

CHAPTER 4

Microcredit Interest Rates and Their Determinants: 2004–2011*

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From the beginning of modern microcredit,¹ its most controversial dimension has been the interest rates charged by microlenders—often referred to as microfinance institutions (MFIs).² These rates are higher, often much higher, than normal bank rates, mainly because it inevitably costs more to lend and collect a given amount through thousands of tiny loans than to lend and collect the same amount in a few large loans. Higher administrative costs have to be covered by higher interest rates. But how much higher? Many people worry that poor borrowers are being exploited by excessive interest rates, given that those borrowers have little bargaining power, and that an ever-larger proportion of microcredit is moving into for-profit organizations where higher interest rates could, as the story goes, mean higher returns for the shareholders.

Several years ago CGAP reviewed 2003–2006 financial data from hundreds of MFIs collected by the Microfinance Information Exchange (MIX), looking at inter-

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¹ In this paper, “microcredit” refers to very small, shorter-term, usually uncollateralized loans made to low-income microentrepreneurs and their households, using unconventional techniques such as group liability, frequent repayment periods, escalating loan sizes, forced savings schemes, etc.

² MFIs are financial providers that focus, sometimes exclusively, on delivery of financial services targeted at low-income clients whose income sources are typically informal, rather than wages from registered employers. Among these financial services, microcredit predominates in most MFIs today, but savings, insurance, payments, and other money transfers are being added to the mix, as well as more varied and flexible forms of credit. MFIs take many forms, for instance, informal village banks, not-for-profit lending agencies, savings and loan cooperatives, for-profit finance companies, licensed specialized banks, specialized departments in universal commercial banks, and government programs and institutions.

est rates and the costs and profits that drive those interest rates. The main purpose of that paper (Rosenberg, Gonzalez, and Narain 2009) was to assemble empirical data that would help frame the question of the reasonableness of microcredit interest rates, allowing a discussion based more on facts and less on ideology.

In this paper, we review a better and fuller set of MIX data that runs from 2004 to 2011. Though we defer most discussion of methodology until the Annex, one point is worth making here at the beginning. The earlier CGAP paper used data from a consistent panel: that is, trend analysis was based on 175 profitable microlenders that had reported their data each year from 2003 through 2006. This approach gave a picture of what happened to a *typical set of microlenders* over time.

This paper, by contrast, mainly uses data from MFIs that reported at any time from 2004 through 2011.³ Thus, for example, a microlender that entered the market in 2005, or one that closed down in 2009, would be included in the data for the years when they provided reports. We feel this approach gives a better picture of the evolution of the whole market, and thereby better approximates the situation of a *typical set of clients* over time. The drawback is that trend lines in this paper cannot be mapped against trend lines in the previous paper, because the sample of MFIs was selected on a different basis. (We did calculate panel data for a consistent set of 456 MFIs that reported from 2007 through 2011; we used this data mainly to check trends that we report from the full 2004–2011 data set.)

The data set and the methodology used to generate our results are discussed further in this paper's Annex. Our main purpose here is to survey market developments over the period; there will not be much discussion of the "appropriateness" of interest rates, costs, or profits. A major new feature of this paper is that it is complemented by an online database, described later in the paper, that readers can use to dig more deeply into the underlying MIX data—and in particular, to look at the dynamics of individual country markets.

³ For readers interested in the composition of this group, we can summarize the distribution of the more than 6000 annual observations from 2004 through 2011. Note that this is the distribution of MFIs, not of customers served. Category definitions can be found in the Annex:

Region: SSA 14 %, EAP 13 %, ECA 18 %, LAC 34 %, MENA 5 %, S. Asia 16 %

Profit status: For-profit 39 %, nonprofit 59 %, n/a 2 %. (Note that for-profit MFIs serve the majority of borrowers, because they tend to be larger than nonprofit MFIs.)

Prudentially regulated by financial authorities? yes 57 %, no 41 %, n/a 2 %

Legal form: bank 9 %, regulated nonbank financial institution 32 %, credit union/co-op 13 %, NGO 38 %, rural bank 6 %, other or n/a 2 %

Target market: low micro 42 %, broad micro 49 %, high micro 5 %, small business 4 %

Financial intermediation (voluntary savings): >1/5 of assets 39 %, up to 1/5 of assets 17 %, none 44 %

Age: 1–4 years 10 %, 5–8 years 19 %, >8 years 69 %, n/a 2 %

Borrowers: <10k 48 %, 10k–30k 23 %, >30k 29 %

Not surprisingly, five more years of data reveal some important changes in the industry. For instance,

- Globally, interest rates declined substantially through 2007, but then leveled off. This is partly due to the behavior of operating (i.e., staff and administrative) costs, whose long-term decline was interrupted in 2008 and 2011. Another factor has been a rise in microlenders' cost of funds, as they expanded beyond subsidized resources and drew increasingly on commercial borrowings.
- Average returns on equity have been falling, and the percentage of borrowers' loan payments that go to profits has dropped dramatically. This is good news for those who are worried about exploitation of poor borrowers, but may be more ambiguous for those concerned about the financial performance of the industry.
- For the subset of lenders who focus on a low-end (i.e., poorer) clientele, interest rates have risen, along with operating expenses and cost of funds. On the other hand, low-end lenders are considerably more profitable on average than other lenders (except in 2011, when the profitability of the group was depressed by a repayment crisis in the Indian state of Andhra Pradesh).

As in the 2009 paper, we will look not just at interest rates but also at their components—that is, the main factors that determine how high interest rates will be. Lenders use their interest income to cover costs, and the difference between income and costs is profit (or loss). A simplified version of the relevant formula is

$$\text{Income from loans} = \text{Cost of funds} + \text{Loan loss expense} + \text{Operating Expense} + \text{Profit}^{4,5}$$

In other words, interest income—the amount of loan charges that microlenders collect from their customers—moves up or down only if one or more of the components on the right side of the equation moves up or down.

That formula provides the structure of this paper:

- Section 1 looks at the level and trend of microlenders' **interest rates** worldwide, and breaks them out among different types of institutions (peer groups).
- Section 2 examines the **cost of funds** that microlenders borrow to fund their loan portfolio.
- Section 3 reports on **loan losses**, including worrisome recent developments in two large markets.

⁴ “Operating expense” is the term MIX uses to describe personnel and administrative costs, such as salaries, depreciation, maintenance, etc.

⁵ A fuller formula is:

$$\text{Income from loans} + \text{Other income} = \text{Cost of funds} + \text{Loan loss expense} + \text{Operating expense} + \text{Tax} + \text{Profit}.$$

- Section 4 presents trends in **operating expenses**, and touches on the closely related issue of **loan size**.
- Section 5, looks at microlenders' **profits**, the most controversial component of microcredit interest rates.
- A reader without time to read the whole paper may wish to skip to Section 6 (page 96), which provides a graphic overview of the movement of interest rates and their components over the period and a **summary** of the main findings.
- The Annex describes our **database and methodology**, including the reasons for dropping four large microlenders⁶ from the analysis.

A dense forest of data lies behind this paper. To avoid unreasonable demands on the reader's patience, we have limited ourselves to the tops of some of the more important trees. But MIX has posted our data files on its website, including Excel pivot tables where readers can slice the data any way they like ([http://microfinance-business-solution.mixmarket.org/rs/microfinance/images/Interest Rate Paper Supporting Data.zip](http://microfinance-business-solution.mixmarket.org/rs/microfinance/images/Interest_Rate_Paper_Supporting_Data.zip)). The pivot tables allow a user to select among 14 financial indicators and display 2004–2001 adjusted or unadjusted results (weighted averages and quartiles) broken out in any of nine different peer groupings, including individual countries.

In choosing which groupings of these data to include in the paper, we have had to select among more than 800 different data cuts that were available. Most of the information presented here is in the form of global cuts, often broken out by peer groups, such as region, for-profit status, loan methodology, etc. **But for many readers, the most relevant peer grouping will consist of the microlenders operating in a particular country.** We strongly encourage these readers to use the online pivot tables to customize an analysis of what has been happening in any specific country.

1 Level and Trend of Interest Rates

1.1 How to Measure Microcredit Interest

Before presenting data and findings, we need to discuss two different ways to measure interest rates on microloans: interest yield and annual percentage rate (APR). Understanding the distinction between these two is crucial for a proper interpretation of the interest rate data we present in this section.

From a client standpoint, a typical way to state interest rates is to calculate an APR on the client's particular loan product. APR takes into account the amount and timing of all the cash flows associated with the loan, including not only things

⁶ BRI (Indonesia), Harbin Bank (China), Postal Savings Bank of China, and Vietnam Bank for Social Policy.

that are explicitly designated as “interest” and “principal,” but also any other expected fees or charges, as well as compulsory deposits that are a condition of the loan. This APR indicator is a good representation of the effective cost of a loan for borrowers who pay as agreed. APR can be substantially different from (usually higher than) the stated interest rate in the loan contract.

MicroFinance Transparency (MF Transparency) is building a database with careful APR information on some or all of the significant microlenders in a growing range of countries. Collection of these data is labor-intensive and depends on the willing cooperation of microlenders who might occasionally find the publication of these pricing specifics embarrassing. As of this writing, the MF Transparency website displays data from 17 countries.⁷

In contrast, the MIX database we draw from in this paper cannot generate APRs. What MIX provides is “interest yield,” which expresses the total of all income from loans (interest, fees, other loan charges) as a percentage of the lender’s average annual gross loan portfolio (GLP). From the vantage point of the lender, interest yield is clearly meaningful. But as an indication of what individual microborrowers are really paying, interest yield is inferior to APR in important ways. For instance,

- In 2011, about a third of microborrowers were served by lenders that use compulsory savings—that is, they require borrowers to maintain a percentage of their loan on deposit with the lender. This practice raises the effective interest rate, because the deposit requirement reduces the net loan disbursement that the borrower can actually use, while the borrower pays interest on the full loan amount. APR incorporates this effect, while interest yield does not.
- MIX’s calculation of interest yield lumps the lender’s entire portfolio together, even though that portfolio may contain loan products with quite different terms, and may even include products that are better characterized as small business loans rather than microloans.
- The denominator of the MIX interest yield ratio is GLP—the total amount of all outstanding loans that has neither been repaid nor written off. But some of those loans are delinquent—the borrowers are behind on payments. The effect of this difference can be illustrated simply. Suppose that total interest income is 200, and GLP is 1000, producing an interest yield of 20 percent that the “average” borrower is paying. But if the portion of the loans that is actually performing is only 800, then the average borrowers are really paying 25 percent.⁸

⁷ <http://data.mftransparency.org/data/countries/>

⁸ MIX is building better information about compulsory deposits, and makes adjustments that attempt to represent net portfolio more accurately, but we found that these MIX data were not yet consistent enough to produce reliable results at present. A very rough analysis of these data suggests that compulsory deposits in some MFIs might add something like 3 percent to the worldwide average APR. The average impact of adjusting for nonperforming loans is harder to decipher.

An internal MIX analysis in 2011, based on seven countries for which MF Transparency also had data, found that the MIX interest yield understated the MF Transparency APR by an average of about 6 percentage points. However, the sample was too small to allow for much generalization of this result.

Given the limitations of the MIX interest yield measure, why are we using it in this paper? One reason is that the MIX's much broader coverage provides a better sample of the worldwide microcredit market: over 105 countries for 2011, compared to MF Transparency's 17. An even more important reason is that MIX, having started collecting data long before MF Transparency, has many more years of data, allowing trend analysis that is not yet possible for the latter. We think it highly likely that interest yield trends and APR trends would move approximately in parallel over a span of years. A detailed discussion of this point will be posted along with our underlying data ([http://microfinance-business-solution.mixmarket.org/rs/microfinance/images/Interest Rate Paper Supporting Data.zip](http://microfinance-business-solution.mixmarket.org/rs/microfinance/images/Interest%20Rate%20Paper%20Supporting%20Data.zip)).

How, then, should the reader regard the meaningfulness of interest yield data? Here is our view:

1. *Actual effective rates paid for specific loan products at a point in time.* Interest yield probably understates these by varying and often substantial amounts.
2. *Peer group differences* (for instance, how do rates at for-profit and non-profit microlenders compare on average?). We think that substantial differences in interest yield among peer groups are very likely a meaningful indication of a difference among the groups in what their average borrowers pay. However, some caution is appropriate here, because the gap between interest yield and true APR can vary from one peer group to another.⁹
3. *Time-series trends.* Trends in interest yields (the main focus of this section) are probably quite a good indicator of trends in what typical borrowers are actually paying, on the plausible assumption that the gap between interest yield and APR stays relatively stable on average from one year to the next.

Finally, we emphasize that the issue discussed above applies only to data about interest rates. It poses no problem for the majority of our analysis, which deals with the *determinants* of interest rates, namely cost of funds, loan losses, operating expenses, and profit.

⁹ This is particularly true when comparing MFIs that focus on smaller loans to poorer clients, as against MFIs with a broad suite of loan products, some of which serve clients that might not fit one's particular definition of "micro."

1.2 Level of Interest Yields in 2011

Figure 1 shows a global median interest yield of about 27 percent. Distribution graphs like this one remind us that there is wide variation in microcredit rates, so any statement about a median (or average) rate is a composite summary that veils a great deal of underlying diversity. The regional distribution indicates that rates vary more widely in Africa and Latin America than in other regions. Also, we notice that rates are substantially lower in South Asia than elsewhere: the relative cost of hiring staff tends to be lower there, and—at least in Bangladesh—the political climate and the strong social orientation of the industry have probably led managers to focus more on keeping rates low.¹⁰

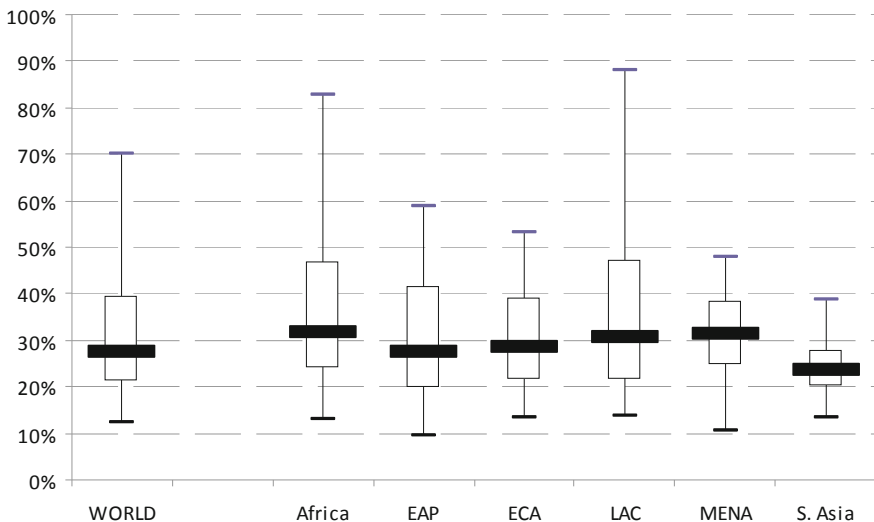


Fig. 1. MFI Interest Yield Distribution, 2011

Note: Interest and fee income from loan portfolio as % of average GLP, 866 MFIs reporting to MIX. The thick horizontal bars represent medians; the top and bottom of the white boxes represent the 75th and 25th percentiles, respectively; and the high and low short bars represent the 95th and 5th percentiles, respectively. So, for example, 95 percent of the MFIs in the sample are collecting an interest yield below about 70 percent. Data here are unweighted: each MFI counts the same regardless of size. EAP = East Asia and Pacific, ECA = Europe and Central Asia, LAC = Latin America and the Caribbean, MENA = Middle East and North Africa.

¹⁰ Figure 1 and subsequent figures showing percentile distributions are unweighted; in other words, each MFI counts the same regardless of its size. Not surprisingly, the median in such a distribution may be different from the weighted average (e.g., Figure 3) where large MFIs count for proportionally more than small MFIs. However, in the particular case of the 2011 global interest yield, the weighted average (see Figure 2) and the median are very close, about 27 percent.

1.3 Global Average Interest Rates Have Stopped Declining in Recent Years

Figure 2 shows a drop in average global microcredit rates through 2007, but not thereafter. (Inflation-adjusted rates fell in 2008 because few microlenders raised their rates enough to compensate for the spike in worldwide inflation that year.)¹¹ The analysis of interest rate determinants later in the paper suggests that the main reason world average rates didn't drop after 2007 is that operating (i.e., staff and administrative) costs stayed level.¹²

On the assumption that the microcredit market is getting more saturated and competitive in quite a few countries, we might have expected a different result. Analysis of individual countries where the market is thought to be more competitive shows continued interest rate decline post-2006 in some (e.g., Bolivia, Nicaragua, Cambodia) but not in others (e.g., Mexico, Bosnia/Herzegovina, Indonesia). Sorting out the evidence on the effects of competition would require more detailed country analysis than we were able to do for this paper.

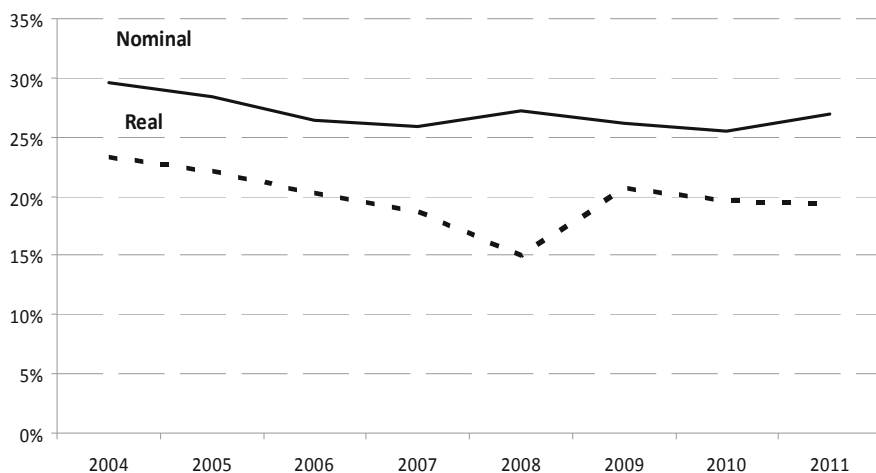


Fig. 2. Global Interest Yield Trends, 2004–2011

Note: Global interest and fee income from loans/average total GLP, weighted by GLP, both nominal and net of inflation.

¹¹ The same effects show up in panel analysis where we tracked the 456 MFIs that reported consistently to MIX every year from 2007 to 2011.

¹² As we will see later (compare Figures 3 and 13), the correlation between interest yield and operating cost shows up at the regional level: AFR and EAP, the two regions with interest rate declines since 2006, also had lower operating costs.

1.4 Peer Group Patterns

The regional breakout in [Figure 3](#) shows that over the full 2004–2011 period, Latin America is the only region with no significant decline in average interest yield. However, there is important regional variation since 2006: Africa and East Asia/Pacific show substantial continued declines—perhaps because they were the least developed markets in 2006. At any rate, these two regions are the ones that

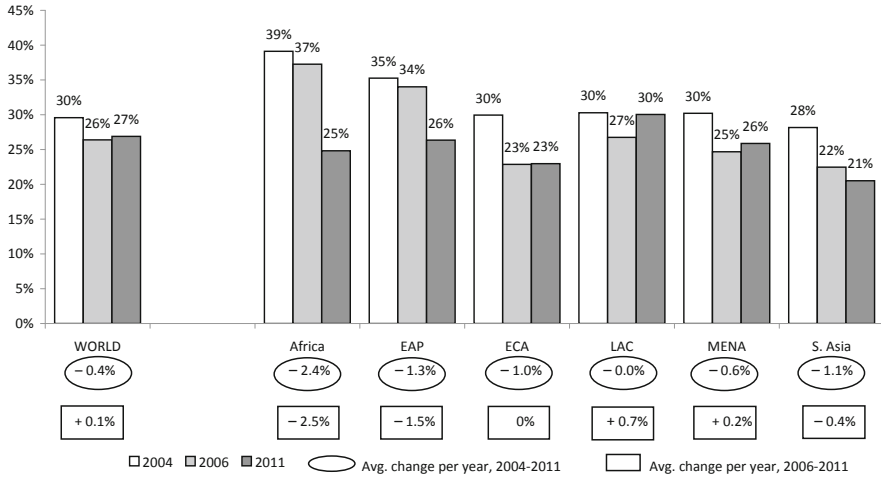


Fig. 3. Interest Yield Changes 2004–2011

Note: Interest and fee income from loans as percentage of average GLP for the period, weighted by GLP. The Africa series begins in 2005 rather than 2004.

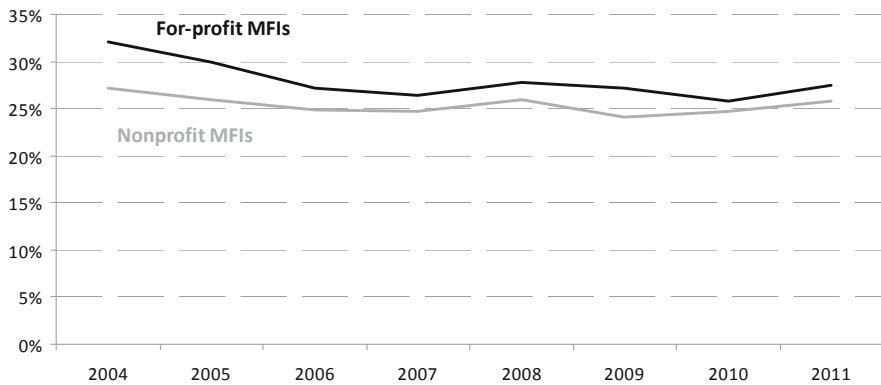


Fig. 4. For-Profit vs. Nonprofit Interest Yields, 2004–2011

Note: Total interest and fee income/average total GLP, weighted by GLP. MFIs are assigned to the “for-profit” or “nonprofit” depending on their legal status in 2011.

substantially improved their operating expenses since 2006 (see [Figure 13](#)). But reported average rates actually went back up in Latin America, the most commercialized of the regions.

[Figure 4](#) illustrates the unremarkable finding that for-profit microlenders collect higher average interest yields than nonprofit microlenders. However, for-profit interest rates have dropped more than nonprofit interest rates: the average difference between the two peer groups dropped from 5 percentage points in 2004 down to 1.7 percentage points by 2011. By way of illustration, on a \$1000 loan in 2011, the annual difference between the for-profit and nonprofit interest charges would amount on average to \$17, or less than \$1.50 per month.

When we separate microlenders by the target market they serve ([Figure 5](#)), we find that in institutions focused on the low-end market (smaller average loan sizes, and thus presumably poorer borrowers) interest rates are actually higher in 2011 than they were in 2004.¹³

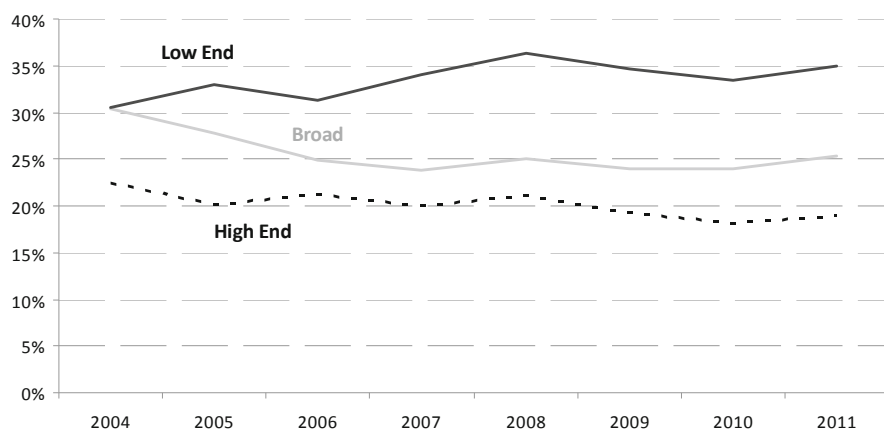


Fig. 5. Interest Yields by Target Market, 2004–2011

Note: Total interest and fee income/average total GLP, weighted by GLP, nominal. MFIs are grouped by “depth”—average loan balance per borrower as % of per capita gross national income. For the “low end” market, depth is <20% or average loan balance < US\$150. For “broad,” depth is between 20% and 149%. For “high end,” depth is between 150% and 250%. For the “small business” market, which is not included in this graph, depth is over 250%.

¹³ Loan sizes here are measured as a percentage of countries’ per capita national income. People with wide on-the-ground experience of many MFIs agree that their average loan sizes bear some rough relation to client poverty—poorer clients tending to take smaller loans—but the relationship is very far from perfect. See, for instance, Schreiner, Matul, Pawlak, and Kline (2006) and Hoepner, Liu, and Wilson (2011).

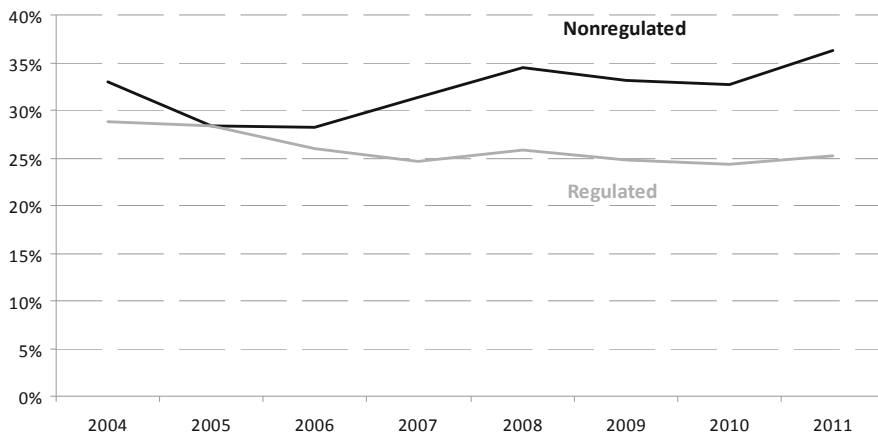


Fig. 6. Regulated vs. Nonregulated Interest Yields, 2004–2011

Note: Total interest and fee income/average total GLP, weighted by GLP.

Figure 6, comparing regulated and nonregulated microlenders,¹⁴ seems to point in the same direction. Regulation refers here to licensing and/or prudential supervision by the country’s banking authorities. Most of the regulated microcredit portfolio is in banks, and most of these are for-profit. The regulated lenders tend to have lower rates: they tend to offer larger loans, while the nonregulated MFIs tend to make smaller loans that require higher operating costs per dollar lent. Rates among nonregulated microlenders have been rising substantially since 2006.

The two preceding figures show higher rates for lenders that tend to focus on smaller borrowers. At first blush, this looks like bad news for low-end clients. However, the trend probably reflects some shifting of low-end clientele: if banks and broad-market microlenders have been capturing more of the easier-to-serve portion of poor borrowers, then the unregulated and low-end microlenders would be left with a somewhat tougher segment of clients, and their rising interest rates might simply reflect the higher expenses of serving this segment.¹⁵ Another factor

¹⁴ “Regulated” refers to banks and other finance companies that are subject to prudential regulation and supervision by the country’s banking and financial authorities. The rest of the MFIs are categorized as “nonregulated”: like any other business, they are subject to some regulation (e.g., consumer protection) but not to prudential regulation whose objective is to guard the financial health of an institution taking deposits from the public. MFIs are categorized based on their status in 2011.

¹⁵ If this conjecture is true, we might expect to see average loan sizes decreasing in both broad-market and low-end MFIs, as well as in both regulated and nonregulated MFIs. This is indeed what has happened—average loan sizes have declined by roughly five percentage points among all these groups since 2006. And operating expense ratios have been rising for MFIs aimed at the low-end clientele.

is that funding costs for low-end lenders have been rising, as we will see below (Figure 8).

The fact that costs and thus interest rates are rising for microlenders who focus on poorer clients has a bearing on the perennial argument over whether to protect the poor by imposing interest rate caps. As costs rise for low-end microlenders, a given fixed-interest rate cap would put (or keep) more and more of them out of business as the years go by.

Having sketched a few important patterns and trends in interest rates, we now turn to the principal elements that determine (or “drive”) those rates. To repeat, the simplified description of this relationship is

$$\text{Income from loans} = \text{Cost of funds} + \text{Loan loss expense} + \text{Operating expense} + \text{Profit}$$

After looking at these determinants individually, we will put them back together again in Section 6 to show how the trends in these elements combine to produce the trends in interest yields.

2 Cost of Funds

Microlenders fund their loans with some combination of equity (their own money) and debt (money borrowed from depositors or outside lenders). In a sense, the equity is free, at least for a not-for-profit lender that has no shareholder owners who collect dividends. But borrowed funds entail a cost in the form of interest expense.

Funding Costs Have Been Rising. Figure 7 shows a slow, steady climb in the nominal costs at which microlenders can borrow money to fund their loan portfolios. This climb is both less pronounced but more jumpy when we look at the real (i.e., net of inflation) cost of funds.¹⁶ The most probable explanation of the rise in borrowing costs is that as microlenders expand, they can fund less of their portfolio from the limited amounts of heavily subsidized liabilities from development agencies, and they have to turn increasingly toward more expensive commercial and quasi-commercial debt from local and international markets.

Some people hope that funding costs will decline substantially as more and more microlenders mobilize voluntary deposits, but such a result is far from guaranteed. Over the time span of our study, average funding costs actually look slightly higher for lenders that rely heavily on voluntary savings than for lenders that take no such savings.¹⁷ Also note that any decrease in funding cost produced by savings mobilization can be offset by increases in operating costs to administer the savings function, especially for small-sized liquid deposits that are aimed at the microclientele.

¹⁶ The sharp changes in real rates in 2008 and 2009 probably reflect the time it took for interest contracts to reprice following the world inflation spike in 2008.

¹⁷ The difference, about 0.1 percentage points, is probably not statistically significant.

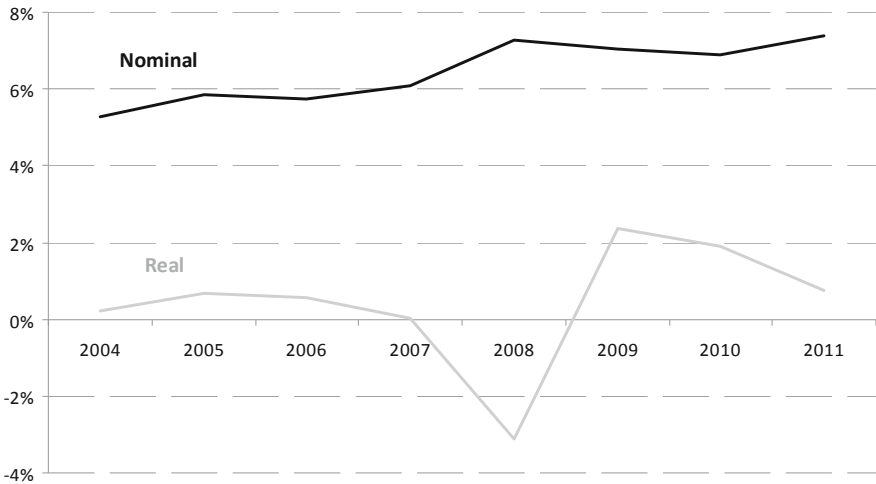


Fig. 7. Cost of Funds, Nominal and Real, 2004–2011

Note: Financial expense as % of liabilities, weighted by liabilities, both nominal and adjusted for each country’s inflation.

2.1 Peer Group Analysis

Figure 8 shows another piece of bad news for microlenders focused on low-end borrowers: the average cost of funds is growing faster for this peer group than for others. Funding costs for microlenders that focus on high-end borrowers have stayed fairly level, while funding costs have climbed substantially for broad-market

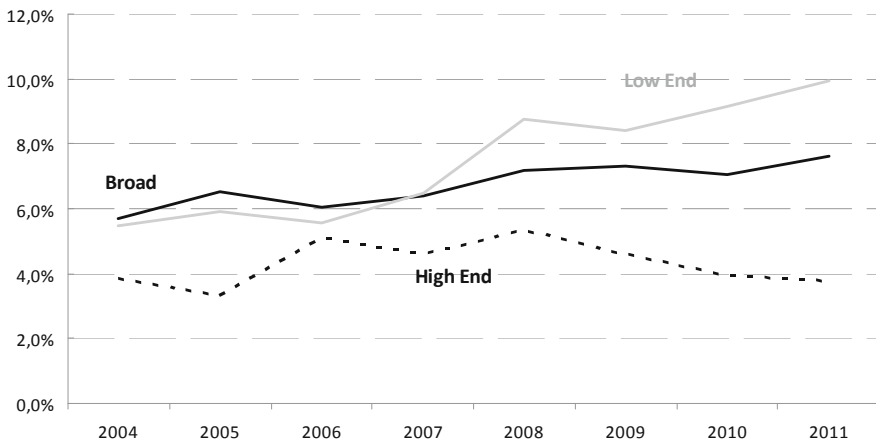


Fig. 8. Cost of Funds (Nominal) by Target Market 2004–2011

Note: Financial expense as % of liabilities, weighted by liabilities.

microlenders and especially for low-end microlenders.¹⁸ This rise in funding costs is part of the reason that average worldwide interest yields paid by microborrowers have not been declining in the past few years, and interest yields paid by customers of low-end lenders have actually grown, as we saw in Section 1.

Not surprisingly, regulated institutions like banks and licensed finance companies have been able to borrow money an average of 1.5 percentage points cheaper than nonregulated lenders. Most of the regulated microlenders can take savings, and interest cost for their savings is lower than for large commercial borrowings.¹⁹ Regulated institutions have some cost advantage even on large commercial loans: lenders see them as safer because they are licensed and supervised by the banking authorities. Also, regulated microlenders on average can absorb larger borrowings, which can reduce their interest and transaction costs.

3 Loan Loss Expense

Most microloans are backed by no collateral, or by collateral that is unlikely to cover a defaulted loan amount once collection expenses are taken into account. As a result, outbreaks of late payment or default are especially dangerous for a microlender, because they can spin out of control quickly.

When a borrower falls several payments behind on a loan, or something else happens that puts eventual collection of the loan in doubt, the sound accounting practice is to book a “loan loss provision expense” that reflects the loan’s loss in value—i.e., the lowered likelihood it will be collected in full. This practice recognizes probable loan losses promptly rather than waiting for the full term of the loan to expire and collection efforts to fail before booking the loss. If the lender books a provision expense for a loan, but the loan is later recovered in full, then the provision expense is simply reversed at that point. In this section, we look at the quality (i.e., collectability) of microloan portfolios through the lens of net loan loss provision expense. We stress that this indicator approximates actual loan losses over the years, not just levels of delinquency (late payment).

Loan losses have recently been climbing fast in India and Mexico, but the average for the rest of the world has been fairly stable. The spike in India is due mainly to the recent collapse of microcredit repayment in Andhra Pradesh.²⁰ The apparently serious problem in Mexico has been longer in the making. But in the rest of the world, average loan loss has declined from a worrisome level of almost 4 percent in 2009 back toward a safer level a bit above 2 percent in 2011.

The loan levels in [Figure 9](#) are calculated from microlenders’ reports to MIX, usually but not always based on externally audited financial statements. However,

¹⁸ For definitions of the three target market designations, see the note below [Figure 5](#).

¹⁹ At first blush, this may seem inconsistent with the preceding finding that MFIs who take voluntary deposits have higher funding costs than those who do not. The explanation is that funding costs have been particularly high for unregulated deposit-takers.

²⁰ See, for example CGAP (2010) on Andhra Pradesh.

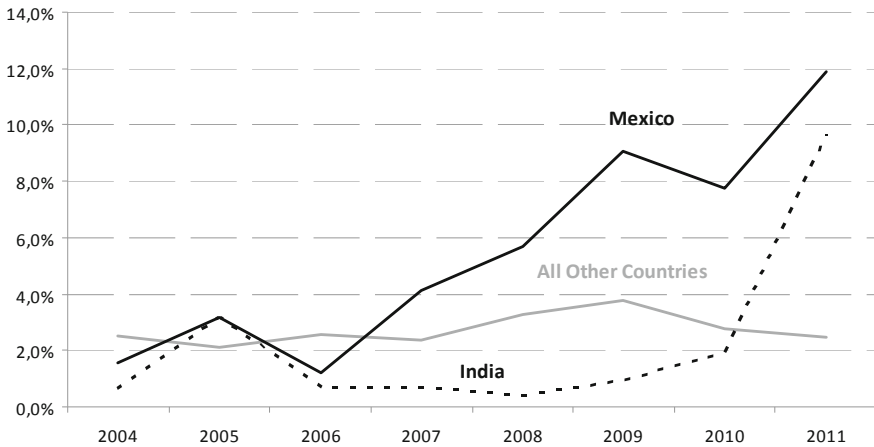


Fig. 9. Loan Loss Provision 2004–2011

Note: Net annual provision expenses for loan impairment as % of average GLP, weighted by GLP.

microlenders, especially the unregulated ones, use many different accounting policies for recognizing and reporting problem loans. Microlenders (like other lenders!) often err in estimating their credit risk. Their errors are seldom on the high side, and many external auditors are remarkably generous when it comes to allowing optimistic approaches to loan loss accounting. MIX makes an analytical adjustment to reported loan losses, in effect applying a uniform accounting policy to recognition of those losses.²¹ The point of this adjustment is uniformity, not fine-tuning to the particular circumstances of a given lender; thus the MIX loan loss adjustment might not accurately reflect the risk of each institution's portfolio. However, we have no doubt that when looking at broad groups of microlenders, the MIX adjustments generate a picture that is closer to reality than the financial statement figures submitted by the institutions.

As shown in Table 1, MIX's adjustment has only a small effect on Mexican loan loss rates, suggesting that the Mexican loan loss accounting may be fairly close to realistic. However, the adjustment almost triples India's average 2011 loan loss from a self-reported 9.7 percent to an adjusted figure of almost 29 percent. The authors have not gone back to review the individual financial statements of the Indian microlenders in MIX, but the *prima facie* hypothesis would be that there might be a massive overhang of under-reported loan losses that will continue to depress overall Indian profitability in subsequent years.²²

²¹ MIX's loan loss adjustment protocol is described in the Annex.

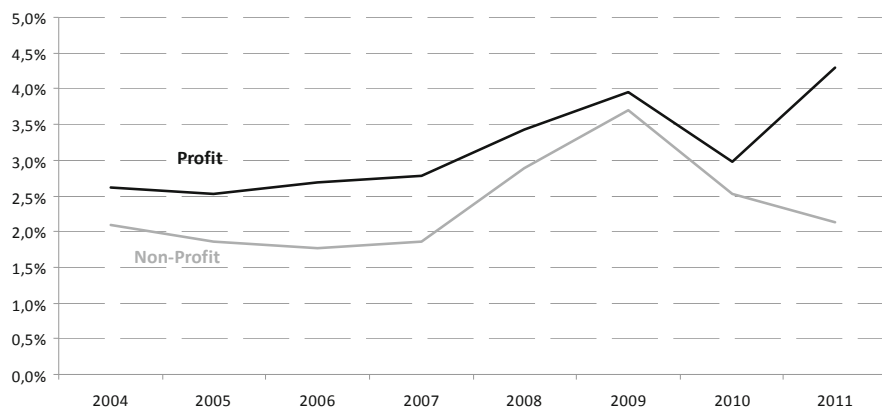
²² We understand that India's central bank has relaxed some loan-loss accounting rules for MFIs in 2011. The probable motive is to let Indian commercial banks reduce the losses they have to recognize on loans they have made to the MFIs.

Table 1. Effect of MIX Adjustments on 2011 Loan Loss Expense

	Unadjusted	Adjusted
MEXICO	11.9 %	12.1 %
INDIA	9.7 %	28.9 %

3.1 Peer Group Analysis

The only clear pattern we've noticed in the peer group breakouts for this indicator is that on average for-profit microlenders have had higher loan losses than non-profits do (Figure 10), this would seem to be a *prima facie* indication of a tendency toward riskier lending and collection practice among for-profit MFIs on average. However, the gap seems to be narrowing, except for the for-profit spike in 2011, which is almost entirely due to loan losses of Indian for-profits.

**Fig. 10.** Loan Loss Expense by Profit/Nonprofit Status, 2004–2011

Note: Net Loan loss expense (unadjusted) as % of GLP, weighted by GLP.

4 Operating Expenses (and Loan Size)

Operating expenses include the costs of implementing the loan activities—personnel compensation, supplies, travel, depreciation of fixed assets, etc. Operating expenses consume the majority of the income of most microlenders' loan portfolios, so this component is the largest determinant of the rate the borrowers end up paying.

Declines in operating expenses (i.e., improvements in efficiency) have slowed recently. Much of the hope for lower interest rates is based on an expectation that

as microlenders acquire more experience they learn to lend more efficiently. Standard economic theory tells us that, in young industries, one normally expects to see cost improvements as firms (or the whole industry in a given market) acquire more experience. Eventually, though, the most powerful efficiency lessons have been learned, and the learning curve flattens out: at this point efficiency improves slowly if at all in the absence of technological breakthroughs.²³ In addition to the learning curve, there is hope that the pressure of competition will force lenders to find more efficient delivery systems.

Figure 11 shows that global average operating costs for MIX microlenders fell substantially through 2007, but the downward trend was interrupted in 2008 and again in 2011. Are microcredit operating costs getting toward the bottom of their learning curve? Or are we seeing temporary bumps with further improvement in efficiency yet to come? No conclusion can be drawn at this point—certainly not on the basis of worldwide average behavior. Efficiency trends differ a lot from one region to another (Figure 12). Since 2006, operating efficiency has improved substantially in relatively immature markets like Africa and EAP, but has been flat or even increased in the other regions. A further complication, the impact of loan sizes, is discussed later in this section.

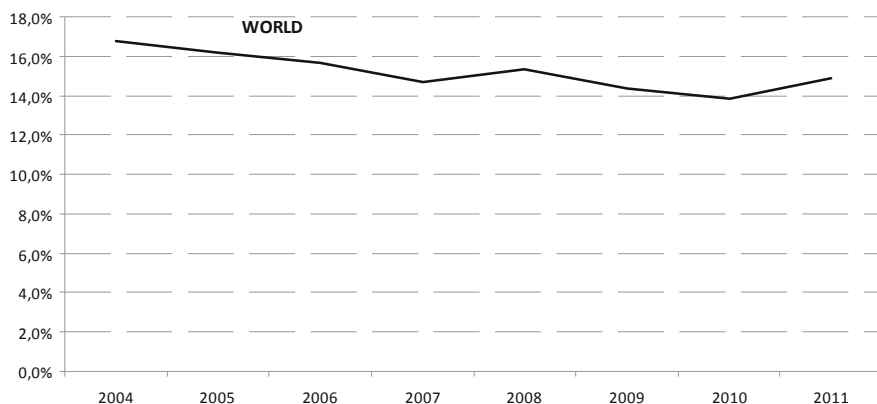


Fig. 11. Operating Expense Ratio, 2004–2011

Note: Operating (i.e., staff and administrative) expense as % of average GLP, weighted by GLP.

²³ This is especially the case with microfinance, where there are relatively few economies of scale after MFIs grow past 5,000 or 10,000 clients.

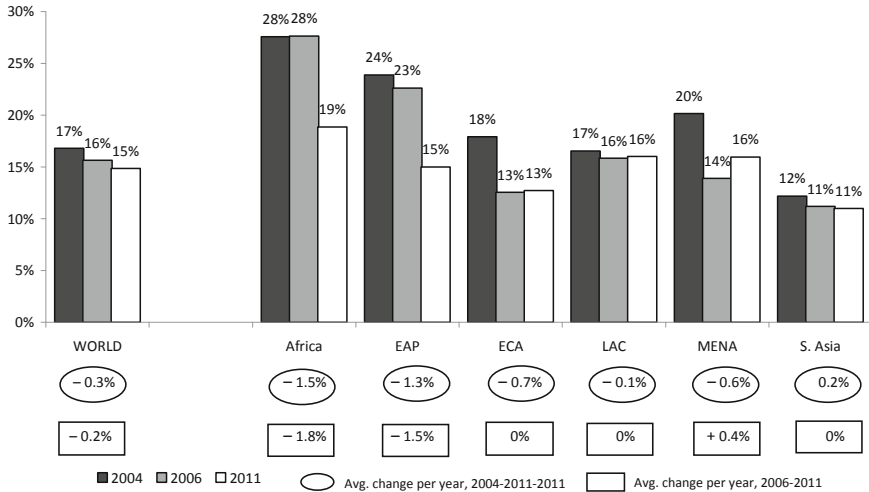


Fig. 12. Operating Expense Ratio Changes, 2004–2011

Note: Total operating expense/average GLP, weighted by GLP, nominal. The Africa series begins with 2005 rather than 2004.

4.1 Peer Group Analysis of Operating Costs, Including the Impact of Loan Sizes

Thus far, the measure of administrative efficiency that we have used is operating expense as a percentage of average outstanding GLP. This ratio can be thought of as the operating cost per dollar outstanding. It is meaningful for many purposes,

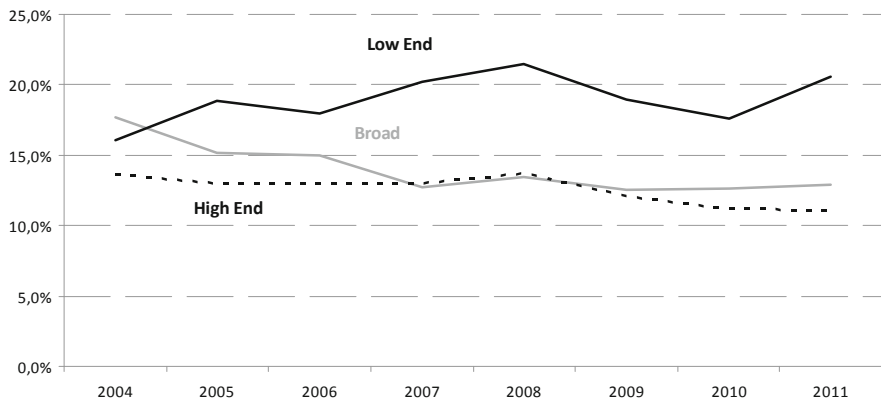


Fig. 13. Operating Expense Ratio 2004–2011, by Target Market

Note: Operating (staff and administrative) expenses/average GLP. (For definitions of the three target market designations, see the note below [Figure 5](#).)

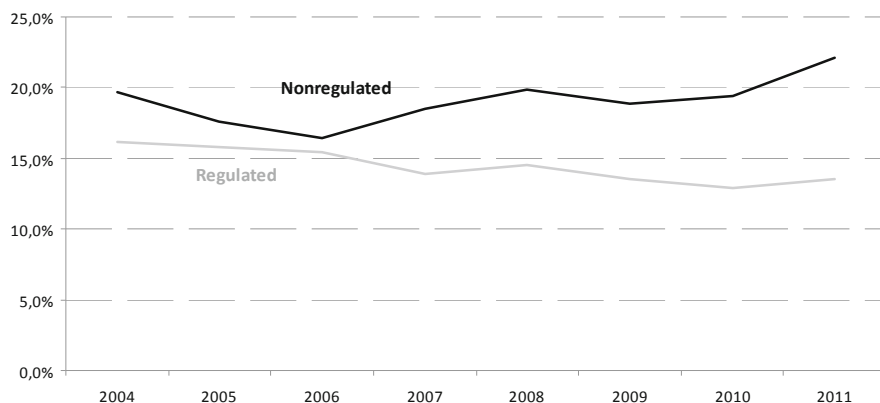


Fig. 14. Operating Expense Ratio by Regulatory Status, 2004–2011

Note: Operating (staff and administrative) expenses/average GLP

but using it to compare the “efficiency” of different microlenders can be problematic. We will illustrate this important and widely overlooked point at some length, using as examples a comparison among lenders serving different target markets, and a comparison between regulated and unregulated lenders.

Figures 13 and 14 seem to show not only that both low-end lenders and unregulated lenders are less efficient than others (i.e., have higher average operating costs per dollar of portfolio lent), but also that they are losing efficiency over time.

It is common to equate this kind of “efficiency” with the quality of management. But this can be seriously misleading, especially in comparing different kinds of microlenders. Managers at the low-end microlenders and the unregulated microlenders lend and collect much smaller loans,²⁴ which tend to cost more to administer than large loans do, when measured per dollar lent, even with the best possible management.

Figure 15 uses Philippine data to illustrate two points. The main point is that operating cost per dollar lent (the lower plotted curve) does in fact tend to be higher for tiny loans. The secondary point is that interest yield (the upper plotted curve) parallels the operating cost curve: as we said, operating cost is typically the most important determinant of the interest that borrowers pay.²⁵

The cost per dollar lent, which we have used so far as an efficiency indicator, penalizes lenders making smaller loans, because their operating costs will always tend to be higher as a percentage of each dollar outstanding. However, we can compensate (to some extent) for the effect of loan size by changing our indicator

²⁴ See Figure 19.

²⁵ The Philippines plot was selected because it was a particularly clean and striking illustration of the points being made here. The relationships are quite a bit looser in most countries, and occasionally even run in the other direction. Nevertheless these points are true as statements of general tendency, and the correlations are substantial.

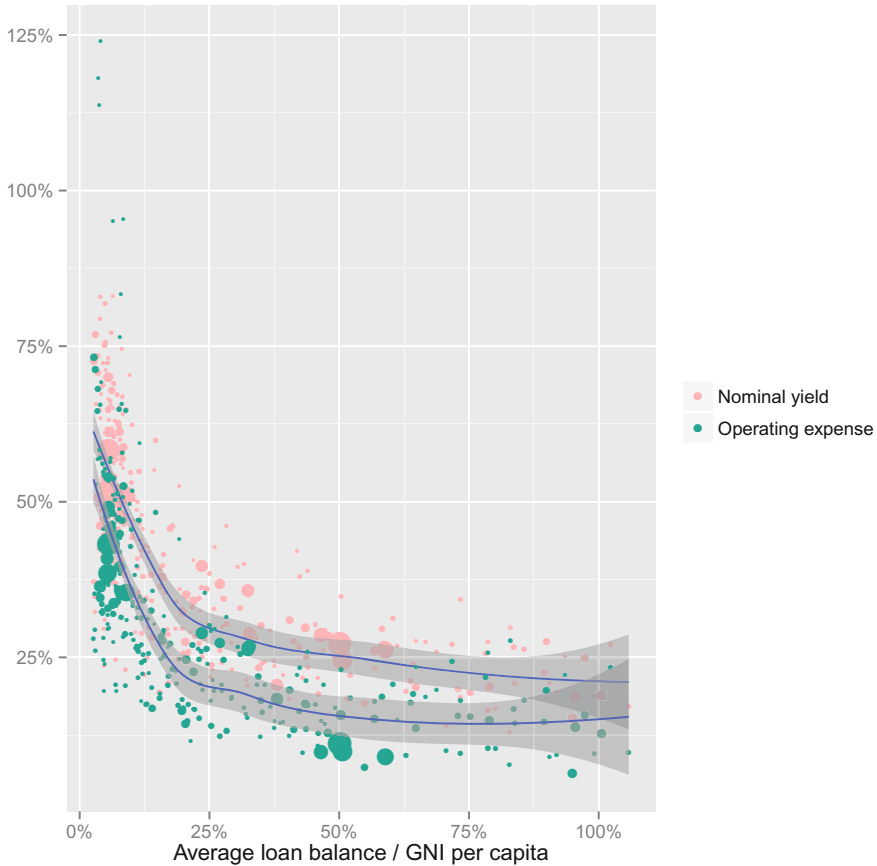


Fig. 15. Pricing and Cost Curves for the Philippines

from cost per dollar lent to cost per loan outstanding—in other words, we divide operating costs not by the amount of the average outstanding loan portfolio, but rather by the average number of active loans outstanding over the year, regardless of how large those loans are.

Table 2 illustrates the difference in these indicators with two hypothetical lenders that have the same size loan portfolio but very different administrative costs. We posit that both institutions are managed with the lowest possible operating cost given their loan sizes and other circumstances.

Using the standard efficiency measure, cost per dollar outstanding (5), the low-end lender looks bad by comparison, but this is a meaningless result given the difference in loan sizes. The low-end lender's efficiency looks better when presented as (6) cost per loan outstanding.²⁶

²⁶ The dynamic would be the same if cost per borrower were used instead of cost per loan.

Table 2. Two measures of efficiency

	Low-End MFI	High-End MFI
1. Avg number of active loans	100,000	10,000
2. Avg outstanding loan size	\$200	\$2,000
3. Avg loan portfolio [(1) x (2)]	\$20 million	\$20 million
4. Operating expense	\$4 million	\$2 million
5. Cost per dollar o/s [(4) ÷ (3)]	20 %	10 %
6. Cost per loan o/s [(4) ÷ (1)]	\$40	\$100

But using this latter measure makes the high-end lender look worse. Are its managers really less efficient? No: making a *single* large loan does tend to cost more than making a *single* small loan—for instance, the larger loan may require additional analysis or a more skilled loan officer. The point is that as loan size increases, operating cost per loan also increases *but at a less than proportional rate*. This leaves us with the same statement that we made at the beginning of the paper: it usually costs more to lend and collect *a given amount of money* in many small loans than in fewer big loans.

Now let us return to our efficiency comparison between regulated and unregulated microlenders. The cost-per-dollar measure we used in [Table 2](#) made it look as if the unregulated lenders were less efficient, and that their efficiency was actually getting worse. But if efficiency is taken as a measure of management quality, the comparison is unfair, because unregulated loan sizes average roughly half of regulated loan sizes, and are getting smaller over time.²⁷ [Figure 16](#) uses cost per loan, which can be a more useful measure of the evolution of efficiency over time. This presentation suggests a probability that cost management in the unregulated microlenders is actually improving.²⁸

Turning back to target market peer groups ([Figure 17](#)), we see that by a cost per loan metric, low-end lenders no longer look relatively inefficient, and their average cost levels have been quite stable in relation to per capita income. At the other end of the spectrum, high-end lenders show improved efficiency since 2005 (though some of this is probably a result of their declining average loan sizes).

Some readers may have found this discussion of efficiency measures annoyingly convoluted. By way of apology, we offer instead a simple take-home message: be

²⁷ See [Figure 20](#).

²⁸ How can unregulated MFIs' operating cost be improving in relation to the number of loans, while at the same time it is getting worse in relation to the amount of the loan portfolio? Both of these can happen because loan sizes in the unregulated MFIs have been dropping.

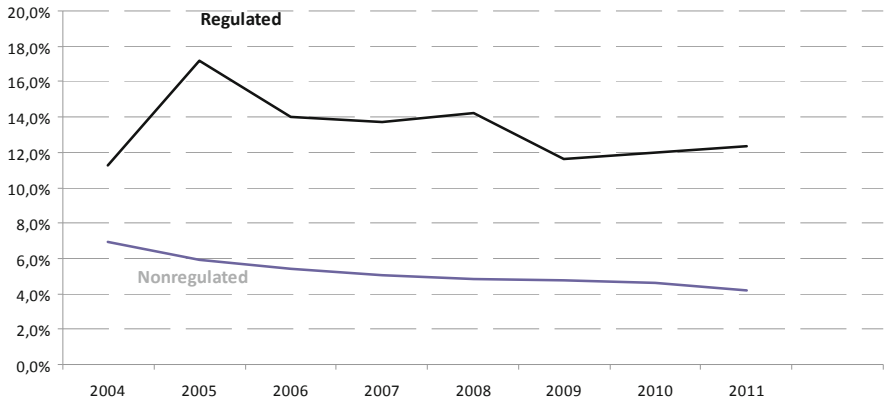


Fig. 16. Cost per Loan by Regulatory Status, 2004–2011

Note: Operating costs/number of active loans averaged over the year and expressed as % of per capita gross national income.

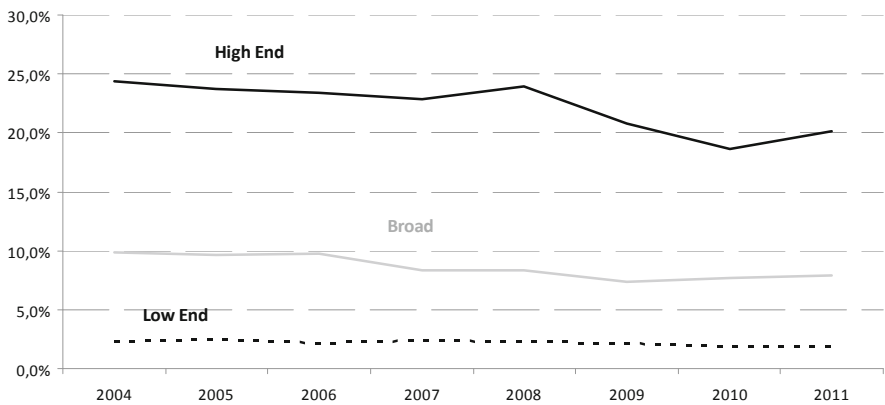


Fig. 17. Cost per Loan by Target Market, 2004–2011

Note: Operating costs/number of active loans averaged over the year and expressed as % of per capita gross national income.

very cautious when using either efficiency measure—cost per dollar or cost per loan—to compare the cost-control skills of managers of different institutions.

4.2 Mission Drift; Savings Mobilization

As more and more of the microcredit portfolio moves into regulated banks and other for-profit institutions, a common concern is that these commercialized microlenders will lose their focus on poor customers and gradually shift to larger (and supposedly more profitable) loans. However, it is hard to find support for this

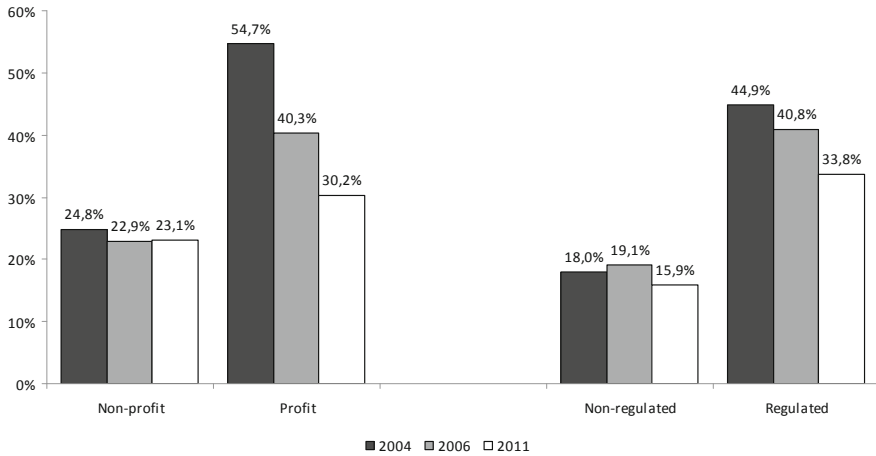


Fig. 18. Average Loan Size 2004–2011, by Regulated and For-Profit Status

Note: Annual average of loan portfolio divided by annual average of numbers of active loans, expressed as % of per capita gross national income, weighted by loan portfolio.

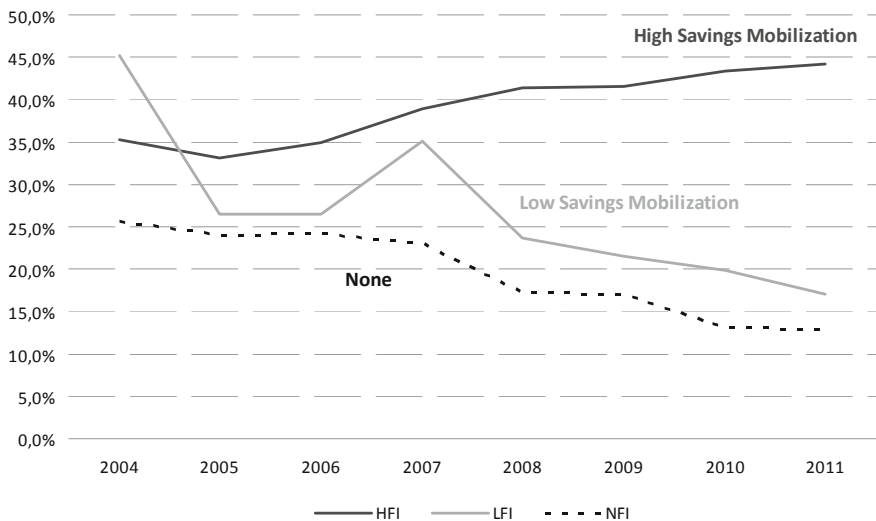


Fig. 19. Average Loan Size by Degree of Voluntary Savings Mobilization, 2004–2011

Note: Annual average of loan portfolio divided by annual average of numbers of active loans, expressed as % of per capita gross national income, weighted by loan portfolio. “High” means voluntary savings >20 % of total assets, “low” means <20 %, “none” means 0 %.

concern in the MIX data. To begin with, the assumption that larger loans will tend to be more profitable doesn't appear to be true, as we will see in the following section when we discuss lenders' profits. In fact, the average loan size in for-profit and regulated MFIs has been dropping steadily since 2004 (Figure 18).^{29,30} This doesn't necessarily mean that concerns about mission drift are unfounded. But if commercialization is producing mission drift, that mission drift does not seem to be playing itself out in any widespread shift to larger loans.

Not surprisingly, smaller (and presumably poorer) borrowers tend to have less access to deposit services from their microlenders. Figure 19 shows that loan sizes are much higher in institutions that offer significant voluntary savings services than in institutions that offer little or no voluntary savings. What is more, loan size is climbing in the former but shrinking in the latter.³¹

5 Profits

Profit is a residual: the difference between income and expense. In financial institutions, net profit is often measured as a percentage of assets employed or as a percentage of the shareholder's equity investment.

5.1 Profits in Perspective

Before looking at level and trend of MFI profits, we first clarify profit's impact on the borrower. Microcredit profits are so controversial that it can be easy to overestimate how much they affect the interest rates that borrowers pay. Figure 20 shows how much microcredit interest rates would drop if all lenders chose to forgo any return on their owner's investment—an extreme supposition indeed. The impact of profits is not insignificant, but rates would still be very high even without them. Of course, this figure presents average results: there are many microlenders whose profits constitute a larger percentage of the interest that they charge.

Notably, the impact of profit on interest rates is falling. Profit as a percentage of interest income declined fairly steadily from about 20 percent in 2004 to about 10 percent in 2011.

²⁹ The same pattern shows up in data using a consistent panel of MFIs, so this result is not driven by entry of new MFIs into the for-profit or regulated peer groups.

³⁰ We repeat here our earlier warning that the correlation between loan size and client poverty is very rough, especially when applied to changes over time in an MFI.

³¹ Alert readers may note that the two findings in this subsection (**Mission drift; savings mobilization**) don't have much to do with operating costs, or indeed with any aspect of interest rates. But we thought they were interesting anyway.

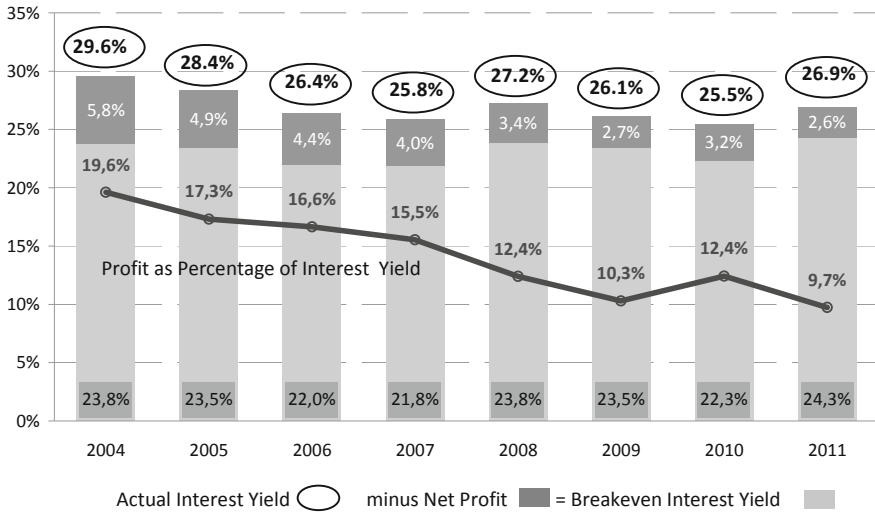


Fig. 20. Impact of Profit on Global Interest Rates, 2004–2011

Note: Profit (net income – taxes) is calculated as a % of GLP; all results weighted by GLP.

5.2 Level and Trend of Microlender Profits

Profit levels in the industry vary widely (Figure 21). In 2011, about a quarter of microlenders earned annual returns greater than 20 percent on shareholders' investment. About 5 percent produced profits higher than 40 percent. In 2011, out of a total sample of 879 MFIs, 44 had returns on equity higher than 40 percent, and only seven of those were significant lenders with over 100,000 clients.

At the other end of the spectrum, plenty of microlenders lost money, especially in Africa and in South Asia (where some lenders working in Andhra Pradesh had a very bad year).

Of the various components of interest rates, profits are the most controversial. Some think that a microlender has no right to claim it is pursuing a “social” mission if it is extracting profit, or anything beyond a very modest profit, from its services to poor clients. Others argue that high profits will encourage innovation and faster expansion of services, and that competition will eventually squeeze out excesses. It is very hard to parlay empirical data into a quantification of a “reasonable” profit level for microcredit, and we will not attempt to do so here.³² We limit ourselves to comparing the average profitability of microlenders with that of commercial banks (Figure 22).

³² The Social Performance Task Force has tried to address standards of reasonableness for microfinance profits, but does not seem close to being able to define any quantitative benchmarks for evaluating appropriate returns, even for organizations that profess to have a “double bottom line.” See, e.g., <http://sptf.info/sp-task-force/annual-meetings>

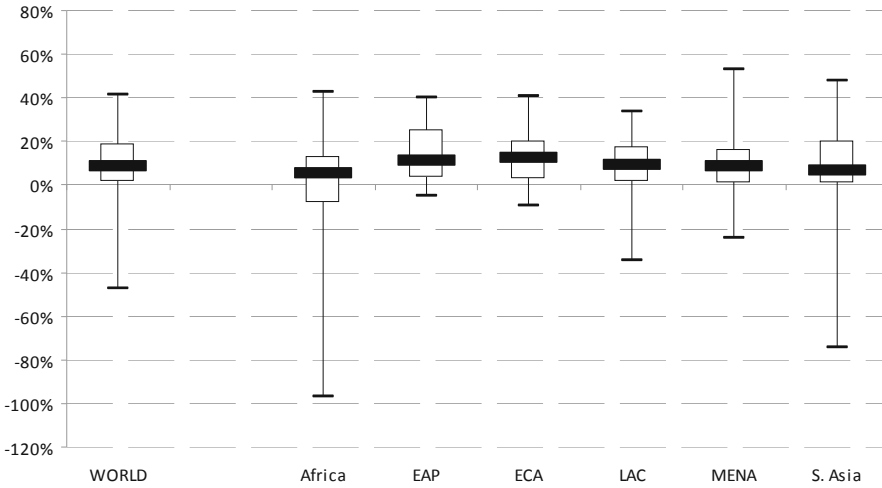


Fig. 21. Return on Average Equity 2011, World and Regions

Note: After-tax net profit as % of average shareholders’ equity or nonprofit net worth, unweighted. The thick horizontal bars represent medians; the top and bottom of the white boxes represent the 75th and 25th percentiles, respectively; and the high and low short bars represent the 95th and 5th percentiles, respectively.

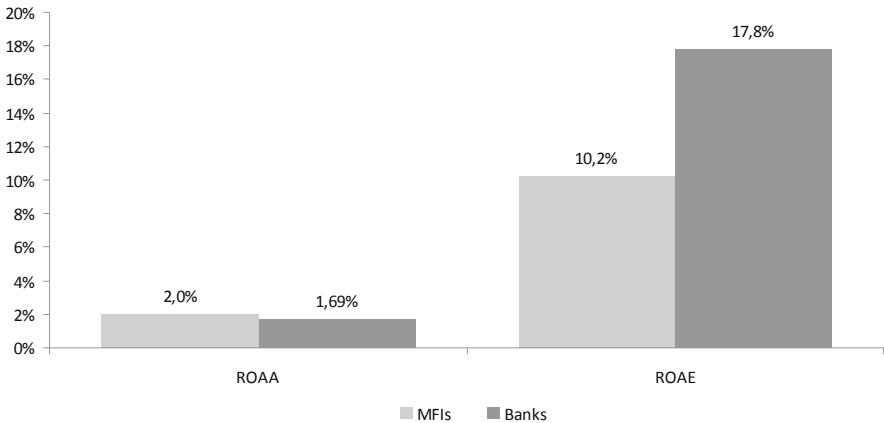


Fig. 22. 2011 Profits—MFI vs Commercial Bank, Returns on Average Assets and Equity

Note: MFI data from MIX. Bank data from BankScope, including only those countries where MIX MFIs are present. Country-by-country results weighted by MFI GLP.

When measured against assets, profit is slightly higher on average for microlenders than for banks in the same countries. But compared with microlenders, commercial banks have more scope to leverage their capital structure: that is, they fund more of their assets with other people’s money—deposits and borrowings—

rather than with their own equity. As a result, microlenders, despite their higher returns on assets, tend to do markedly less well than banks in producing returns on their owners' equity investments.

When we look at overall trends in MFI profitability, it is useful to disaggregate India (Figure 23), a huge market where some institutions had disastrous years in 2010 and especially 2011, due to the crisis in Andhra Pradesh. If India is included, average profits show a pronounced decline from 2004 to 2011. If India is excluded, the average level of profits is much lower, but the rate of decline is less.

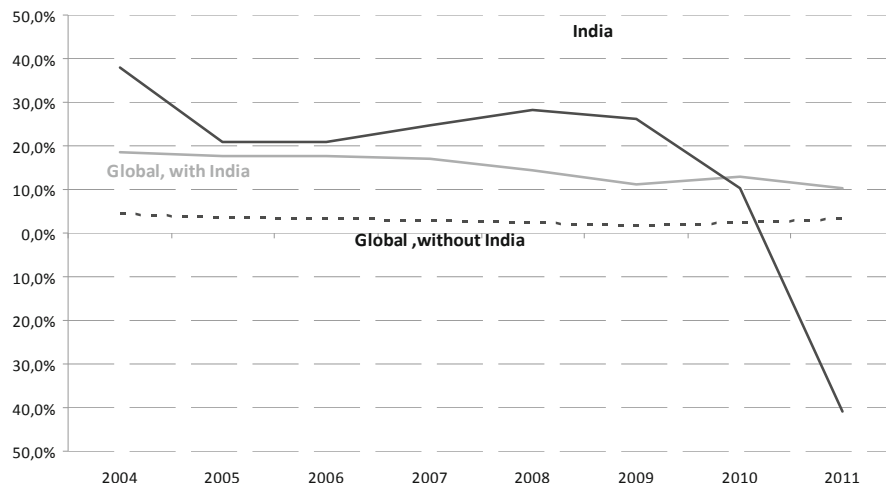


Fig. 23. Global Return on Average Equity, with and without India, 2004–2011

Note: After-tax net profit as % of average shareholder's equity, weighted by equity.

International investment funds that funnel commercial and quasi-commercial money to microlenders have not generated impressive results: annual returns peaked at about 6 percent in 2008 but have languished between 2 percent and 3 percent in 2009–2011 (Lützenkirchen 2012). Returns have been well below what the funds could have earned by investing, for instance, in commercial banks.

5.3 Peer Group Analysis

Unremarkably, for-profit microlenders produce higher returns on equity than non-profit MFIs, except for 2010–2011, when the performance of Indian for-profits dragged the group down (Figure 24).

More surprisingly (to some, at least), low-end lenders on average have been distinctly more profitable than broad-market or high-end lenders, except for 2011, when most of the Indian institutions that took a beating were ones that served low-end markets.

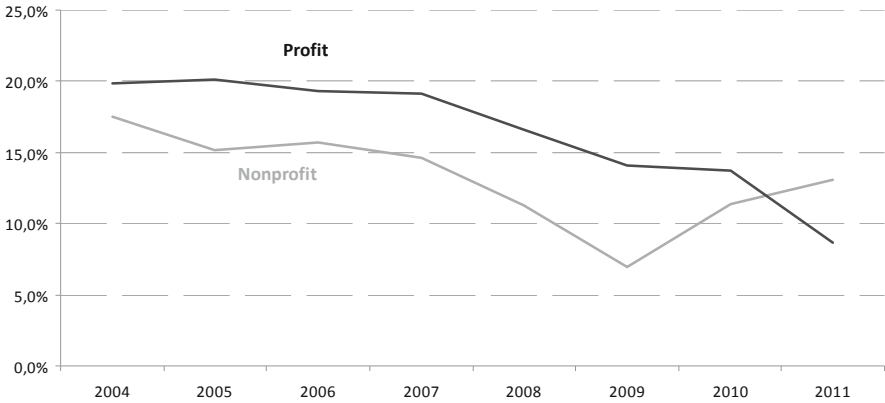


Fig. 24. Return on Equity by For-Profit Status, 2004–2011

Note: Return on average shareholders’ equity, weighted by equity.

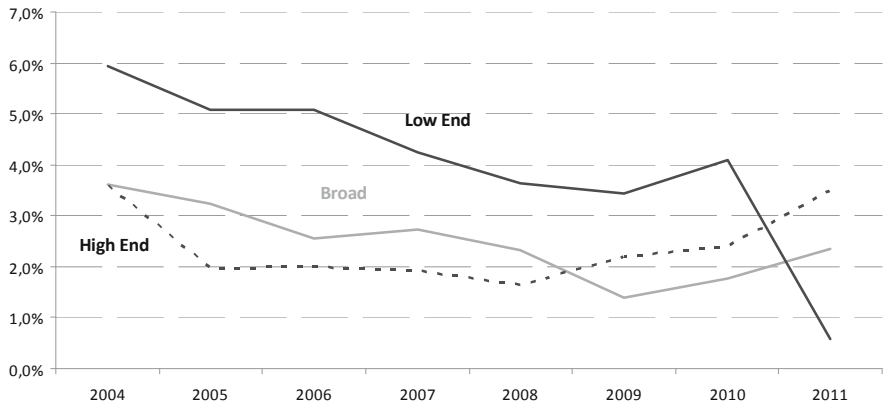


Fig. 25. Profitability of Assets by Market Segments, 2004–2011

Note: Return on average assets, weighted by assets.

6 Overview and Summary

Having broken interest yield into its main components, we now reassemble them in [Figure 26](#), which presents their evolution from 2004 to 2011.³³ What happened over the period, *on average*, is that

³³ In both years, the components add up to slightly more than the interest income from the loan portfolio. The discrepancy is the result of taxes as well as other income not from the loan portfolio, neither of which are represented among the components. The dis-

- Operating expenses declined as microlenders became more efficient,
- Financial expenses grew significantly as microlenders took on more commercial funding,
- Loan losses increased (probably by more than the unadjusted amount shown here), and
- Profits dropped, with the result that
- Interest yield dropped by 2.7 percentage points over the period.

We saw earlier (Figures 3 and 12) that most of the decline in operating costs and interest yields occurred early in the period.

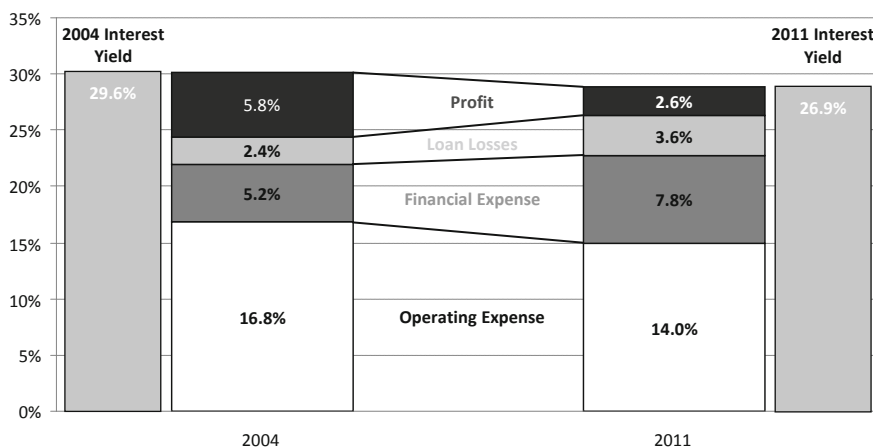


Fig. 26. Drivers of Interest Yields, as % of Yield, 2004–2011

Note: All data as percentage of average GLP, weighted by GLP.

Here by way of review are some of the other main conclusions of this paper:

Interest Rates

- MFIs’ nominal interest yield averaged about 27 percent in 2011, having declined in 2004–2007, but not in 2007–2011.
- Rates have been rising for microlenders focused on low-end borrowers.
- Rates have dropped for banks and other regulated microlenders, but risen for NGOs and other unregulated microlenders.

crepancy is bigger in 2011 mainly because MFIs were earning more nonportfolio income then, from investments and from other financial services.

Cost of Funds

- Funding costs have climbed substantially as microlenders fund more of their portfolio from commercial borrowing.
- Funding costs have risen most for microlenders serving the low-end clientele.
- So far at least, voluntary savings mobilization has not necessarily lowered funding costs.

Loan Losses

- Two large markets, India and Mexico, have seen sharp rises in bad loans in recent years; but average loan losses for the rest of the world have been fairly steady.
- Analytical loan loss adjustments by MIX suggest that the 2011 financial statements of some Indian microlenders may have substantially underestimated their probable loan losses, creating an overhang that may continue to depress their profitability in subsequent years.

Operating Expenses

- Operating cost is the largest determinant of interest rate levels.
- The decline of average operating expense (i.e., improvement in efficiency) has slowed recently, though trends differ by region. Since 2006, cost per dollar outstanding has dropped rapidly in Africa and EAP, but stagnated or risen in the other regions.
- It remains to be seen whether the plateau in operating costs over the past few years will be followed by further declines, or whether this plateau represents the bottoming out of the learning curve effect.
- Cost per dollar outstanding is the prevalent measure of operating efficiency, but it can be very misleading if used to compare different microlenders in terms of management's effectiveness at controlling costs.
- Average loan size trends do not support a hypothesis of mission drift in commercialized microlenders: over the period, average loan sizes dropped much more among for-profit microlenders and regulated microlenders than among nonprofit and unregulated microlenders.
- Not surprisingly, low-end microborrowers have considerably less access to savings services than high-end microborrowers.

Profits

- The percentage of borrowers' interest payments that went to microlender profits dropped from about one-fifth in 2004 to less than one-tenth in 2011.
- Microlenders' returns on assets average slightly higher than commercial bank returns, but microlenders average much lower than commercial banks in producing returns on shareholders' investment.
- Microlender returns to shareholders' equity dropped substantially over the period; much but not all of this drop is due to severe recent problems in the Indian state of Andhra Pradesh.
- Low-end markets were substantially more profitable than others during the period, except for 2011 where low-end microlender profits were depressed by the Andhra Pradesh crisis.

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Annex: Data and Methodology

By Scott Gaul

What Data Did We Use?

Data for this analysis was drawn from the MIX Market database for the years 2004–2011. Yield data is not widely available before 2004 in the database. Institutions were dropped from the analysis if data were not available for all of the indicators used in the analysis, to ensure that differences in indicators are not due to differences in the samples for those indicators.

In total, the dataset consists of 6043 observations for 48 variables for 2004–2011 (including descriptive information about the institution—name, country, legal status). The full data set includes any institution that provided data in a given year, subject to some exclusions described below. Consequently, this dataset reflects both changes in the market—from the entry and exit of participants—as well as changes in the voluntary reporting of data to MIX Market. For summary statistics, we feel that this dataset still provides an accurate read on the relative levels of interest rates in a given market at a given point in time, as well as the changes over time.

In addition, a balanced panel data set is also used for some analysis. In the balanced panel, only institutions that provide data for all years of the period are included. Thus, changes in indicators for the panel data are due to changes at those institutions, not changes in the composition of a peer group or market. The longer the period used for the panel dataset, the fewer institutions make the cut. We chose a five-year panel, covering 2007–2011, which let us use 456 institutions. We used the panel data mainly as a cross-check against results from the full data set.

We tried to focus as much as possible on microlenders whose mission included financial sustainability, because we are exploring links between interest charges and the cost components that largely determine those charges. Those links are weakened in lenders that have access to large continuing subsidies.³⁴ This focus, along with data availability issues, led us to exclude a few large lenders from the dataset.

- BRI. We left Bank Rakyat Indonesia (BRI) out of the analysis because it blends microcredit with a significant portfolio of commercial lending activity, but does not provide the disaggregated revenue and expense data that would be necessary for the analysis in this paper.

³⁴ One problem with large subsidies is that they can substantially distort the operational picture presented by a lender's financial statements if—as is common—the subsidies are not correctly segregated as nonoperating income. More generally, we wanted this paper to focus mainly on the vast majority of MFIs that have to respond to market conditions and costs.

- Harbin Bank. Harbin is a large Chinese bank with a massive microcredit portfolio (in 2011 Harbin alone had 19 percent of global portfolio in MIX's dataset). MIX Market has only two years of data for Harbin Bank. Given the potential distortion of trend data, as well as uncertainty about its activities and mission, we did not include Harbin in the final dataset.
- PSBC. Postal Savings Bank of China (PSBC) is a large microlender in China. As with Harbin Bank, the scale of its activities (GLP of US\$14 billion in 2011) has a significant influence on global figures and any peer groups in which it is included, but MIX has no data on PSBC before 2010, and the data have only a one-star quality ranking. In addition, the government linkage increases the likelihood of subsidized pricing.
- VBSP. Vietnam Bank for Social Policy (VBSP) is a large state bank that receives substantial government subsidies. Interest rates at VBSP are well below what would be needed to cover costs, so we also dropped it given its influence on global and regional results.³⁵

We also excluded a few other institutions whose interest income, as well as substantial continuing losses, strongly suggested a policy of subsidized pricing and absence of an intent to reach financial sustainability. These institutions are so small that their treatment does not materially affect our results.

MIX applies a set of standard adjustments to MFI data.³⁶ By default, data used in the paper are unadjusted. Since the adjustments require several data points as inputs, the sample for unadjusted data is larger than for adjusted data (covering 4389 observations, in this case). In addition, adjusted data are not disclosed for individual MFIs on the MIX Market site, while unadjusted data are. Thus, the analysis from this paper can be largely replicated by users of the MIX Market site for unadjusted data. When adjusted data are used in the paper, they are explicitly referenced as such.

Peer groups were calculated from MIX Market data based on the definitions below. For each peer group, the count (number of observations), median, minimum, maximum, simple average, and weighted average are reported. Weighted averages are computed using the denominator of the ratio, unless indicated otherwise. For instance, return on (average) equity is weighted by the average equity when aggregated. Medians and weighted averages are the most frequently used metrics in the paper. Informally, medians describe the “typical MFI” since they report data

³⁵ One problem with large subsidies is that they can substantially distort the operational picture presented by a lender's financial statements if—as is common—the subsidies are not correctly segregated as nonoperating income. More generally, we wanted this paper to focus mainly on the vast majority of MFIs that have to respond to market conditions and costs.

³⁶ For description of MIX's adjustments, see <http://www.themix.org/sites/default/files/Methodology%20for%20Benchmarks%20and%20Trendlines.pdf>

on the MFI at the 50th percentile of the distribution. Weighted averages describe something closer to what is “typical” for clients since larger institutions serve more clients and also receive more weight in the results. Calculations for both match the methods used on MIX Market.

The data files on which the paper is based can be found at <http://microfinance-business-solution.mixmarket.org/rs/microfinance/images/InterestRatePaperSupportingData.zip>. Most of the data re displayed in Excel pivot tables, which make it easy to conduct detailed analysis of individual country markets as well as any other peer group of interest.

Definitions of Indicators, Peer Groups, and Loan Loss Provision Adjustments

Indicator	Derivation
Average loan size	Average gross loan portfolio / average number of active loans
Cost of funds	Financial expense / liabilities
Cost per loan	Operating cost / average number of active loans
Gross loan portfolio	Total outstanding balance on all active loans
Interest yield (nominal)	All interest and fee revenue from loans / average gross loan portfolio
Interest yield (real)	Nominal interest yield adjusted for inflation
Loan loss expense	Net annual provision expense for loan impairment / average gross loan portfolio
Operating expense ratio	Total operating (i.e., personnel and administrative) expense / average gross loan portfolio
Return on average assets	(Net operating income – taxes) / average assets
Return on average equity	(Net operating income – taxes) / average equity

MIX Peer Groups

Group	Categories	Criteria
Age	New	1 to 4 years
	Young	5 to 8 years
	Mature	More than 8 years
Charter Type	Bank	
	Credit Union	
	NBFI	
	NGO	
	Rural Bank	

Group	Categories	Criteria
Financial Intermediation (FI)	Non FI	No voluntary savings
	Low FI	Voluntary savings < 20 % of total assets
	High FI	Voluntary savings > 20 % of total assets
Lending Methodology	Individual	
	Solidary Group	
	Individual/Solidarity	
	Village Banking	
Outreach	Large	Number of borrowers > 30.000
	Medium	Number of borrowers 10,000 to 30.000
	Small	Number of borrowers < 10,000
Profit Status	For Profit	Registered as a for profit institution
	Not for Profit	Registered in a non-profit status
Region	Africa	Sub-Saharan Africa
	Asia	South Asia and East Asia and the Pacific
	ECA	Eastern Europe and Central Asia
	LAC	Latin America
	MENA	Middle East and North Africa
Scale (Gross Loan Portfolio in USD)	Large	Africa, Asia, ECA, MENA: > 8 million; LAC: >15 million
	Medium	Africa, Asia, ECA, MENA: 2 million – 8 million LAC: 4 million – 15 million
	Small	Africa, Asia, ECA. MENA: < 2 million LAC: < 4 million
Sustainability	Non-FSS	Financial Self-sufficiency < 100 %
	FSS	Financial Self-sufficiency = 100 %
Target Market (Depth = Avg. Loan Balance per Borrower/GNI per Capita)	Low end	Depth < 20 % OR average loan size < USD 150
	Broad	Depth between 20 % and 149 %
	High end	Depth between 150 % and 250 %
	Small business	Depth over 250 %

Loan Loss Adjustments

MIX's policy on analytical adjustment of loan loss provisioning is found at <http://www.themix.org/sites/default/files/Methodology%20for%20Benchmarks%20and%20Trendlines.pdf>:

“Finally, we apply standardized policies for loan loss provisioning and write-offs. MFIs vary tremendously in accounting for loan delinquency. Some count the entire loan balance as overdue the day a payment is missed. Others do not consider a loan delinquent until its full term has expired. Some MFIs write off bad debt within one year of the initial delinquency, while others never write off bad loans, thus carrying forward a defaulted loan that they have little chance of ever recovering.

We classify as ‘at risk’ any loan with a payment over 90 days late. We provision 50 percent of the outstanding balance for loans between 90 and 180 days late, and 100 percent for loans over 180 days late. Some institutions also renegotiate (refinance or reschedule) delinquent loans. As these loans present a higher probability of default, we provision all renegotiated balances at 50 percent. Where ever we have adequate information, we adjust to assure that all loans are fully written off within one year of their becoming delinquent. (Note: We apply these provisioning and write-off policies for benchmarking purposes only. We do not recommend that all MFIs use exactly the same policies.) In most cases, these adjustments are a rough approximation of risk. They are intended only to create an even playing field, at the most minimal of levels, for cross institutional comparison and benchmarking. Nevertheless, most participating MFIs have high-quality loan portfolios, so loan loss provision expense is not an important contributor to their overall cost structure. If we felt that a program did not fairly represent its general level of delinquency, and we were unable to adjust it accordingly, we would simply exclude it from the peer group.”