profitable (55 percent), and the individual lenders most profitable (68 percent).

But while there are differences in profitability and target markets, there are not big differences in loan portfolio quality. The top row of Table 3 reports on the quality of loan portfolios for different kinds of institutions, and we show that all in fact do quite well. We focus on nongovernmental organizations, non-bank financial institutions, and banks. For each group, the range of experience is captured with data at the 25<sup>th</sup> percentile, median, and 75<sup>th</sup> percentile. “Portfolio at risk” gives the outstanding balance of loans for which installments are more than 30 days overdue, expressed as a percentage of the total value of loans outstanding. The measure provides an alert that loans may not be repaid in full, but is not itself a measure of default. Alarm bells ring loudly when the measure tops 10 percent. The median figures here show that loan payments are not perfect, but risk appears to be held in check. The lending method does not appear to drive the results: patterns of portfolio strength are similar across types of institutions. (Admittedly, though, we are comparing apples with oranges and the data cannot reveal what would happen to loan repayment rates if solidarity group lenders, say, suddenly switched to

individual-lending contracts. One recent randomized experiment, though, found that little changed when a Philippine lender did just that; see Giné and Karlan 2008.)

*Who are the customers?*

Table 1 showed that microfinance banks lend in greater volume than others but serve substantially fewer customers. The two facts combine to yield that banks are on average making much larger loans per borrower than nongovernmental organizations.

This pattern has two main implications. First, if we take loan size as a proxy for the poverty of customers (smaller loans roughly imply poorer customers), microfinance banks appear to serve many customers who are substantially better-off than the customers of nongovernmental organizations. Second, banks will have an easier time earning profits (assuming that a large fraction of the cost of making loans is due to fixed costs). When both large and small loans require similar outlays for screening, monitoring, and processing loans, the small loans will be far less profitable unless interest rates and fees can be raised substantially. We return to this in the next section.

Here, we focus on the first implication, and Gonzalez and Rosenberg (2006) again provide helpful corroborating evidence. In their data, institutions are asked to self-report on the percentage of poor borrowers among customers. Lenders are also asked to self-report on the percentage of small loans they make (specified as loans under \$300). In their data, a 10 percentage point increase in the fraction of small loans is associated on average with a 9 percentage point increase in the self-reported fraction of poor borrowers served. Self-reporting bias could explain some of the correlation, but the link between smaller loans and greater outreach to the poor appears to be fairly tight when comparing across institutions.

The second row of Table 3 shows how loan sizes vary across types of institutions. For comparability across countries, we divided average loan sizes by the income of households at the 20<sup>th</sup> percentile of the income distribution in the given country. One fact jumps out: the loan size/income ratio is 48 percent for the median nongovernmental organization, but over four times that for the median bank. As the fourth column shows, even profitable nongovernmental

organizations are much closer to other nongovernmental organizations than to banks. At the 75<sup>th</sup> percentile of the bank sample, average loan size reaches 510 percent of per capita household income at the 20<sup>th</sup> percentile, suggesting that the customers of those banks are very unlikely to include a large share of customers among the poor and very poor. (As in most rows of Table 3, the averages for non-bank financial institutions are in the middle of those of nongovernmental organizations and banks.)

The fourth row of Table 3 indicates that for over half of nongovernmental organizations at least 85 percent of borrowers are female. At least a quarter of nongovernmental organizations serve women exclusively. Banks serve many women, but in lower numbers; for slightly less than half of institutions, men make up the majority of borrowers. Column 4 breaks out the median only for profitable nongovernmental microfinance organizations, and their data on women as a share of all borrowers are much closer to that of other nongovernmental organizations than that of banks.

The lack of sharper data on the poverty levels of customers limits the broad conclusions that can be drawn with confidence, and the evidence lags far behind some of the rhetoric on the potential for microfinance to reduce poverty. In particular, debate persists about whether, outside of Asia, microfinance can make a major dent in populations living on under \$1 per person per day, the “international poverty line” used by the World Bank and United Nations. Debate also persists on the extent to which trade-offs exist between pursuing profit and reaching the poorest customers. The data here suggests that this trade-off is very real, but the evidence admittedly comes from proxy indicators of customer income rather than direct evidence.

#### *Why are interest rates so high?*

A common response for nongovernmental organizations facing high costs is to raise interest rates—not necessarily to the high double digits charged by Compartamos, but at least to levels much higher than banks charge. The real portfolio yield in the seventh row of Table 3 is an average interest rate charged by institutions, adjusted for inflation. At the median, nongovernmental organizations charge their borrowers 25 percent per year, while the top quarter

charge 37 percent per year or more. Banks, at the median, charge just 13 percent per year at the median, and 19 percent or more for the top quartile.

When compared with Compartamos's 90+ percent average interest rate in 2007, these kinds of charges seem eminently reasonable, though they are apt to surprise newcomers to the field. Our data show the logic for why the highest fees for borrowing in microfinance are not typically being charged by the banks, the institutions most focused on profits. The highest fees are being charged by the institutions most focused on social missions, while the commercial microfinance institutions offer relatively cheap credit. Their cost structures explain the relationships.

Some institutions, like BRAC and ASA of Bangladesh, grew to serve millions of customers while constituted as nongovernmental organizations, but they are exceptions. The third row shows that the typical bank in fact has many more borrowers per institution. A comparison of the median nongovernmental organization versus median bank yields a ratio of roughly 1:3 in the number of active borrowers. Scale, though, proves to be a limited route to cost reduction. The sense among microfinance experts is that returns to scale through expanding the customer base have been hard to find; a regression study of 1000 institutions, for example, finds that scale economies disappear after about 2,000 customers (Gonzalez 2007). After that, gains must be found by pursuing the intensive margin through serving existing customers with larger loans and more services. This is where the action is. The larger loans made by banks translate into lower costs per dollar lent, as seen in the sixth column. The median bank spends 12 cents on operating costs per dollar of loans outstanding, while the median nongovernmental organization spends 26 cents.

The result holds despite the fact that the average operating cost per borrower for the median nongovernmental organizations vs. banks is \$156 versus \$299 for the median microfinance bank (as elsewhere in the table, the dollar figures are in purchasing power parity adjusted dollars to approximate their value in local currency). The nongovernmental organizations are keeping costs down, in part by giving lower quality services, but it is not enough to compensate for the diseconomies of transacting small loans.

These relationships are shown in three figures. Figure 2 shows that it is operating costs, rather than capital costs or loan loss provisions, that drive the differences in total costs between different kinds of microfinance institutions. Figure 3 shows that the institutions that make the smallest loans on average are also the institutions that face the highest costs per unit lent (a result that holds up in regressions after controlling for institutions' age, inflation, country-level governance, GDP growth, region, and lending method). Figure 4 shows that the institutions with the highest costs per unit also charge the most to their customers.

The figures come together to yield a very weak correlation between profitability and average loan size (our proxy for the income level of customers). The correlation between the financial sustainability ratio and average loan size (relative to the per capita income of the bottom 20 percent) is positive but very small (0.07 with a standard deviation of 0.06; 293 observations).

In criticizing the Compartamos stock offering, Muhammad Yunus (2007) declared: "A true microcredit organization must keep its interest rate as close to the cost-of-funds as possible...My own experience has convinced me that microcredit interest rates can be comfortably under the cost of funds plus ten percent, or plus fifteen percent at the most." The evidence presented in Table 3 shows that most nongovernmental finance organizations in our sample in fact charge more than Yunus's desired upper range. More important, the cost data suggest that, if most nongovernmental microfinance organizations charged much less, they would require larger subsidies to continue operating along current lines.

*Are profits high enough to attract profit-maximizing investors?*

It is one thing to earn profits, and quite another to earn profits that are high enough to attract investors who have no concern with social missions. Banco Compartamos took this idea to heart in creating the high-profit strategy behind their IPO. To them, below-average profit rates would have been a "non-event" and would have failed to bring competitors into the sector. We find that the median nongovernmental organization does earn profits, thanks to the relatively high interest rates they charge (bear in mind, once more, that this data is a selected sample of leading

institutions). Profitability is measured as having a financial sustainability ratio above one (row 8 of Table 3). Profits are actually rather remarkable, given that the presumption had long been that meaningfully serving the poor can only be done with subsidy, a presumption consistent with mainstream economic theory (for example, Stiglitz and Weiss, 1981). Still, the profit levels are modest in a comparative sense; indeed, at the 25<sup>th</sup> percentile, the financial self-sufficiency ratio for nongovernmental microfinance organizations falls all the way to 0.78. In addition, the financial bottom line for most nongovernmental microfinance organizations is improved by the fact that they are subject only to light regulation.

We started by noting Compartamos's outside return on equity above 50 percent in 2004. The return compares very favorably with Citigroup's 2004 return on equity of 16 percent, for example. Table 3 shows that the median return on equity for nongovernmental microfinance organizations is 3 percent and, for microfinance banks, 10 percent. The figures are impressive, but well below returns for either Citigroup or Compartamos in 2004. The numbers are larger, though, when we condition on profitability (columns 4, 8, and 12; here the returns to equity are 11.4 and 11.5). The data show the promise of microfinance as a financial proposition. Clearly the profit rates at the top end of microfinance institutions have started to be at levels likely to appeal to profit-maximizing investors. But those profit rates are far from the norm. The hope for the rest of the sector is that returns remain large enough to tempt social investors.

#### *How important are subsidies?*

The final section of Table 3 shows how subsidies enter the funding equation. They are sizeable: Subsidy per borrower (in purchasing power parity equivalents) was \$233 for the median nongovernmental microfinance lender, reaching \$659 for those at the 75<sup>th</sup> percentile. (Note that the 25<sup>th</sup>, 50<sup>th</sup>, and 75<sup>th</sup> percentiles of the subsidy variable pertain to different institutions than those at the same percentiles for the profit variables.) The median bank, on the other hand, received no subsidy, and non-bank financial institutions are, as usual, in a middle range. As with the costs, the purchasing power parity adjusted data approximate the value in local currency rather than their costs to foreign donors.

In keeping with this picture, the final row of Table 3 shows that the median microfinance bank relied mainly on commercial funding and deposits. The median nongovernmental organization, in contrast, turned to non-commercial borrowing and donations with far greater frequency. A more detailed breakdown of the data, given in Table 4, shows that for the 134 NGOs in our sample, 39 percent of funding came from donations, with another 16 percent coming from non-commercial (soft) loans. For the 24 banks in the first row, the two categories contributed just 3 percent to total funding. In contrast, commercial borrowing and deposits combined to give 84 percent of total funds.

*How robust are the financial data?*

Rather than taking an institution's statement of profitability at face value, these data have been adjusted to account for hidden subsidies; this is what makes these data especially valuable. But the devil, as is often the case, is in the details. If a socially-motivated lender obtains foreign capital from a social investor at a concessional interest rate of, say, 2 percent a year, the adjustments here account for the fact that the institution would have instead paid a higher interest rate in the capital market (were it instead a fully commercial bank). The difference in interest rates is part of an implicit subsidy. The same holds true for equity shares in the microfinance banks that are held by social investors who do not seek full financial returns.

The idea behind the correction is simple, but implementing it is not. The adjustments made by the MIX organization rest on estimates of the alternative cost of capital that the micro-lender would have had to pay if it had instead obtained the capital in the market. Is that rate 6 percent? 10 percent? 14 percent? The estimate ought to account for the perceived risks of investing in microfinance institutions, which include the risk that the quality of the loan portfolio might deteriorate (especially given that the portfolio is not backed by collateral), as well as any political risk or exchange rate risk that may affect net returns (investors might also be concerned with liquidity and the possibility that the ability to withdraw funds or sell shares may be limited).

The adjustments implemented by the MIX, the source of the data, use a country's deposit rate (taken from the International Monetary Fund's database) as the assumed cost of capital that institutions would have to pay in the absence of subsidized funding. It's a relatively low cost of

capital, and it makes most sense for institutions with the option of raising capital by collecting savings deposits. With regard to equity, the only adjustment is an adjustment for inflation. We could go one step further by adding a few percentage points to the country's deposit rate to account for the transactions costs entailed in collecting deposits. As a test of robustness, we instead consider the prime interest rate, the price for capital between banks and their most trustworthy customers, also taken from the International Monetary Fund database. To account for the perceived risk of lending to microfinance institutions, we conservatively added 2 percentage points to the prime rate and then re-ran the profit calculations. Not surprisingly, this higher estimate of the price of capital diminishes the appearance of profits and increases the value of implicit subsidies used by the institutions. The adjustment means that the median nongovernmental organization is no longer profit-making, though it remains that they do not lean too heavily on subsidies. Banks are much less affected by the adjustment. Much more needs to be done here; these first steps reinforce the broad arguments we made above using the benchmark MIX data: the financial performance of most of these leading microfinance institutions is remarkable from a historical perspective, but the bulk of institutions rely on subsidies and post returns that will be of interest mainly to social investors.

We leave this section with one final thought. The analysis here is “static” in a way that is somewhat unfair to the institutions. We have no way of adjusting for the fact that the institutions would likely shift strategies and re-allocate resources if their access to concessional funds and grants dries up. This is the hope of the believers in commercial microfinance: that, when pushed, institutions will be able to reduce their dependence on subsidy by economizing and becoming more efficient—i.e., that they are not as dependent on subsidies as the tables here suggest. This is only speculation, of course, and others fear that instead institutions will sacrifice part of their social missions if subsidies are reduced sharply. We frame these views in the next section.

### **The Logic of Subsidizing Micro-Finance**

The big question for policymakers and social investors is: Do the costs of subsidizing microfinance generate large, important social benefits? This question implies others. Does microfinance reach the poor in large numbers? Does it create meaningful changes in customers' lives? Does it compare well to alternative interventions?



In terms of scale, the track record of microfinance is encouraging. At the beginning of the essay, we noted a recent count of 133 million microfinance customers at the end of 2006 (Daley-Harris, 2007). Multiply that by five to get a rough total of the number of people affected through family members' access to credit, and we find that microfinance reaches on the order of over half a billion poor and low-income people worldwide.

When those who were previously unable to receive credit become able to receive it through microfinance, there is ample reason to expect substantial economic and social effects. This presumption is backed up by success stories and systematic evidence of high returns to capital for businesses run by the poor. McKenzie and Woodruff (2006), for example, show high returns to capital for male-owned "micro" businesses in Mexico. But rigorous empirical evidence based on credible control-treatment evaluations remains scant for microfinance, and the same researchers find much weaker, near-zero evidence on returns to capital for female micro-entrepreneurs in a randomized controlled trial in Sri Lanka.

With the institutional data that is the focus of this paper, we can not add to the debate on whether subsidies to microfinance are welfare-enhancing. For that, we would need data on net social and economic benefits. As summarized in Armendáriz and Morduch (2005) and World Bank (2007), the existing studies of the effects of microfinance yield inconclusive results, ranging from the assertion of substantial reductions in poverty among microfinance borrowers in Bangladesh to zero effects in Northern Thailand. At a first pass, the mere fact that customers continue borrowing from year to year and maintain high loan repayment rates is a sign that they value the microfinance services offered, but even that evidence in itself offers only modest reassurance. After all, continued borrowing from year to year is also consistent with being trapped in debt. The evidence also gives no sense of net benefits; and it ignores places, like sub-Saharan Africa, in which customer drop-out rates can be high. The sharpest study so far investigates customers of a very atypical microlender in South Africa that specializes in high-interest consumer loans. Karlan and Zinman (2006) focus on a group of loan applicants that had initially been rejected. The researchers convinced the lender to reconsider the marginally rejected applicants and to reverse the loan decision for some, using a randomized algorithm.

Two years later, those with the luck to be granted access to loans were in better shape than a control group that remained without loans: the intervention increased employment, reduced hunger, and reduced poverty. More studies like this are needed, particularly focused on more typical microfinance providers.

The good news from Table 3 is that there is no clear evidence that subsidy necessarily reduces the efficiency of microfinance institutions, but the nongovernmental microfinance organizations do tend to have higher operating costs. An important next step will be to distinguish between possible explanations. How much is due to focusing on smaller loans that drive up average costs? To working with particularly hard-to-reach households? To subsidies that breed inefficiency? In the end, social investors need to ask whether investing in microfinance is likely to yield larger impacts than allocating resources elsewhere—to clinics or schools, perhaps, or to finance for larger businesses with greater growth potential. Microfinance has, on many levels, been a remarkable success, and the time is right for establishing its social and economic impacts more strongly.

### **The Future of Financial Access for Low-Income Households**

Microfinance will no doubt continue to expand and become a tighter part of the financial mainstream. Experience so far, though, suggests that the profile of commercial banks that offer microfinance in low-income communities looks different from that of non-profit microfinance institutions run by nongovernmental organizations. Commercial microfinance banks are more likely to have for-profit status and to involve an individual lending method, larger loans, fewer women customers, lower costs per dollar lent, higher costs per borrowers, and greater profitability. Nongovernmental microfinance organizations are more likely to be a non-profit employing a group lending method, giving smaller loans, serving more women, employing subsidies more heavily, facing higher costs per dollar lent, and being less profitable. The looming exceptions come from South Asia, where high population densities reduce transactions costs and where the cost of hiring staff of requisite quality tends to be lower than elsewhere, thus allowing more favorable pricing and profitability while making small-sized loans.

Still, commercial financial institutions are apt to play increasingly large roles in serving those with low-incomes, if not the poorest. The expansion represents a potentially large gain given barriers to financial access that span well beyond just the poorest households.

The focus here has been largely on lending, but banks are also in the deposit-taking business, and they are increasingly providers of insurance as well. Deposits can offer a source of lendable funds at a reasonable cost, as well as giving customers secure ways to accumulate. The challenge for microfinance institutions is that the transactions costs of handling small deposits can also be high (in part due to the need for prudential regulation to protect depositors), and without innovation to lower those costs, banks are unlikely to seek the business of poorer potential depositors. Of course, the problem of high transactions costs was also an issue in lending – and it holds for insurance too. Reducing costs of financial transactions thus becomes a major goal broadly.

New technologies may help. Banking through mobile telephones is taking off in the Philippines, South Africa, and Kenya. Mobile banking, as it is called, can reduce costs and increase the quality of services, even in poor communities (Kapoor et al., 2007). New combinations of automated teller machines and debit cards are also being developed and implemented. As these technologies spread, the concept of microfinance will likely expand, too.

As the microfinance industry develops, both for-profit and nonprofit institutions face unanswered questions. For the for-profit microfinance sector, the frontier question is: Can they develop innovations to reach much poorer households than they currently do while sustaining their profit levels? One hope is that emerging technological innovations (like banking through mobile telephones) will reduce costs and increase the quality of services (though some fear that the technology could jeopardize some of the benefits to customers that come from banking with a human touch). There will also be important continuing roles for non-profits that earn only modest profits or rely on subsidies and are often supported by social investors. For the nonprofit microfinance sector, the frontier question is: Are the social and economic impacts apt to be large enough to justify and ensure continuing support? To the extent that nonprofit microfinance institutions seek continuing subsidies, they will have to start taking rigorous evaluations more

seriously, a process which is only now picking up steam and which so far has yielded mixed results.

In the course of rethinking the boundaries of microfinance services for the poor around the world, it will surely be helpful to return to the roots of microfinance lending. The original idea of micro-credit focused on funding small, capital-starved businesses. Several decades of experience has shown that the demand for loans extends well beyond customers running businesses. Even customers with small businesses often seek loans for other needs, like paying for school fees or coping with health emergencies. Johnston and Morduch (2008), for example, find that half of recent loans taken by poor households in Indonesia were used for purposes unrelated to business. Similar findings were found by Rutherford (2006) for a sample of Grameen Bank borrowers, even though the loans were labeled as business loans.

The future will likely see a movement toward new loan products for general purposes, new savings products, and better ways to reduce risks. Poor and low-income households typically devote much energy to juggling complicated financial lives, and improving their basic financial capabilities can be greatly beneficial to them, even if it does not lead to wide-scale poverty reduction or national-level economic growth. We have focused here on the supply side; an unvarnished appraisal is critical, and there is further to go. The history of microfinance shows that innovations will stem from supply side insights together with fresh understandings of the financial lives of poor households.

## **Acknowledgements**

The views are those of the authors and not necessarily those of the World Bank or its affiliate institutions. Morduch is grateful for funding from the Bill and Melinda Gates Foundation through the Financial Access Initiative. The Mix Market provided data through an agreement between the World Bank Research Department and the Consultative Group to Assist the Poor. Confidentiality of institution-level data has been maintained. We thank Isabelle Barres, Joao Fonseca, and Peter Wall of the Microfinance Information Exchange (MIX) for their substantial efforts in assembling both the adjusted data and the qualitative information on microfinance institutions. We have benefited greatly from conversations with Richard Rosenberg and Adrian Gonzalez, and comments from the journal editors, Jonathan Conning, Daryl Collins, Carlos Danel, David Porteous, and seminar participants at the University of Western Ontario and National Council of Applied Economic Research, Delhi. Varun Kshirsagar and Mircea Trandafir provided expert data analysis; Aparna Dalal provided additional assistance.

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	<b>Institutions</b>	<b>Assets</b>	<b>Borrowers</b>	<b>Female borrowers</b>	<b>Subsidized funds</b>
Bank	10%	55%	25%	6%	18%
Nongovernmental organizations (NGO)	45	21	51	73	61
Non-bank financial institution (NBFI)	30	19	17	16	18
Credit Union	10	4	6	4	3
Rural Bank	5	1	1	1	0
<b>Total</b>	100	100	100	100	100
<b>Total value across institutions (millions)</b>	315 institutions	\$25.3 billion	18 million	12 million	\$2.6 billion

**Table 1. Distribution of microfinance institutions by institutional type in the *MicroBanking Bulletin* sample, 2002-2004.**

	<b>Institutions</b>		<b>Active Borrowers</b>	
	<b>Number in sample</b>	<b>Percent Profitable</b>	<b>Number (millions)</b>	<b>Percent served by profitable institutions</b>
<i><b>Institution type</b></i>				
Bank	30	73%	4.1	92%
Credit union	30	53	0.5	57
NBFI	94	60	2.6	75
NGO	148	54	8.9	91
<i><b>Lending method</b></i>				
Individual	105	68	7.2	95
Solidarity group	157	55	7.4	85
Village bank	53	43	1.6	67
<i><b>Total</b></i>	315	57	16.1	87

**Table 2. Profitability of microfinance institutions.** Source: *MicroBanking Bulletin* data set. Profitability is defined by a financial sustainability ratio above 1. NBFI = non-bank financial institution. NGO = non-governmental organization. Credit unions include credit cooperatives.

	Non-governmental organizations				Non-bank financial institutions				Banks			
	25 <sup>th</sup> pctile (1)	Median (2)	75 <sup>th</sup> pctile (3)	Median if profitable (4)	25 <sup>th</sup> pctile (5)	Median (6)	75 <sup>th</sup> pctile (7)	Median if profitable (8)	25 <sup>th</sup> pctile (9)	Median (10)	75 <sup>th</sup> pctile (11)	Median if profitable (12)
1. Portfolio at risk, 30 days (%)	0.74	3.54	7.59	0.81	0.91	2.06	6.91	1.20	0.39*	2.43*	5.23*	4.42*
2. Average loan size/income at 20th percentile (%)	27	48	135	60	71	160	247	164	110	224	510	294
3. 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
4. Women as a share of all borrowers (%)	63	85	100	86	47	66	94	67	23	52	58	49
5. Operating cost/loan value (%)	15	26	38	21	13	17	24	16	7	12	21	11
6. Operating cost/active borrower (PPP\$)	84	156	309	157	135	234	491	278	118	299	515	299
7. Real portfolio yield (%)	15	25	37	26	12	20	26	20	9	13	19	14
8. Financial self-sufficiency ratio	0.78	1.03	1.17	1.14	0.86	1.04	1.22	1.16	0.99	1.04	1.15	1.10
9. Return on equity (%)	-10.5	3.4	13.8	11.4	-7.9	3.6	17.8	14.4	1.6	10.0	22.9	15.1
10. Return on assets (%)	-6.0	0.7	4.7	4.1	-2.7	0.9	4.3	3.5	-0.1	1.4	3.2	2.1
11. Subsidy/borrower (PPP\$)	72	233	659	199	0	32	747	8	0	0	136	0
12. 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

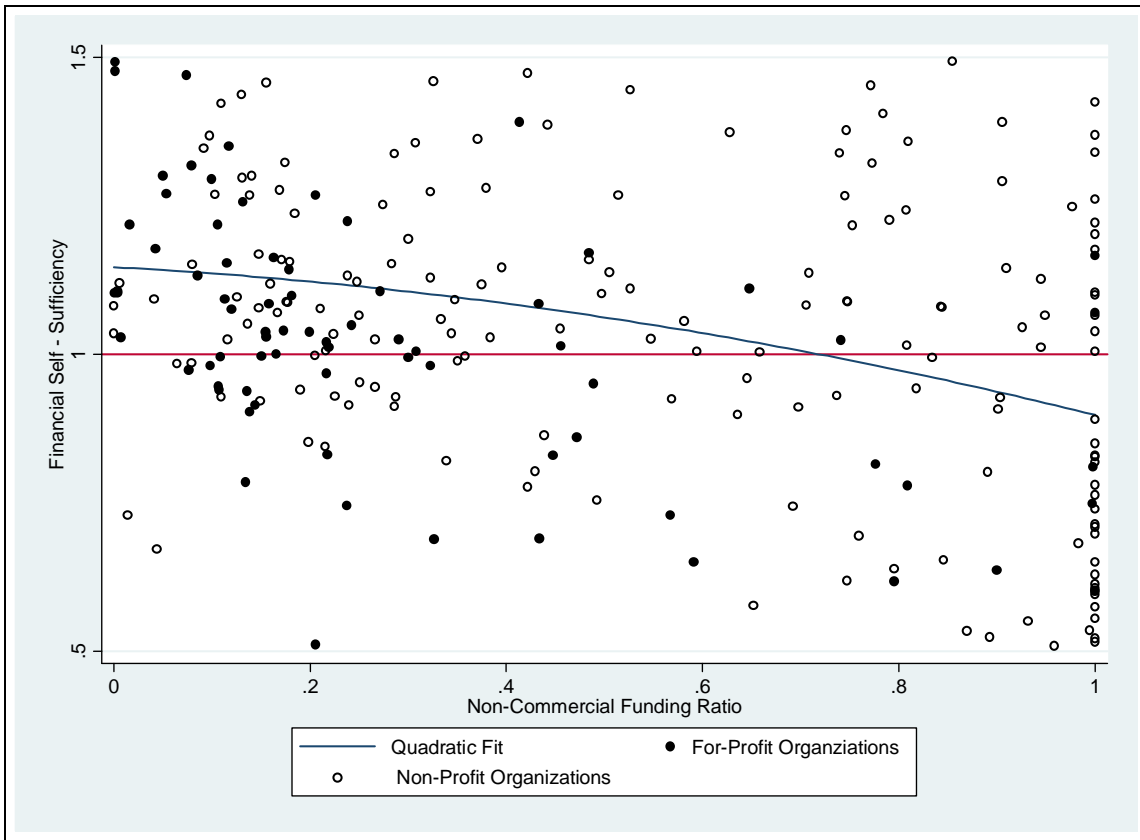
\* Based on fewer than 10 observations

**Table 3. Non-governmental organizations versus non-bank financial institutions and banks.**

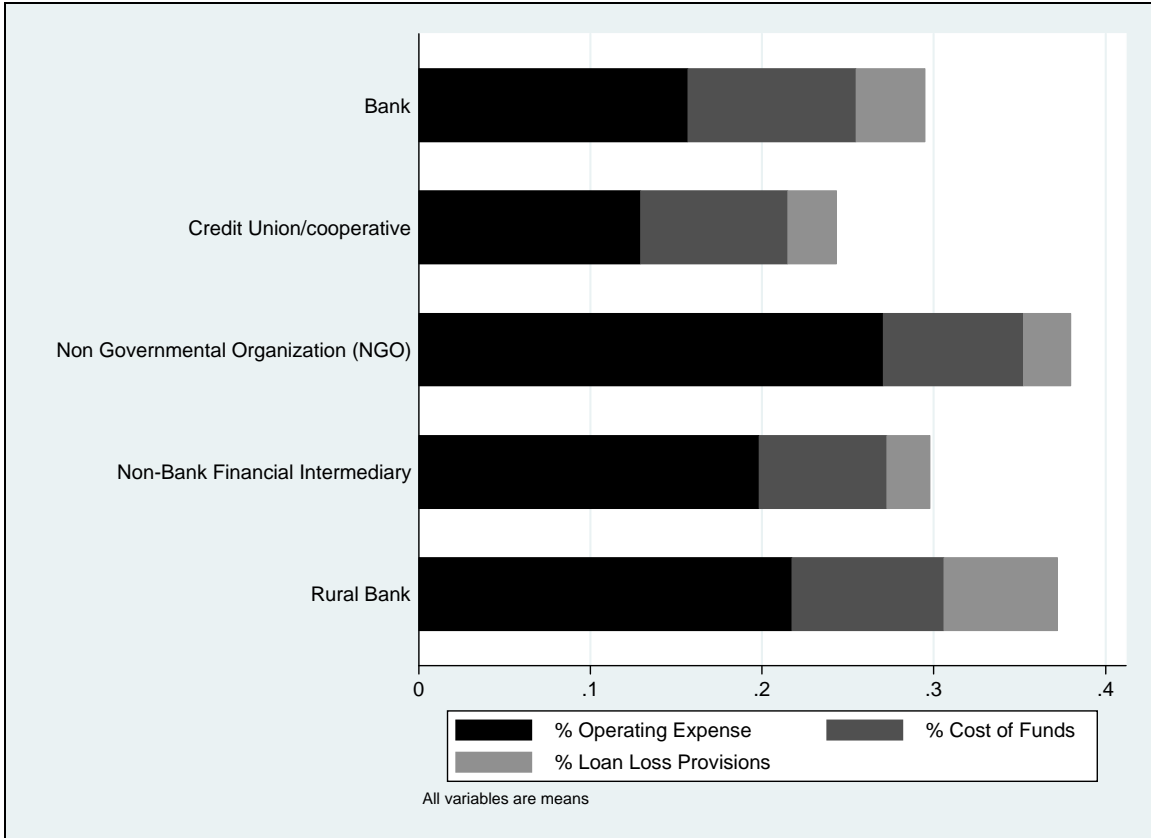
Return on equity is adjusted net income divided by total equity. Subsidy per borrower numbers are donations from prior years plus donations to subsidize financial services plus an in-kind subsidy adjustment plus an adjustment for subsidies to the cost of funds.

Institution Type	Shares of total funding					Median non-commercial funding ratio
	Donations	Non-Commercial Borrowing	Equity	Commercial Borrowing	Deposits	
Bank (24 obs)	0.02 [0.09]	0.01 [0.037]	0.13 [0.16]	0.13 [0.19]	0.71 [0.30]	0.11
Credit Union (30 obs)	0.11 [0.22]	0.03 [0.11]	0.16 [0.15]	0.06 [0.10]	0.64 [0.29]	0.21
NBFI (88 obs)	0.23 [0.30]	0.11 [0.20]	0.18 [0.24]	0.28 [0.30]	0.21 [0.29]	0.45
NGO (134 obs)	0.39 [0.34]	0.16 [0.25]	0.08 [0.20]	0.26 [0.29]	0.10 [0.18]	0.74
<i>Total</i> (289 obs)	0.26 [0.33]	0.11 [0.21]	0.13 [0.20]	0.23 [0.27]	0.27 [0.34]	0.43

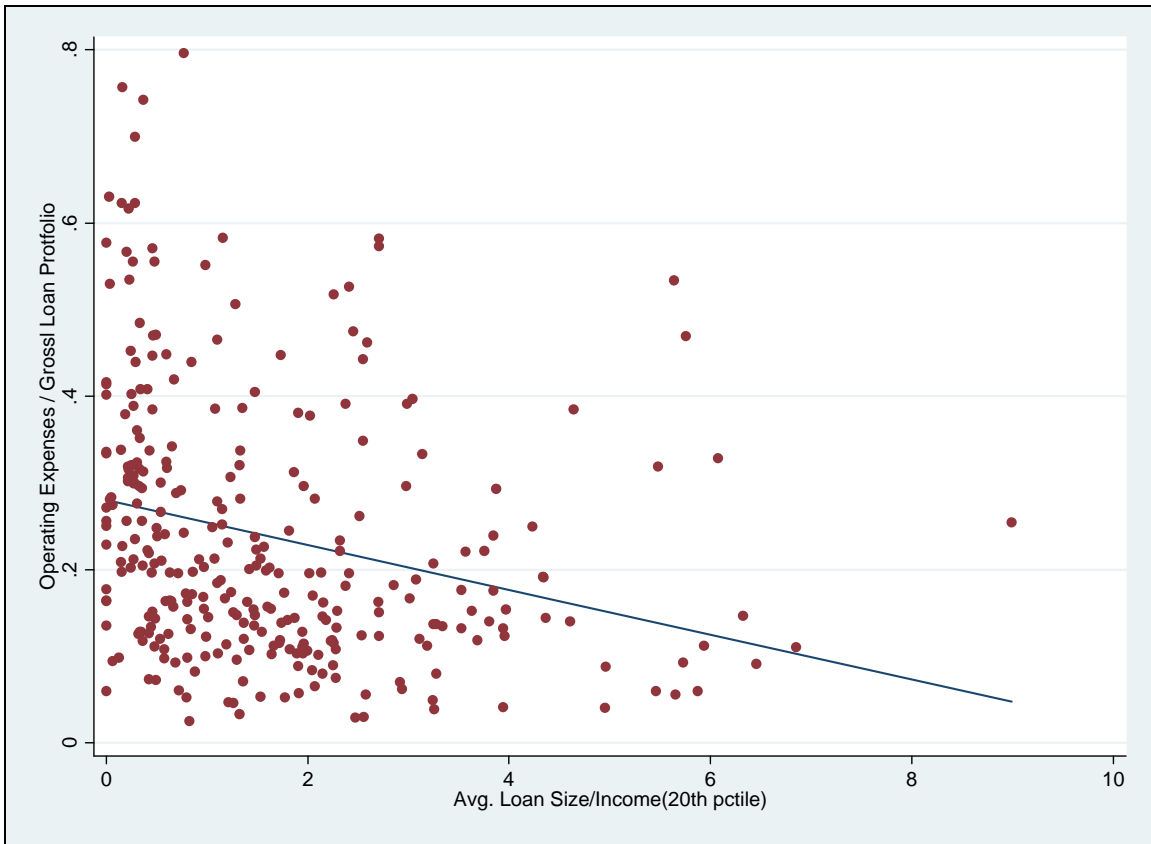
**Table 4. Shares of total funding by institutional type.** Means [standard deviations in brackets] Rural banks omitted.



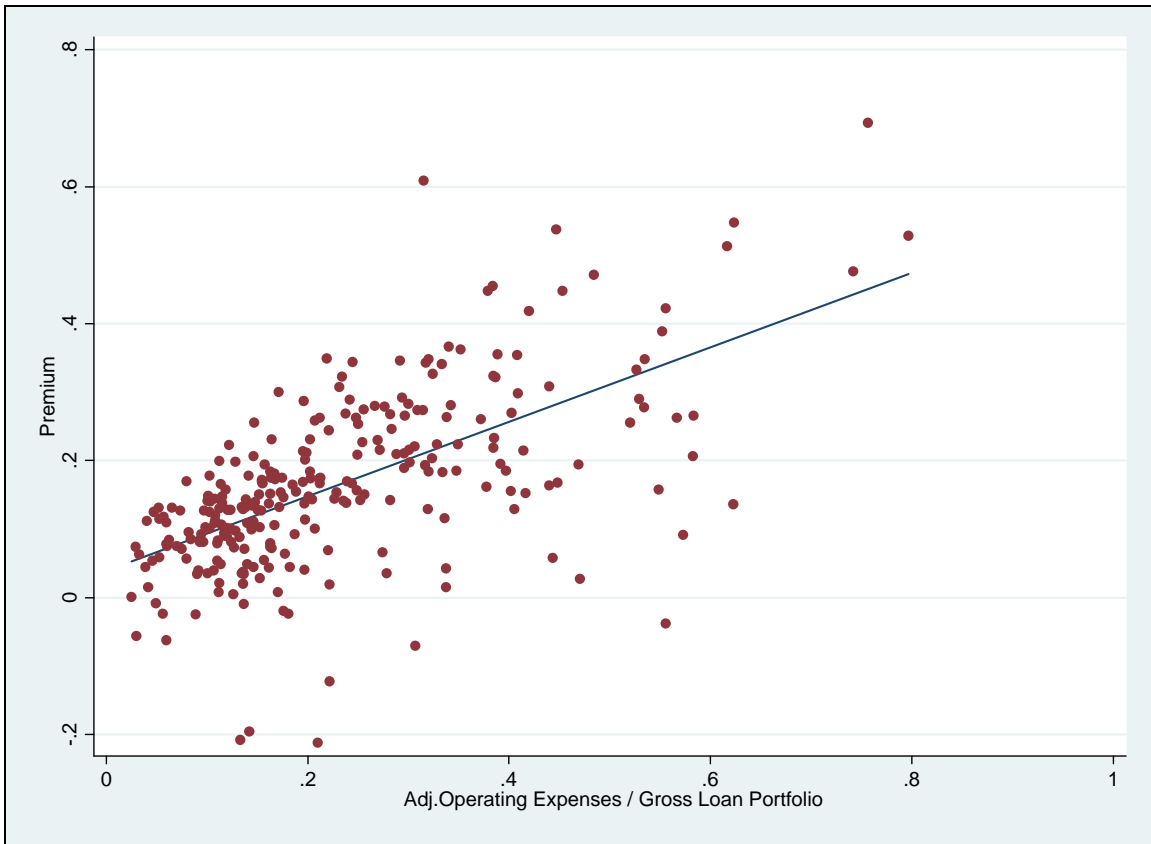
**Figure 1. Profitability versus non-commercial funding.** Profitability is measured by the financial sustainability ratio. The financial self-sufficiency ratio is adjusted financial revenue divided by the sum of adjusted financial expenses, adjusted net loan loss provision expenses, and adjusted operating expenses. It indicates the institution's ability to operate without ongoing subsidy, including soft loans and grants. The definition is from *MicroBanking Bulletin* (2005), p. 57.



**Figure 2. The composition of costs as a share of the average gross loan portfolio.** Data on costs are not disaggregated by activity, so the analysis includes only those institutions whose revenue from lending (interest, fees, and commissions) is greater than or equal to 80 percent of total revenues. In restricting ourselves to the subset of microfinance institutions that are most focused on lending, we have greater confidence in ascribing all of their costs to lending.



**Figure 3. Average costs per dollar lent fall as loans get larger.** 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 4. Interest rates rise with costs.** 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).