

## DESCRIPTION OF MICROCREDIT INTEREST RATE IN MICROFINANCE INDUSTRY

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**Key words:** microfinance institutions, interest rate, effective interest rate, nominal interest rate, microfinance sustainability.

### Abstract

*The microfinance industry in Eastern Europe and Central Asia is evolving rapidly, with more and more competition in the market. Credit providers are becoming more and more concerned with their market competitors, which increasingly include banks down scaling their operations to the microfinance sector in most countries in the region, as well as more traditional providers such as MFIs and Credit Unions. In many countries, microfinance has become more competitive in recent years. Competition is generally expected to benefit consumers by offering a wider choice of appropriate products and providers, better service, and lower prices. However, in some countries where microfinance is considered competitive, interest rates on microloans have remained stubbornly high. As a result of limited product diversification, market players are forced to start looking for ways to create competitive advantage and the customer service issue pops up as the most important factor influencing people to cooperate with one or another institution.*

### INTRODUCTION

In today's microfinance industry, there is still some debate about whether and when long-term subsidies might be justified in order to reach particularly challenging groups of clients. But there is now widespread agreement, within the industry at least, that in most situations MFIs ought to pursue financial sustainability by being as efficient as they can and by charging interest rates and fees high enough to cover the costs of their lending and other services.

Nevertheless, accepting the importance of financial sustainability does not end the discussion of interest rates, and where to draw the line is a complex issue. An interest charge represents money taken out of clients' pockets, and it is unreasonable if it not only covers the costs of lending but also deposits "excessive" profits into the pockets of an MFI's private owners. Even an interest rate that only covers costs and includes no profit can still be unreasonable if the costs are excessively high because of avoidable inefficiencies.

Obviously, the answer for a given MFI depends on its particular circumstances. Now, can we say anything about the overall picture worldwide? Individual observers will have their own criteria for judging what is excessive, but empirical data do shed important light on the question:

- The very high rates that get so much publicity are rare: for instance, less than 1 percent of microborrowers worldwide pay rates as high as the 85 percent for which it has been pilloried. In fact, the median rate for 2006 was about 26 percent.
- Very high profits for MFIs are uncommon; the median profit on MFI owners' equity was about 12 percent in 2006, compared with 18 percent for banks.
- MFI interest rates have been dropping fast—about 2.3 percentage points a year in 2003-2007, probably due to some combination of learning curve and competition. Commercial bank interest rates have dropped, too, but far less.

- Underlying that drop in interest rates are drops in administrative costs (about one percentage point per year) and profits (about 0.6 percentage points per year).

There is strong empirical support for the commonsense notion that it is inevitably more expensive to make many tiny loans than to make a few large ones.

### MATERIAL AND METHOD

The global average interest rate is about 35 percent, but the average in Mexico is above 60 percent and in Sri Lanka is below 20 percent, in Republic of Moldova is above 30 %. Small loan sizes are the most commonly cited reason why microcredit rates are higher than normal bank rates: microcredit is a "high-touch" business, and MFIs have to process thousands of tiny transactions.

But here's a diagram of MFIs in 33 countries, showing pretty clearly that loan size by itself doesn't explain the differences between their average interest rates.

We see several other dynamics at work:

- **Operating costs** can be pushed up by factors other than loan size, such as geographic dispersion of rural borrowers, or an unusually expensive labor market, both of which affect costs in Mexico. Age of the MFI is another factor. Surprisingly, scale doesn't seem to make much difference: statistical analysis by the MIX shows that economies of scale tend to level off after the MFI gets its first 2,000 or so clients.
- **Political pressure can make a difference.** Some countries impose a legal cap on interest rates to keep them "affordable," even though this may restrict the availability of microloans. In other countries (like Ethiopia), the government provides a lot of microfinance at very low rates, and MFIs feel political pressure to do the same.
- **Management objectives differ.** In countries like Bangladesh, managers felt that high interest rates were

inconsistent with their social mission, and consequently set rates at levels that would produce very little profit, at least in the early years. In Latin America, many MFIs thought that attracting commercial capital was the best way to expand their social outreach, and wanted higher profits to attract such capital. We are now seeing players in microfinance—only a few so far—whose objective is profit, pure and simple: of course, such investors want interest income to be as high as possible.

- **Competition gives borrowers choices**, which puts downward pressure on interest rates, forcing MFIs to become less profitable and/or more efficient. This is clearly happening in some places—e.g., Bolivia, where interest rates have dropped from 60 percent in the early 1990s to about 17 percent now.
- **Financial Literacy of clients**: When clients understand the costs for the product they are in a much better position to compare and better rates are the result.
- **Cultural factors** to do with the relationship with the financial service provider - other than the loan: Some clients receive benefits that are not calculated in loan terms.

The problem is that administrative costs are inevitably higher for tiny microlending than for normal bank lending. For instance, lending \$100,000 in 1,000 loans of \$100 each will obviously require a lot more in staff salaries than making

institution is follow: **The annualized effective interest rate (EIR)** charged on loans will be a function of five elements, *each expressed as a percentage of average outstanding loan portfolio*: administrative expenses (**AE**), loan losses (**LL**), the cost of funds (**CF**), the desired capitalization rate (**K**), and investment income (**II**):

$$EIR = \frac{AE + LL + CF + K - II}{1 - LL}$$

All calculations should be done in local currency, except in the unusual case where an MFI quotes its interest rates in foreign currency. A basic financial calculator is sufficient to handle the necessary computations. The user enters the known loan variables, and the calculator computes the remaining variable:

**PV** Present Value, the net amount of cash disbursed to the borrower at the beginning of the loan

**I** Interest Rate, which must be expressed in the same time unit as n, below

**N** Term, or number of periods, of the loan.

**PMT** Payment made each period.

**FV** Future Value, the amount left in the client's hands after the loan is repaid, which is usually zero except in the case of

**Base case — Declining Balance**: Loan amount is \$1,000, to be repaid in 4 equal monthly payments of principal and interest. Stated interest rate is 36% per year, or 3% per

|                                     |                                                                                                                                                                                                                                                                                                                                                                          |
|-------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Nominal interest rate</b>        | A nominal rate is the stated rate to be paid on a loan contract, usually stated as a monthly or annual percentage. It does not take into account related loan fees, commissions, and other expenses.                                                                                                                                                                     |
| <b>Effective interest rate</b>      | An effective rate converts all financial costs (e.g., interest, fees, and commissions) into a declining-balance interest calculation for the repayment period. The effective rate represents the financial cost to the borrower if no mandatory savings are required. It includes all financial charges as a percent of the loan amount used during each payment period. |
| <b>Annual percentage rate (APR)</b> | An APR is the effective interest per payment-period rate multiplied by the number of payment periods in a year.                                                                                                                                                                                                                                                          |
| <b>Real interest rate</b>           | A real interest rate adjusts the interest rate to reflect the rate of inflation. A negative real rate implies that the rate of interest charged falls below the inflation rate. The term "positive rates of interest" is often used to mean that the rate is set above inflation.                                                                                        |

Table 1. Interest Rates: Key Concepts and Definitions

Sources: CGAP Study MFI rates: Country study; Inflation and banking lending rates: IMF International Financial Statistics, [www.imfstatistics.org/imf/logon.aspx](http://www.imfstatistics.org/imf/logon.aspx)

a single loan of \$100,000. Consequently, interest rates in sustainable microfinance institutions (MFIs) have to be higher than the rates charged on normal bank loans.

As a result, MFIs that claim to be helping poor people nevertheless charge them interest rates that are substantially higher than the rates richer borrowers pay at banks. No wonder this seems wrong to observers who do not understand, or do not agree with, the argument that MFIs can usually serve their poor customers best by operating sustainably, rather than by generating losses that require constant infusions of subsidies.

## RESULTS AND DISCUSSIONS

Four main components are reflected in an MFI's interest rate: cost of funds, loan loss expenses, operating expenses, and profits. In this section, we break out these components and discuss how they may affect interest rate trends. MFIs use their interest income to cover costs, and the difference between income and costs is profit (or loss). The pricing formula, which is proposed to be used in microfinance

month, calculated on declining balances— i.e., the interest is charged only on the amount of the loan principal that the borrower has not yet repaid. In this base case, the effective monthly interest rate is the same as the stated rate. Compute Monthly Payment:  $PV = 1000$ ;  $n = 4$ ;  $I = 36 \div 12 = 3$ . Solving for PMT yields a monthly payment of 269.03.

**Alternative 1 — Flat Interest**: Same as Base Case, except that "flat" interest is calculated on the entire loan amount, rather than on declining balances, and is prorated over the four monthly payments. Compute Cash Flows: Total interest is 120 [ $1000 \times 3\% \times 4$  mos.]. Total principal plus interest is 1120 [ $1000 + 120$ ], or 280 each month [ $1120 \div 4$ ]. Compute Effective Interest Rate:  $PV = 1000$ ;  $PMT = -280$ ;  $n = 4$ . Solving for  $i$  yields an effective monthly rate of 4.69%, which is multiplied by 12 for an APR of 56.3%.

**Alternative 2 — Flat, with Up-Front Interest**: Same as Alternative 4 (each period's interest is calculated on entire loan amount), except that all the interest is paid up front at the beginning of the loan. Compute Cash Flows: Total interest

is 120, paid upon loan disbursement. Thus, the borrower's actual net disbursement is 880 [1000 – 120]. Monthly payments of principal are 250 [1000 ÷ 4]. Compute Effective Interest Rate: PV = 880; PMT = –250; n = 4. Solving for *i* yields an effective monthly rate of 5.32%, which is multiplied by 12 for an APR of 63.8%.

**Alternative 3 — Flat, with Up-Front Interest and Fee:** Flat interest is charged on entire loan amount; total interest plus a 3% commission is collected up front, at the time of loan disbursement. Compute Cash Flows: Total interest is 120 [1000 x 3% x 4 mos.]. Net actual disbursement to client is 850 [1000 – interest of 120 – commission of 30]. Monthly payments are 250 [1000 ÷ 4]. Compute Effective Interest Rate: PV = 850; PMT = –250; n = 4. Solving for *i* yields an effective monthly rate of 6.83%, which is multiplied by 12 for an APR of 82.0%.

**Alternative 4 — Flat, with Up-Front Interest and Fee, and Compulsory Savings:** Same as Alternative 6, except that the client is required to make a savings deposit of 50 along with each month's payment. The savings account yields interest of 1% per month, un compounded, and is available to the client for withdrawal at any time after the end of the loan. Compute Cash Flows: Total interest is 120 [1000 x 3% x 4 mos.]. Net actual disbursement to client is 850 [1000 – interest of 120 – commission of 30]. Monthly payments are 300 [prin. of 1000 ÷ 4, plus savings payment of 50]. At the end of the loan, the savings account yields the client a future value of 203 [200 in deposits plus interest of 0.50 for the second month (during which the savings account has a balance of 50), 1.00 for the third month (during which the account has a balance of 100), and 1.50 for the fourth month (during which the account has a balance of 150)]. Compute Effective Interest Rate: PV = 850; PMT = –300; n = 4; FV = 203. Solving for *i* yields an effective monthly rate of 7.67%, which is multiplied by 12 for an APR of 92.0%.

Lowering interest rates would require lowering one of the four components on the right side of the equation.

#### **Administrative expenses (AE)**

- Tiny loans do require higher administrative expenses, which are not substantially offset by economies of scale. On the other hand, the learning curve of MFIs as they age produces substantial reductions.
- Administrative costs, at about 11 percent of loan portfolio in 2006, are the largest single contributor to interest rates, but they have been declining by 1 percentage point per year since 2003. This decline appears to be a true improvement in the cost of serving each borrower, not just the result of expanding loan sizes.
- We have no statistical way to quantify how much avoidable fat remains to be trimmed from MFI operating costs. Given the finding about the learning curve—i.e., that the level of these costs is strongly related to the age of the MFI—it would be unrealistic not to expect substantial inefficiency at a time when most MFIs are relatively young, and when most national microfinance markets are immature and noncompetitive. We are unaware of any evidence to suggest that MFIs in general are out of line with the normal evolution of efficiency

for businesses in such markets.

#### **Cost of funds (CF)**

- MFIs have to pay more than banks pay when they leverage their equity with liabilities, and their cost of funds as a percentage of loan portfolio (about 8 percent) showed no sign of dropping in 2003–2006. But it is hard to criticize MFI managers for their funding costs, because they don't usually have much control over these costs, in the medium term at least.

#### **Loan losses (LL)**

- MFI interest rates are not being inflated by unreasonable loan losses. In fact, default rates are very low—about 1.9 percent in 2006.

#### **Capitalization Rate (K):**

- This rate represents the net real profit—over and above what is required to compensate for inflation—that the MFI decides to target, expressed as a percentage of average loan portfolio (not of equity or of total assets). Accumulating such profit is important. The amount of outside funding the MFI can safely borrow is limited by the amount of its equity. Once the institution reaches that limit, any further growth requires an increase in its equity base. The best source for such equity growth is internally generated profits. The rate of real profit the MFI targets depends on how aggressively its board and management want to grow. To support long-term growth, a capitalization rate of at least 5–15% of average outstanding loan portfolio is arguably advisable.

#### **Investment Income Rate (II):**

- The final element to be included in the pricing equation—as a deduction, in this case—is the income expected from the MFI's financial assets other than the loan portfolio. Some of these (e.g., cash, checking deposits, legal reserves) will yield little or no interest; others (e.g., certificates of deposit) may produce significant income. This income, expressed as a decimal fraction of loan portfolio, is entered as a deduction in the pricing equation.

#### **Competition**

This general expectation about competition's effect on pricing is qualified by the recognition that markets evolve and that the competitive behavior of firms will evolve as well. For example, competitive behavior is likely to be quite different in a new, fast-growing market than in a mature, saturated market. A conventional view of market development outlines four distinct phases (Tab. 1).

**Phase 1: Pioneer.** In the first phase of market development, a new product may be brought to market by one or, at most, a few providers, each with limited reach. Competition in this phase is limited to placing distribution points in new areas before others reach them.

**Phase 2: Take-off.** The visible success of early pioneers leads other firms to quickly enter into the market, and the market moves into the second phase. As volume and visibility of the product grow, firms compete primarily by improving products to better suit customers and by enhancing service levels. However, the market is still mainly supply driven. Incumbent firms are usually more willing to alter

## CONCLUSIONS

other aspects of their product than to reduce their price, and often they may not yet have the scale or cost structure they need to sustain lower prices. On the demand side, consumers may be unable to compare offerings in terms of price because products are not yet standardized.

**Phase 3: Consolidation.** As a result of rapid growth in the second phase, the market as a whole starts to show signs of saturation at the prevailing price level. Growth may start to slow, and the market enters a third phase. Growing the market, in this phase, usually means reducing prices to allow new consumers to participate.

**Phase 4: Mature.** After the shakeout of firms with unsustainable, high cost structures, a mature market emerges, with a stable number of firms, and generally grows only as fast as external variables, such as demographics, allow. The firms now compete based on brand, which is the composite embodiment of the customer experience with the service, including all the traditional features of price, place, and product. Average prices may drop further if greater efficiencies are obtained through economies of scale.

MFIs can charge, rates of interest that are much higher than the rates that commercial banks charge to their usual customers. Moreover, it attempted to explain why this result is not particularly surprising. But given that MFIs can charge such rates, the question remains whether they should. Most MFIs are lodged in grant funded non-governmental organizations whose overarching objective is helping the poor, not maximizing profits. And while many poor entrepreneurs can pay high interest rates, it is also clear that some cannot, and are thus excluded from programs that insist on charging interest high enough to cover all costs.

Consistent policies are needed to promote fair competition and create the conditions discussed earlier for lower interest rates to materialize. When these conditions are satisfied, the process of rate decline will start, or accelerate if it is already under way. Such policies may include the following:

- requiring transparent, comparable pricing by providers
- Promoting consumer financial literacy
- Collecting and assessing credible market-level

| Market characteristics | Market phases                                                   |                                              |                                             |                                                  |
|------------------------|-----------------------------------------------------------------|----------------------------------------------|---------------------------------------------|--------------------------------------------------|
|                        | 1. Pioneer                                                      | 2. Take-off                                  | 3. Consolidation                            | 4. Mature                                        |
| Growth in volume       | May be slow                                                     | Rapid                                        | Positive but slowing                        | Steady natural growth                            |
| Number of firms        | One or a few                                                    | Increases rapidly                            | Reduces from peak because of consolidation  | Depends on characteristics of product and market |
| Market structure       | Concentrated                                                    | Fragmented although market leader may emerge | Concentrating; clear market, leaders emerge | Market leaders dominate                          |
| Arenas of competition  | Little competition except as to location of distribution points | Product characteristics                      | Price                                       | Brand (including pricing)                        |

Table 2. Competition through Market Development Phases

Sources: CGAP Study MFI rates: Country study; Inflation and banking lending rates: IMF International Financial Statistics, [www.imfstatistics.org/imf/logon.aspx](http://www.imfstatistics.org/imf/logon.aspx)

However, price differentials between firms may widen, because effective branding may enable premium pricing even for an otherwise similar product. The mature phase is not the end of the story for most markets. Even after reaching maturity, as defined here, technological and business model innovations may upset the prevailing market structure by introducing new competitive behavior, causing the cycle to repeat.

### Comparison with other rates paid by low-income borrowers

- MFI rates were significantly lower than consumer and credit card rates in most of the 36 countries for which we could find rate indications, and significantly higher than those rates in only a fifth of the countries.
- Based on 34 reports from 21 countries, MFI rates were almost always lower—usually vastly lower—than rates charged by informal lenders.
- MFI rates were typically higher than credit union rates in the 10 countries for which data were found. But in the cases where the credit unions offered a specialized microcredit product, their interest charges tended to be the same as, or higher than, prevailing MFI rates. However, it is hard to make much of this information, not only because the sample size is so small, but also because we know little about the comparability of customers and products.

information

- when communications infrastructure allows, developing reliable consumer credit bureaus to allow borrowers to build a good credit record that is accessible to competing lenders.

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