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THE MICROBANKING BULLETIN No. 20



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A publication dedicated to the performance of organizations that
provide banking services for the poor

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SEPTEMBER 2010

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The MicroBanking Bulletin (MBB)

The *MicroBanking Bulletin* is one of the principal publications of MIX (Microfinance Information Exchange, Inc.). MIX is a non-profit company that works to support the growth and development of a healthy microfinance sector. MIX is supported by the Consultative Group to Assist the Poor (CGAP), Citi Foundation, Deutsche Bank Americas Foundation, Omidyar Network, Bill and Melinda Gates Foundation, and others. To learn more about MIX, please visit the website at www.themix.org.

Purpose

By collecting financial and portfolio data provided voluntarily by leading microfinance institutions (MFIs), organizing the database by peer groups, and reporting this information, MIX is building infrastructure that is critical to the development of the microfinance sector. The primary purpose of this database is to help MFI managers and board members understand their performance in comparison to other MFIs. Secondary objectives include establishing industry performance standards, enhancing the transparency of financial reporting, and improving the performance of microfinance institutions.

Benchmarking Services

To achieve these objectives, MIX provides the following benchmarking services: 1) the Bulletin's Tables; 2) customized financial performance reports; and 3) network services.

MFIs participate in the *MicroBanking Bulletin* benchmarks database on a quid pro quo basis. They provide MIX with information about their financial and portfolio performance, as well as details regarding accounting practices, subsidies, and the structure of their liabilities. Participating MFIs must submit substantiating documentation, such as audited financial statements, annual reports, ratings, institutional appraisals, and other materials that help us understand their operations. With this information, we apply adjustments for inflation, subsidies and loan loss provisioning in order to create comparable results. Data are presented in the Bulletin anonymously within peer groups. While MIX performs extensive checks on the consistency of data reported, we do not independently verify the information.

In return, participating institutions receive a comparative performance report (CPR). These

individualized benchmark reports, which are an important output of the benchmarks database, explain the adjustments we made to the data, and compare the institution's performance to that of peer institutions. MFI managers and board members use these tools to understand their institution's performance in a comparative context.

The third core service is to work with networks of microfinance institutions (i.e., affiliate, national, regional), central banks, and researchers in general to enhance their ability to collect and manage performance indicators. MIX provides this service in a variety of ways, including 1) training these organizations to collect, adjust and report data on retail MFIs at the local level and use MIX's performance monitoring and benchmarking software, 2) collecting data on behalf of a network, and 3) providing customized data analysis to compare member institutions to peer groups. This service to networks, regulatory agencies, and researchers allows MIX to reach a wider range of MFIs in order to improve their financial reporting.

New Participants

Institutions that wish to participate in the *Bulletin* database should contact: info@themix.org, Tel +1 202 659 9094, Fax +1 202 659 9095. Currently, the only criterion for participation is the ability to fulfill fairly onerous reporting requirements. MIX reserves the right to establish minimum performance criteria for participation in the *Bulletin* database.

Submissions

The Bulletin welcomes submissions of articles and commentaries, particularly regarding analytical work on the financial and/or social performance of microfinance institutions. Submissions may include reviews or summaries of more extensive work published elsewhere. Articles should not exceed 3000 words. To submit an article, please contact Devang Sheth at dsheth@themix.org.

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Letter from the Publisher

Dear Readers,

We are happy to bring you the 20th Edition of the MicroBanking Bulletin. Included in this issue are a retrospective benchmark data set focused on a detailed review of performance trends in the microfinance industry and articles that address important issues for microfinance practitioners.

For the first time, the benchmarking data set is available in 6 languages – English, Bahasa Indonesia, Chinese, Spanish, French and Russian. Additionally, you can view each indicator in the benchmarks data set across a broad range of metrics that capture the distribution of performance levels: Median, 25th Percentile, 75th Percentile, Maximum, Mean, Minimum, and Standard Deviation.

This MicroBanking Bulletin issue also features the following articles:

- **India MFIs: Growth for Old and New Institutions Alike:** Devyani Parameshwar et al explore the Indian microfinance market whose structure and dynamics are vastly different from what they were two years ago. The industry emerged from the financial crisis more consolidated and dominated by fewer large commercial players.
- **Microfinance Default Rates in Ghana:** Gerald Pollio and James Obuobie present quantitative

evidence on the factors that affect repayments among MFIs in Ghana that use the individual-liability loan contract.

Finally, I want to share with you important changes to the MicroBanking Bulletin (MBB). Starting with Issue No. 20, the MicroBanking Bulletin will be delivered online only, reflecting a changing readership and user feedback. The move online will enable additional changes to the MBB, most important of which will be a switch from semi-annual publication to more frequent delivery. Our commitment to data-driven, high-quality industry insight for practitioner use remains strong and we believe that these changes will improve MBB's ability to deliver against this goal.

At this time, I would like to acknowledge with deep and sincere thanks the contributions of our entire Editorial Board. Beginning in September 2010, we will be moving the editorial review process in-house to accommodate the structural changes listed above. We look forward to begin bringing you MBB's data and articles in a new format later this year.

Sincerely yours,

Marten Leijon

Publisher, MicroBanking Bulletin
Executive Director, MIX

Indian MFIs: Growth for Old and New Institutions Alike

Devyani Parameshwar, Neha Aggarwal, Roberto Zanchi, Sagar Siva Shankar

Introduction

The **Inverting the Pyramid** series was launched by Intellectap in 2007 as an attempt to capture the growth of the microfinance industry in India on an annual basis and track the efforts made, success achieved and challenges that remain. Every year, it maps the microfinance landscape in India, identifies key highlights of the year, explores strides made in addressing the huge demand-supply gap that exists and analyzes the performance of MFIs. Further, it identifies key drivers for future growth and sustainability of this industry, its capital needs and its risks and priorities in the short to medium term.

The third edition, **Indian Microfinance: Coming of Age** finds India at the center of global attention, the most closely watched microfinance market in the world. While its large unbanked population is a significant contributor to this attention, its fast growth, high investor interest, planned IPOs and continued strong operational and financial performance have also piqued the interest of investors, thought leaders, media and the public alike.

This MicroBanking Bulletin issue includes the third chapter of Intellectap's publication, entitled **Indian MFIs: Growth for Old and New Institutions Alike**. This chapter captures an Indian microfinance market whose structure and dynamics are vastly different from what they were two years ago. The industry emerged from the financial crisis more consolidated - the market that was made of numerous, small and medium sized, non-profit players gave way to one dominated by fewer large commercial players that are successfully attracting equity and debt capital, human resources and clients at a fast rate.

The traditional tier classification of MFIs based on their portfolio size fails to capture the emerging dynamics and activity in the market, which led Intellectap researchers to create an alternate classification that accounts for growth rates. Using this method, the

authors identify three major classes of MFIs: the *Leaders*, the *Moderates* and the *Young Turks*. In chapter three, the growth and performance of each of these segments is examined in greater detail. Towards this, Intellectap uses financial and operational data of a sample of 29 MFIs in the country that constitute 80% of the market by portfolio outstanding.

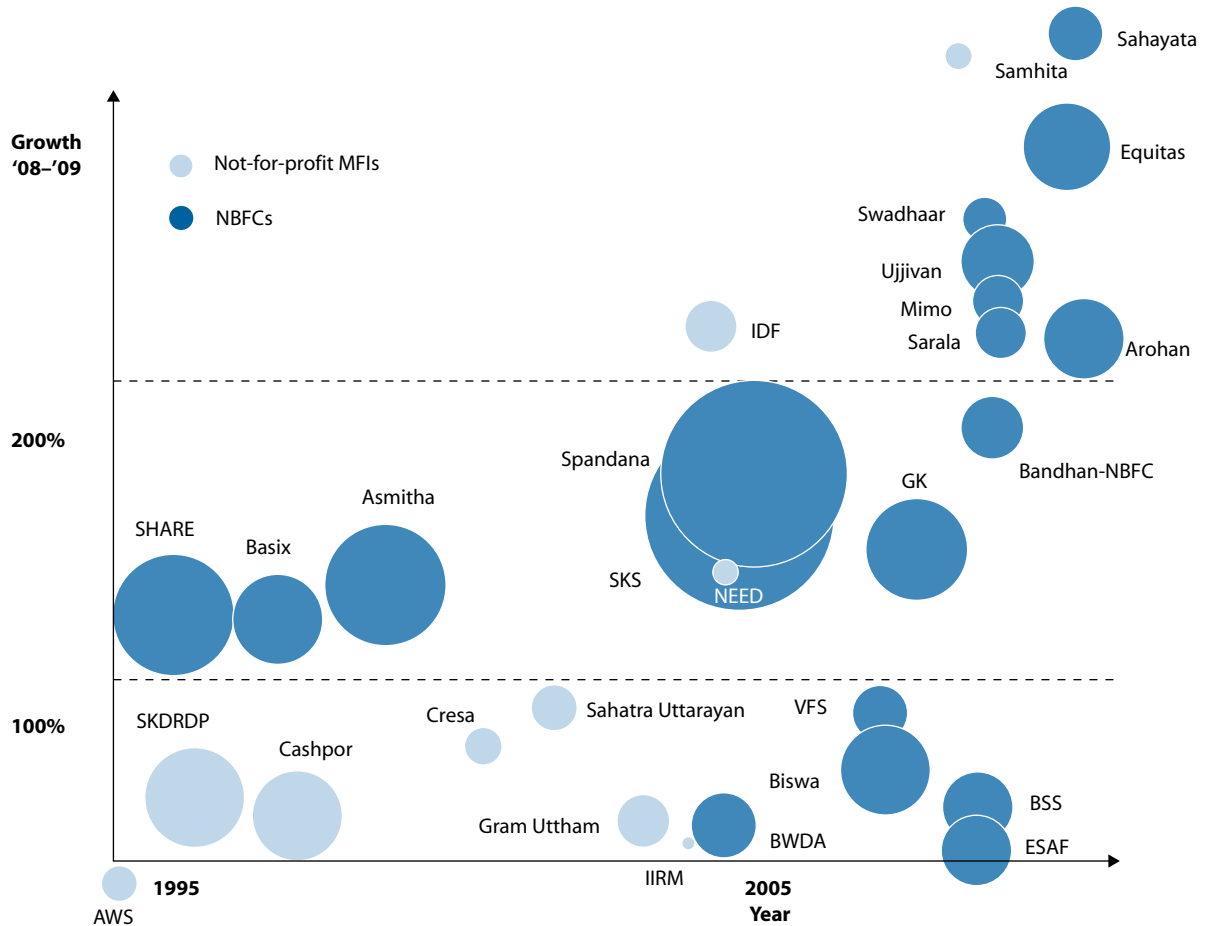
(Refer to Page 7 for a full list of abbreviations to be used in this article)

Dramatic Industry Evolution

Over the last two years the organization and dynamics of Indian microfinance has evolved. The industry emerged from the financial crisis more consolidated; the market that was made-up of numerous, small and medium sized, non-profit players gave way to one dominated by fewer large commercial players that are successfully attracting equity and debt capital, human resources and clients at a fast rate. New age MFIs, with professional management teams and aggressive growth plans, are also managing to attract equity and debt, and successfully weather the crisis. In sharp contrast, some of the older and smaller players, many of which failed to attract equity or transform legal structures before the crisis, are shrinking or slowing their growth, sometimes losing human resources and clients to the bigger players. The NBFCs have grown to capture 81% of the market, attracting unprecedented investor interest and media attention and have created a self-regulatory body, MFIN.

In the new market scenario, for-profit MFIs can be categorized into three groups based on their portfolio growth rate, organizational age and portfolio size: *Leaders*, *Moderates* and *Young Turks*. While the aggregate portfolio of the industry has grown by ~103% since 2008, the growth in portfolios of individual MFIs has been variable. The *Leaders* grew between one and two times the industry average, the *Moderates* grew at a rate below the industry average and the *Young Turks* grew more than twice the rate of the industry.

Figure 1: Sample MFIs by Growth Rates, Age & Portfolio Size



Note: The size of the circle denotes GLP (figure not to scale)

MFI Class	Description
Leaders	This group includes SKS, Spandana, SHARE, Bandhan, Asmitha, BASIX and Grameen Koota - the largest NBFC MFIs in the country, together managing 65% of the industry portfolio. SKS is the largest and fastest growing MFI, Spandana enjoys high efficiency and robust bottom-lines, SHARE was the first MFI to acquire an NBFC license, Bandhan has demonstrated scale despite having had a non-profit structure for a long period, Asmitha is the youngest of the Leaders, BASIX is the first MFI to start as a NBFC and provide integrated livelihood support services to its clients and Grameen Koota has emerged as a strong regional player.
Moderates	This group includes MFIs that have transformed from non-profits to NBFCs and have demonstrated moderate growth. MFIs such as BISWA, BSS, BWDA, ESAF and VFS are part of this group. Many of these MFIs started as NGOs and maintained their non-profit legal status for a longer time than the Leaders, but eventually transformed into NBFCs in order to ensure sustainability, wider access to funds and achieve greater outreach.
Young Turks	These are high growth young MFIs promoted by teams with prior experience in banking, financial services or microfinance. This group includes MFIs such as Arohan, Equitas, Mimmo, Sahayata, Sarala, Swadhaar and Ujjivan. Many of these institutions started their operations in unexplored or underserved geographies (refer Figure 3 in Chapter one), are backed by strong senior management and governance and are highly capitalized. These MFIs have demonstrated the robustness of their business model within two to three years of starting operations, and their growth rates have outpaced those of the Leaders primarily because of their small size, although Ujjivan and Equitas have managed to attain a significant size in a short span of time.

The following analysis utilizes data for the 19 NBFC MFIs in the Intellectap sample.

On average, the portfolio of the *Young Turks* has grown three to five times between 2008 and 2009, with Equitas and Sahayata showing extremely high portfolio growth of 13x and 16x respectively. The *Leaders* have also exhibited consistent performance, averaging 122% growth, with Bandhan-NBFC showing the highest growth at 183%, followed by Spandana at 156%. Growth rates of the *Moderates* have been lower with a 37% average growth, and only VFS showing close to 100%.

Leaders and Young Turks Attract Investors

Since 2007, when equity investments in the sector took off, investors have consistently shown a preference for MFIs that have high growth potential. Thus, the *Leaders* and the *Young Turks* dominate investor pipelines.

Infusion of equity has fuelled the growth of the *Young Turks*, which have grown 416% and 627% year on year in 2008 and 2009 respectively. While the GLP of the *Leaders* is 14.7 times that of the *Young Turks*, their equity base is merely 5 times that of the *Young Turks*, indicating that the *Young Turks* have been able to instil investor confidence and attract equity early in their life cycle. These MFIs also dominated the scene with highest number of equity investments, seven in FY 2009 absorbing INR 233 crores (USD 50.6 mn). While the *Moderates* also received six equity investments,⁵⁸ the amount was much lower at INR 137 crores (USD 29.8 mn). SKS Microfinance alone raised INR 366 crores (USD 79.6 mn) pushing the total of *Leaders* to three equity investments totaling INR 441 crores (USD 95.8 mn).

Decrease in Spread; MFIs Bear Rise in Financial Costs

The media has been critical of the microfinance industry in India recently: The Wall Street Journal,⁵⁹ The Economist and The Economic Times have questioned the industry for its high interest rates, accumulation of profits, and contribution to the over-indebtedness of clients.

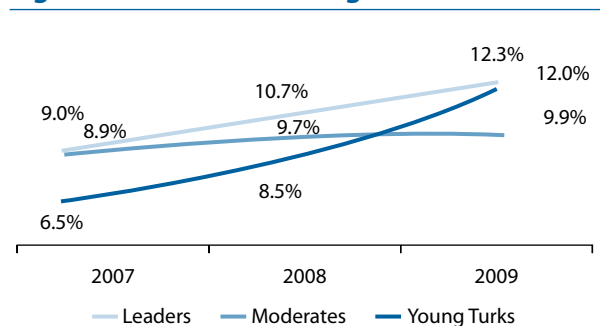
Intellicap's analysis shows that these critiques are not entirely sound. While the incomes of MFIs have increased, the growth in income is not proportional to the rising the cost of debt, indicating that MFIs are absorbing part of the rising costs. The yield for all MFIs in the sample is 29% for 2009, up from 21.5%

in 2007.⁶⁰ Some of the drivers that allow for greater yields are:

1. Increasing non-interest income through fees and other credit-related activities such as selling of insurance, remittance services and livelihood promotion activities
2. Recognizing premiums upfront for portfolio-buyout transactions⁶¹
3. Levying higher interest rates in new geographies, while remaining competitive in mature markets

The cost of borrowing⁶² for MFIs has been consistently growing, with a marked increase in 2009 because of the global economic slowdown and the liquidity crisis (see Figure 2). The average cost of borrowings for the sample has grown to 12.1% from 10.5% in 2008, an increase of 15%.

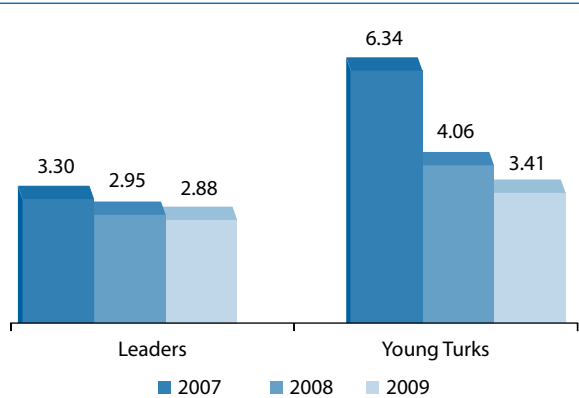
Figure 2: Cost of Borrowing



Until October 2008, both the repo rate⁶³ and the reverse repo rate⁶⁴ were kept high in order to combat inflation, amplifying the liquidity pressure on banks which increased their lending rates to MFIs. Although the poor's demand for credit is fairly elastic, MFIs did not pass the entire increase in the cost of borrowing to their clients. This finding has been validated through interviews with promoters and management of MFIs. With the easing of monetary policy towards the end of 2008, there has been an easing of liquidity pressure too, through a gradual reduction in the cost of debt for Indian MFIs.

Figure 3 shows the ratio of total income of an MFI to financial expenses, which appears to be declining for both *Leaders* and the *Young Turks*. The *Leaders* absorb some part of the increase in financial expenses and do not pass the entire cost to the clients. Although the *Young Turks* are still showing a high ratio, it is

Figure 3: Ratio of Total Income to Financial Expense



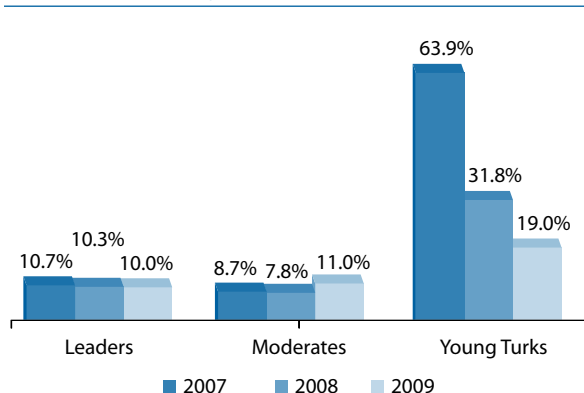
comparable to that of the *Leaders* in 2007. It is thus expected that the *Young Turks* too will follow a declining trend.

Leaders Raise the Bar for Operating Efficiency

The *Leaders* are stable in their Operating Expense Ratio (OER), achieving only minor improvements over three years (see Figure 4). However, based on each MFI's operating model, region of operations and strategy there are variations within the group—Spandana is the most efficient with an OER of 6%, while BASIX and SKS have very high OERs at 16% and 13% respectively. Factors affecting operating costs of an MFI include:

1. Expansion strategy: Aggressively investing in expansion to new geographies versus deepening engagement with existing clients and in older geographies

Figure 4: Operating Expense as a % of Average GLP



2. Transaction model: Reducing the time spent in conducting group meetings, increasing the group size and maintaining higher borrower to client ratios contribute to increasing the staff's payload
3. Urban-Rural composition: Running operations in urban areas leads to a higher OER, owing to higher salary and rent costs
4. Investments in infrastructure: higher recurring expenditure on technology has an impact on the cost structure

The *Young Turks* show very high OERs initially owing to heavy investments to fuel their growth, but rapidly fall as these institutions grow. The *Leaders* have been able to reduce their costs by taking advantage of economies of scale. New MFIs typically take 4–5 months or longer to operate at capacity.

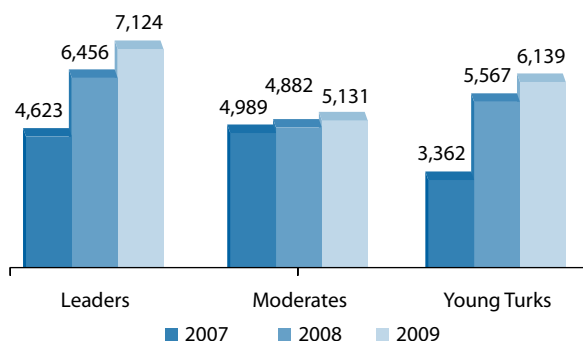
It is also worth noting that reduction in OER is primarily driven by reductions in non-personnel expenses. For all NBFCs in the sample, the personnel expense ratio has increased from 6.1% in 2007 to 6.7% in 2009; the non-personnel related operating expenses have reduced from 4.7% in 2007 to 3.8% in 2009.

Improved Productivity Drives Operating Efficiency

Greater efficiency also results from improved staff productivity in terms of both volume and value. The *Young Turks* have shown a marked improvement of 115% over two years in their borrowers per personnel (management and field staff) ratio, which now stands at 246, better than the *Moderates* at 167 but still lower than the *Leaders* at 304. The loan officer to client ratio in the industry is significantly higher.

Equitas, the current market leader in staff productivity has 484 borrowers per staff member. This is because of its innovations in the operating model, based on standardising and differentiating roles of loan disbursement and loan collection, thus allowing field staff to handle the higher workload. The *Leaders* are above the 300 mark with the exception of SKS and BASIX. SKS maintains higher head office staff and technology costs by design to manage their ambitious expansion. BASIX staff members have a higher workload given their non-traditional model which includes multiple credit plus offerings and door to door collections.

Figure 5: Average Loan Outstanding



The portfolio managed per staff also increased by 93% since 2008 for the *Young Turks*, reaching INR 15.1 lakhs (USD 32,843) while for the *Leaders* it is INR 21.6 lakhs (USD 47,006). This improvement is a combined effect of the improvement in personnel productivity and higher average loan outstanding per borrower, as shown in Figure 5. *Moderates* too have shown an improvement, with GLP per staff increasing by 24% from 2008 to 2009 standing at 7.4 lakhs (USD 16,043).

The factors contributing to the increase in loan sizes are:

1. Graduation of clients in mature markets to higher loan sizes
2. Increased focus of MFIs on urban clients with higher credit needs than rural clients
3. Introduction of individual lending
4. Increased ticket size for the first loan to new customers by some MFIs

Increasing Profitability

As shown in Figure 6, the *Leaders* exhibit a consistently rising Return on Assets (ROA) - 4.4% in 2009. The *Young Turks* on the other hand, while showing explosive growth rates, have not all achieved break-even, as they are heavily investing in their expansion.

A similar trend is observed in Return on Equity (RoE) where the *Leaders* and *Young Turks* are continuously improving their performance. The *Moderates* have shown a decline mainly because many were undergoing transformation in 2007 and 2008, while in 2009, as NBFCs, their equity base is higher than their previous donor capital base.

Figure 6: Return on Assets

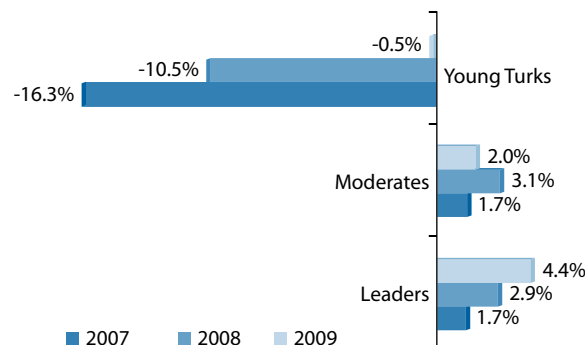
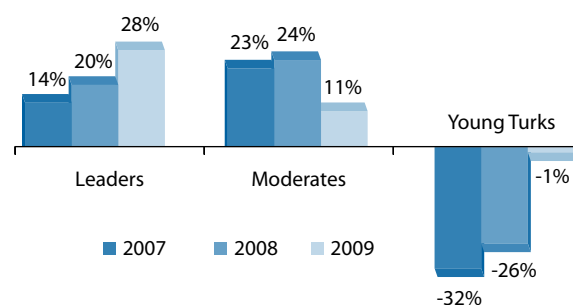


Figure 7: Return on Equity



The rising profitability of the *Leaders* is driven by their ability to take advantage of economies of scale, as they are able to better leverage their initial investments. These MFIs are also successfully supplementing their interest income with fee based revenue through insurance, managing portfolios, and other product sales. The *Young Turks* and *Moderates* are expected to follow the same path in the coming years.

Deleveraging Balance Sheets

While there has been a general fall in debt-equity ratios across all MFIs, it has been most pronounced among the *Moderates* because of their transformation from unregulated not-for-profit entities to NBFCs with minimum capital adequacy requirements (CAR). The *Young Turks* are the least leveraged MFIs, with Ujjivan and Sahayata at less than 1x. These MFIs have large equity bases which allow them to be less dependent on commercial debt which is difficult to access for early stage MFIs. The next step for these MFIs is to start leveraging their equity, which should not be difficult given that they now have a proven record and seasoned portfolios.

The debt-equity ratio in the industry is expected to stabilize at between 4x and 5x, given the more stringent capital adequacy norms that will require NBFCs to maintain a 15% CAR starting in 2012. Most NBFCs are already working toward complying with this stricter requirement, which explains their reducing debt-equity ratios.

Portfolio Quality: Deterioration in Pockets, Healthy Overall

While global PAR > 30 deteriorated from a median of 2.2% to 4.7% during the first five months of 2009,⁶⁵ the average PAR > 30 for Indian MFIs stood at <1% in 2009. The Young Turks exhibit the best performance at 0.72%, down from 1.32% in 2008. While there have been instances of increases in PAR in Kolar, Lucknow, Mysore and Tumkur districts, the industry as a whole exhibits a healthy portfolio.

NBFCs Exhibit Higher Costs and Profitability, Lower Leverage

A performance comparison of NBFC MFIs is presented against the not-for-profit (NFP) MFIs Table 1.

Table 1	Key Financial Metrics for FY 2009 by Legal Structure	
	NBFCs	NFPs
Total Yield	29.0%	18.6%
Operating Expense/GLP	10.5%	7.0%
Cost of borrowing	11.9%	9.8%
Funding Expense Ratio	9.98%	10.37%
PBT margin	24.2%	4.1%
RoA	4.0%	0.6%
RoE	23.0%	17.0%
Debt:equity	4.10	20.62

The yield for NBFCs is very high compared to NFPs. However, higher yield cannot be attributed to higher interest rates. NBFCs have increased their revenue through fee-based income. The cost of borrowing is also low for NFPs due to their access to concessional debt and savings as debt, both of which also allow for higher leverage.

Table 2 shows increase in interest yield of some NGO-MFIs over last three years-

Table 2	Yield of Select NGO-MFIs		
NGO-MFI	2007	2008	2009
Cashpor	14.3%	25.4%	23.3%
Gram Utthan	15.9%	16.3%	18.5%
IIRM	7.9%	13.9%	25.9%

Indian MFIs: Lowest Costs, Highest Returns

A comparison between the Indian microfinance industry and global markets shows that Indian MFIs have the lowest yields, lowest operating costs, and the highest return on assets. This comparison explains why Indian MFIs are increasingly becoming an attractive option for global investors. Higher operating efficiency allows Indian MFIs to charge amongst the lowest interest rates in the world, and still achieve high returns.

Conclusion

The chapter you have just read explores one aspect of Indian microfinance covered in Intellectap's 2009 report. **Indian Microfinance: Coming of Age** also includes sections about the following related topics: Exploring Pressing Issues in Indian Microfinance; Demand and Supply in the Microfinance Market of India; the Sector through and Investment Lens; the Global Economic Slowdown and Indian Microfinance Clients; and the Road Ahead. If you would like to read more about these topics, please [click here](#) to purchase the report.

Table 3	Global benchmarking ⁶⁸					
Ratio ⁶⁶	Africa	MENA	ECA	LAC	Asia	India ⁶⁷
Total Yield	38%	31%	32%	47%	31%	28%
Operating Expense Ratio	45%	27%	19%	45%	23%	10%
Return on Assets	-3%	1%	-0.5%	0.5%	-1%	3.6%

List of Abbreviations

BC	Business Correspondent	NBFC	Non-Banking Financial Company
BLP	Below Poverty Line	NCD	Non-Convertible Debentures
BISWA	Bharat Integrated Social Welfare Agency	NFP	Not-for Profit
BSFL	Bharatiya Samruddhi Financial Limited	NGO	Non-Government Organization
BSS	Bharatha Swamukti Samsthe	NRIFS	National Rural Financial Inclusion System
BWDA	Bullock-Cart Workers Development Association	OER	Operating Expense Ratio
CAR	Capital Adequacy Ratio	PACS	Primary Agricultural Cooperative Societies
CAGR	Compounded Annual Growth Rate	PAN	Permanent Account Number
CGAP	Consultative Group to Assist the Poor	PAR	Portfolio at Risk
CP	Commercial Paper	PAT	Profit After Tax
CRR	Cash Reserve Ratio	P/BV	Price to Book Value
DFI	Development Finance Institution	PCO	Public Call Office
ECA	Eastern Europe and Central Asia	PE	Private Equity
ECB	External Commercial Borrowing	PLR	Prime Lending Rate
ESAF	Evangelical Social Action Forum	PSL	Priority Sector Lending
FCRA	Foreign Contribution Regulation Act	PTC	Pass Through Certificate
FDI	Foreign Direct Investment	RBI	Reserve Bank of India
FMO	The Netherlands Development Finance Company	RMK	Rashtriya Mahila Kosh
FWWB	Friends of Women's World Banking	ROA	Return on Assets
FY	Financial Year	Roe	Return on equity
GDP	Gross Domestic Product	RRB	Regional Rural Banks
GLP	Gross Loan Portfolio	SBLP	Self Help Group-Bank Linkage Programme
HNI	High Net-worth Individuals	SEBI	Securities and Exchange Board of India
INR	Indian National Rupee	SHG	Self Help Group
IRDA	Insurance Regulation Development Authority	SLR	Statutory Liquidity Ratio
IPO	Initial Public Offering	SSI	Small Scale Industry
KYC	Know Your Customer	SIDBI	Small Industries Development Bank of India
LAC	Latin America and the Caribbean	SIP	Systematic Investment Plan
MACS	Mutually Aided Cooperative Society	SKS	Swayam Krishi Sangam
MENA	Middle East and North Africa	SPV	Special Purpose Vehicle
MFI	Microfinance Institution	UID	Unique Identification
MFIN	Microfinance Institutions Network	UP	Uttar Pradesh
MIS	Management of Information System	USD	United States Dollar
MIV	Microfinance Investment Vehicles	VC	Venture Capitalists
NABARD	National Bank for Agriculture and Rural Development	VFS	Village Financial Services

Microfinance Default Rates in Ghana: Evidence from Individual-Liability Credit Contracts

Gerald Pollio¹ and James Obuobie

Abstract

In this paper we present evidence on the factors that affect default probabilities in individual-liability credit contracts. The data are drawn from a for-profit microfinance lender in Ghana. Our sample consists of nearly 1,000 randomly selected loans approved between 2002 and 2007, three quarters of which were repaid; as default is relatively rare in microfinance, borrowers who failed to repay their loans were over-sampled. We study the impact of demographic, business and loan characteristics on default odds. We find that repayment is affected mainly by the number of dependents in the household, years in business, use of proceeds, loan status, and frequency of loan monitoring. In contrast to other studies, we find no connection between the borrower's marital status, gender or their savings' behavior and the likelihood of default.

Microfinance, however measured, has increased rapidly in Ghana since the start of the present decade, growing by 20-30 percent annually. Microfinance Institutions (MFIs) currently provide financial services to an estimated 15 percent of the country's total population compared with 10 percent for the commercial banking sector.

Rural and community banks account for the lion's share of MFI activity in Ghana, representing more than half the total number of microfinance borrowers and a similar proportion of the sector's total loan portfolio (Aryeetey:2008). NGOs, by contrast, are comparatively unimportant: the average loan size is roughly one third that provided by rural and community banks and an even smaller fraction (25 percent) of the amount borrowed from savings and loan companies. On the other hand, loan repayment rates, at a reported 99 percent, are considerably higher among financial NGOs than among other microfinance providers or government-sponsored lending programs; their loan loss exposure is also relatively modest.

Finally, and perhaps not too surprisingly given their heavy dependence on donors or official sources of finance, financial NGOs have the worst record of achieving either operational or financial

self-sufficiency, surpassed only by government-sponsored programs. The clear implication here is that without substantial subsidy, interest rates on loans provided by both NGOs and state-supported institutions would be significantly higher, with an attendant negative impact on repayment obligations.

Ghana's commercial microfinance operations have, by contrast, broadly achieved a degree of operational efficiency that compares favorably with medium sized African financial institutions or worldwide MFIs; even so, in terms of financial sustainability, many still have a long way to go.² The purpose of this paper is to investigate repayment rates among MFIs that follow the individual-liability lending model; since this model closely approximates to that pursued by commercial banks, a close correspondence might be expected between the two approaches.³

Our analysis derives from data on loan repayments and borrower characteristics provided by ProCredit (Ghana), a local microfinance institution, which operates on the basis of individual liability lending.

¹ Corresponding author: LSC London, Chaucer House, White Hart Yard, London SE1 1NX, United Kingdom.

² Jha, *et al.* (2004) and Bank of Ghana (2007) provides an overview of microfinance in Ghana.

³ Owing to space limitations it was not possible to provide the full set of results. Readers interested in obtaining our findings can email the senior author at the email address given above.

Individuals and micro-entrepreneurs that apply for ProCredit loans proceed through three stages prior to obtaining approval.

i. Preliminary Screening

In this stage, loan applicants make contact with the institution and are carefully screened and asked to answer specific questions regarding the status of their business and household accounts, in order to establish whether they qualify under ProCredit's eligibility guidelines.

ii. Loan Proposal and Credit Committee

Loan applicants are assigned to specific loan officers. Applicants undergo a further review to verify the information taken at the initial stage, and a visit to the applicant's businesses and household is arranged. The information thus developed is organized into a formal loan proposal and presented to the lending institution's credit committee for approval. The loan amount and tenure are confirmed conditional on the adequacy of the cash flows generated by the borrower's business, sufficient personal collateral and guarantors agreeing to co-sign the loan agreement.

iii. Monitoring and Repayment

After disbursement, the account officer frequently visits the borrower's business to ensure that the proceeds are being used for the specific purpose(s) for which the loan was granted, and to remind borrowers of their next repayment date. Borrowers who miss payments are pressured at this stage; if the arrears continue, legal action is initiated against the borrower and guarantor(s) to recover any amounts owed, but usually after the designated collateral has been seized and liquidated.

1. Loan Sample Data

The data used here are drawn from ProCredit's lending files. Six of the bank's twelve branches, including one located outside the national capital, were selected for the study; the remaining branches were all established fairly recently and thus have relatively small loan portfolios.

The total sample consists of 960 loans made to local businessmen from the database of the institution's six branches, five of which are located in Accra and one in Kumasi. The sample consists of loans granted and

repaid (or not) between January 2002 and December 2007, and comprise 160 loans from each branch. The sample thus consists of 720 repaid and 240 defaulted loans, with individual loans in each category chosen randomly. To obtain a fair representation of the characteristics of defaulted borrowers, we deliberately over-sampled this category, a decision motivated by the low actual default rate. The sample dataset was audited for errors and omissions to ensure consistency and uniformity.

Twenty-four borrower characteristics were extracted from the data and grouped into four main categories cross-classified by borrower status (Table 1).

(1) *Individual borrowers' household characteristics* (gender, age, marital status, household income not generated from either the business or earnings of dependants). Dependants consist of the number of people in the household who rely on the business income. Households with fewer dependants have a smaller claim on their business income, which should serve to reduce the default rate. The borrower's marital status is also expected to lower the likelihood of default; working spouses generate an independent income, thus increasing the financial resources available to service the loan, in contrast to borrowers who are single, divorced or widowed, where there are no supplementary earnings. We also expect the probability of the loan being repaid to increase if the borrower is a woman, in keeping with empirical evidence to that effect.

(2) *Savings behavior* (default and non-default borrowers' saving behavior during the term of their respective loans). Borrowers who save during the term of the loan build up a cash reserve that can be used to service the debt during periods when the business is facing liquidity difficulties. The presence of savings is expected to increase the probability of the loan being repaid.

(3) *Business characteristics*: (business type, age of the business, location of the business [Branch]). The number of years the borrower has been in the same business should increase the probability of the loan being repaid; there is again ample evidence showing that established businesses are less prone to experiencing financial distress than are newly created ventures.

(4) *Loan characteristics* (loan amount in Ghana cedis, loan purpose, loan monitoring, collateral type and value in Ghana cedis, term of loan, loan status, number of guarantors [co-signers]). Each loan is unique in

terms of loan amount, tenure, collateral and the number of co-signers who act as guarantors for the *credit*. A greater number of guarantors and a high collateral-to-loan ratio should be consistent with lower default risk; so, too, should the intensity with which loans are monitored (but see below). Loan status indicates whether the borrower had obtained prior loan(s). Loan tenures are of variable length, though longer maturities appear consistent with a lower risk of default; for a given interest rate, longer maturities imply lower periodic installments. Finally, loans used for working capital or stock accumulation appear less risky than those used for acquisition of fixed assets.

A larger percentage of defaulted borrowers in our sample are single or divorced and younger on average, and a relatively larger fraction is made up of women (48 percent in the defaulted group compared with 43 percent among borrowers who repaid their loans). Defaulted borrowers also have a relatively larger number of dependents than their non-defaulted counterparts. When the various household characteristics are subject to formal statistical analysis, the only variable shown to differ significantly is the borrower's age; defaulted borrowers on average were eight years younger than non-defaulted borrowers.

The majority of borrowers in the default category have less than five years experience running their businesses. Borrowing for the purpose of adding to stock accounted for 50.1 percent of all loans; working capital loans or loans to purchase fixed assets constitute 17.9 percent and 32 percent, respectively, of the total sample. Statistical analysis confirms that number of years in business is an important determinant of default, in contrast to the purpose of the loan, though a higher incidence of working capital loans among repaid loans is marginally significant indicating a favorable impact on the probability of repayment.

Loans offered fall into two broad categories: those above GHC1,000 are described as loans to small and medium enterprises (SME) and micro loans, while loans below GHC1,000 are known as 'express' loans. The majority of loans in the sample were express loans (55.2 percent), with a greater proportion of defaulted loans (54.2 percent) falling into the micro and SME loan categories; this compares with repaid express loans of 57.6 percent. Loan status indicates whether the borrower is a new client obtaining his/her first loan or is a repeat borrower; 63 percent of borrowers fall into the former category. Interestingly,

the majority of defaulted borrowers were repeat not new clients, a statistically significant finding.

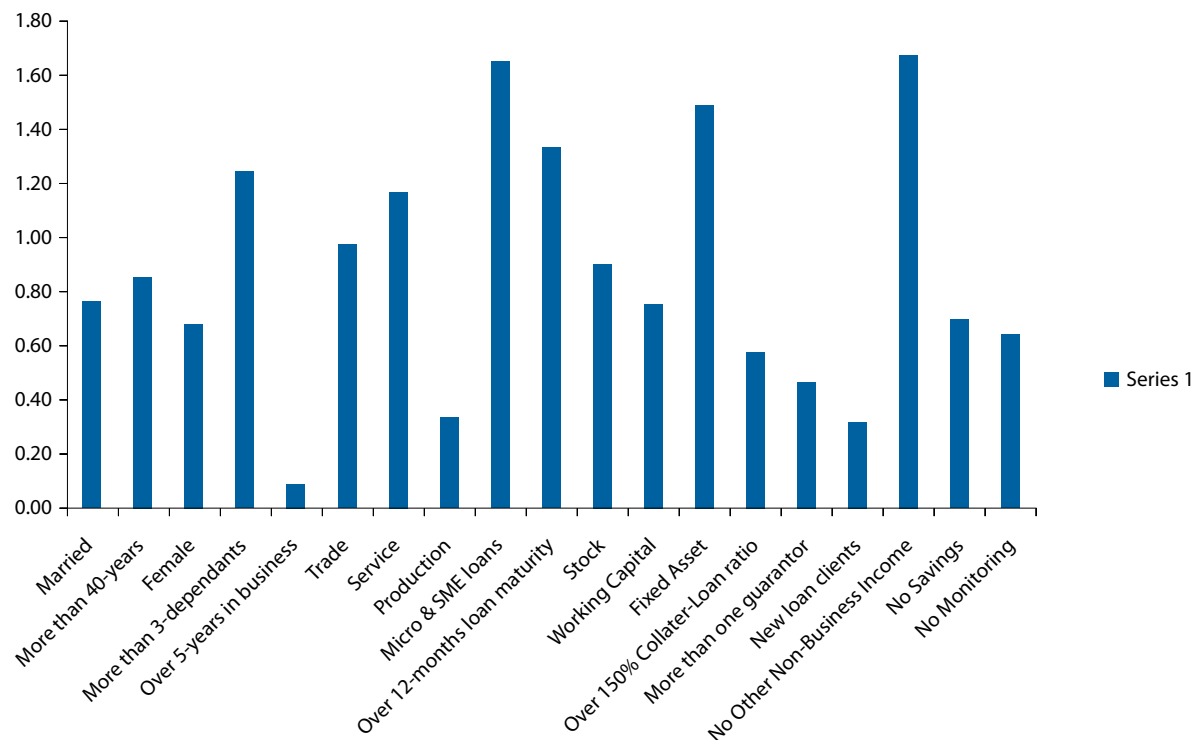
Collateral coverage is measured as the ratio of the collateral value to the loan amount. For the majority of clients in the sample (60.5 percent) this ratio exceeded 150 percent; coverage differences are highly significant. Each loan was guaranteed by at least one guarantor, who also acted as a co-signer of the loan contract; 56.5 percent of borrowers in the total sample had their loans guaranteed by at least one guarantor. Among borrowers that repaid their loans, nearly one half had more than one guarantor.

Loan monitoring is part of the loan cycle: loan officers visit the residence and business of each borrower before and after loans are made to ensure that the proceeds are used only for the stated purpose and that the business/project is being run efficiently. Regular visits also serve to strengthen the relationship with the borrower, encouraging repayment while simultaneously gathering information concerning the state of the business and household finances, all of which should be consistent with a lower default rate. By contrast, more frequent visits could be taken as evidence that borrowers are experiencing repayment difficulties, higher frequency indicating greater severity. The data appear more consistent with the second interpretation: defaulted loans were monitored more frequently than repaid loans, while statistical analysis confirms that the differences were significant.

Loan maturities range from 4-12 months, though fixed asset loans are sometimes extended for up to 18 months. Sector indicates whether the borrowers' main business is in services, trade (buying and selling), or production (manufacturing). The majority of borrowers operated in the trade sector (58.8 percent), with an average loan maturity of up to 12 months. Statistical analysis indicates that business sector does not matter, though the higher incidence of default among firms operating in the trade sector is marginally significant. Loan maturities, too, do not appear to be important, with the slightly higher percentage of shorter maturities among defaulted loans being statistically insignificant. Finally, while the data indicate that the percentage of borrowers who saved over the life of the loan was higher among repaid than defaulted loans, the differences are insignificant.

Another way of assessing the extent to which borrower, business and loan characteristics affect repayment is to present Odds Ratios (OR) as shown

Figure 1: Odds Ratio Classified by Borrower Characteristics



in Figure 1.⁴ On this basis, borrowers having more than three dependents and operating in the service sector obtained larger loans with longer maturities, used the proceeds to finance fixed investments, lacked non-business income, and were at greater risk of default. These findings confirm the bivariate results.

2. Multivariate Results

Pair-wise comparisons are illustrative, but fail to take proper account of the interactions that exist among the explanatory variables. Given that the main rationale for this study is to identify and analyze the factors that influence loan repayment rates in microfinance institutions, the way forward is to employ multivariate statistical procedures better able to achieve that objective. The technique chosen, logistic regression, is perhaps the best of several statistical procedures that can be used when analyzing conditional data.

In the present study, default probability, the dependent variable, is ascribed a value 1 if a given loan defaulted and 0 otherwise, with default related to the various independent variables enumerated above. A direct logistic regression was fitted for each of the independent variables, except for the various branches (Tema, Madina, Kaneshie, Tudu, Kokomlemle and Suame) that were used in this study. The estimation results (not shown) indicate that seven of the independent variables are statistically significant at the 5 percent level or higher; other household, business and loan characteristics did not have any significant effect on the probability of loan default.

1. **Other non-business income** (OR = 0.5793). A unit increase in household non-business income leads to a reduction in the relative ratio of the default probability to repayment by a factor of 0.5793; that is, as the presence of other income separate from business income increases, the rate of credit default declines by 42 percent. Given that the majority of borrowers were married, this suggests that in most instances their partners either operated income-generating businesses or were working in paid employment.⁵ This

⁴ The OR is a way of comparing whether the probability of an event is the same for two groups, and is measured by comparing the ratio of the odds of an event occurring (say, default) in one group compared to the odds of it occurring in another group. An odds ratio of one implies that the event is equally likely in both groups. An OR greater than one indicates the event is more likely in the first group, while an OR less than one implies the reverse.

⁵ The zero-order correlation between marital status and non-business income is positive and statistically significant.

finding is consistent with a study undertaken among borrowers in Caja Los Andes, Bolivia, which indicates that borrowers with higher non-business income are less likely to default on their loan obligations (Vogelgesang:2003).

2. **Loan status** (OR = 0.1802). The OR implies an 82 percent decline in the default rate among new borrowers compared to repeat borrowers. This may reflect an incentive effect, with access to future loans dependent upon successful repayment of the current loan. Knowing this, new borrowers prove themselves to be a good credit risk, a finding consistent with Armendariz and Morduch (2000), Bolton and Sharfstein (1990), and Churchill (1999) among microfinance institutions that employ individual-liability schemes. The result is also consistent with Vogelgesang (2003), who shows that loan repayment rates among repeat borrowers deteriorate compared to new borrowers.

3. **Working capital** (OR = 0.5126). Loans used for the purpose of augmenting working capital reduce default probabilities by 49 percent; this compares with an increased default rate of 62 percent for loans used to finance fixed investment [see below (8)].

4. **Guarantors** (OR = 0.3732). A unit increase in the number of guarantors produces a decline in the default rate by 63 percent. This may be due to social pressures that guarantors bring to bear on recalcitrant borrowers, and may also be seen as social collateral with its impact on loan repayment. This result is consistent with Gine and Karlan (2006), who show in a related study that the use of collateral coupled with social pressure among borrowers reduces default while increasing repayment; it is also consistent with the findings of a study undertaken in Bolivia (Schreiner: 1999).

5. **Number of years in business** (OR = 0.7176). As the number of years a borrower has been in business increases, the probability of default declines by 28 percent. This confirms that as borrowers gain commercial experience, the resulting improved productivity leads to a significant reduction in the likelihood of default compared to their less experienced counterparts. Alternatively, the effect may indicate that established businesses, with their assured revenues and diversified cash flows, represent better credit risks than younger firms. There is considerable evidence that firms with long operating histories are less prone to financial distress than are more recently established businesses.

6. **Collateral to loan ratio** (OR = 0.8437). A unit increase in the collateral demanded by lenders as security for the loan lowers the likelihood of default by 16 percent, a finding consistent with (Villas-Boas and Schmidt-Mohr: 1999), who argue that as competition increases, so too does the demand for additional collateral by MFIs. On the other hand, the variable is significant at only around the 10 percent level.

7. **Number of dependants** (OR = 1.2234). For each additional dependant in the household the probability of loan default increases by about 22 percent. As potential claims against business income increase, this is likely to encourage the diversion of resources to direct household purposes (paying school fees, funeral pledges, or other social commitments).

8. **Fixed assets** (OR = 1.6180). Loans made for the purpose of acquiring fixed assets increase the likelihood of default by 62 percent, a result that appears to connect with the relatively long gestation before fixed investments (machinery, plant and building) generate a satisfactory cash flow. Compared with loans used for inventory investment, default is reduced by 20 percent though this effect was not statistically significant.

9. **Monitoring** (OR = 1.4786). Monitoring increases the likelihood of default by 48 percent. This may be due to excessive pressure from the institutions' agents encouraging borrowers to invest in high-risk projects in order to generate higher cash flows to repay the loan. It may also reflect 'collusion' between loan officers and borrowers; evidence of such behavior is known, or perhaps it may be due to outright fraud (Todd: 1996).

To test the robustness of the estimated coefficients and by extension the odds ratios, alternative logistic regressions were run that excluded all of the statistically insignificant variables. Also, variables that were closely correlated with each other were alternated to determine which had the greater ability to classify and predict default. Finally, branch dummies were introduced to control for regional or neighborhood effects.

The alternative regressions were consistent with each other and with those estimated using all of the independent variables. Nor can any systematic differences be detected in the pattern of branch lending, suggesting that screening and credit procedures were applied consistently and uniformly. By any of the widely used goodness of fit criteria, the

results are virtually identical; nor do the alternative specifications materially alter the percentage of observations correctly classified.

All in all, we conclude that the probability of default *increases* with the number of dependents, whether the proceeds are used to acquire fixed assets, and the frequency of monitoring, and *decreases* with the availability of non-business income, years in business, the number of guarantors, whether the proceeds were used for working capital purposes, and whether the client is a first time borrower. The ratio of collateral-to-loan value is also associated with an increase in the repayment rate, though none of the estimated coefficients are significant at the 0.05 level of higher.

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Table 1 Percentage of Individual, Household, Business and Loan Characteristics of Borrowers

EXPLANATORY VARIABLES (Number of observations)	TOTAL SAMPLE (960)	NON-DEFAULT (720)	DEFAULTED (240)
MARITAL STATUS			
1. MARRIED	60.21(578)	61.81(445)	55.42(133)
2. SINGLE	29.27(281)	27.78(200)	33.75(81)
3. DIVORCE	5.73(55)	5.28(38)	7.08(17)
4. WIDOW	4.79(46)	5.14(37)	3.75(9)
AGE			
1. 20–30 YEARS	18.75(180)	17.22(124)	23.33(56)
2. 31–40 YEARS	41.46(398)	41.94(302)	39.58(95)
3. OVER 40 YEARS	39.79(382)	40.84(294)	37.09(89)
GENDER			
1. FEMALE	55.31(531)	43.47(313)	48.33(116)
2. MALE	44.69(429)	56.53(407)	51.67(124)
NUMBER OF DEPENDANTS			
1. 0–3 DEPENDANTS	81.77(785)	82.64(598)	79.17(190)
2. OVER 3 DEPENDANTS	18.23(175)	17.36(125)	20.83(50)
YEARS IN BUSINESS			
1. 0–5 YEARS	39.27(377)	25.97(187)	79.17(190)
2. OVER 5 YEARS	60.73(583)	74.03(533)	20.83(50)
BUSINESS SECTOR			
1. TRADE	58.65(563)	58.75(423)	58.33(140)
2. SERVICE	23.64(227)	22.92(165)	25.84(62)
3. PRODUCTION	17.71(170)	18.33(132)	15.83(38)
LOAN AMOUNT			
1. MICRO AND SME LOANS	44.79(430)	42.36(305)	54.17(130)
2. EXPRESS LOANS	55.21(530)	57.64(415)	45.83(110)
LOAN MATURITY			
1. 0–12 MONTHS	96.25(924)	96.53(695)	95.42(229)
2. OVER 12 MONTHS	7.75(36)	3.47(25)	4.58(11)
LOAN PURPOSE			
1. STOCK	50.10(481)	51.39(370)	46.25(111)
2. WORKING CAPITAL	17.92(172)	19.30(139)	15.00(36)
3. FIXED ASSETS	31.98(307)	29.31(211)	38.75(93)
COLLATERAL-LOAN RATIO			
1. 0–150%	39.48(379)	36.25(261)	49.17(118)
2. OVER 150%	60.52(581)	63.75(459)	50.83(122)
NUMBER OF GUARANTORS			
1. ONE GUARANTOR	56.46(542)	52.08(375)	69.58(167)
2. MORE THAN ONE GUARANTOR	43.54(418)	47.72(345)	30.42(73)
LOAN STATUS			
1. NEW CLIENT	63.67(611)	70.28(506)	43.75(105)
2. REPEAT CLIENT	36.35(349)	29.72(214)	56.25(135)
OTHER NON-BUSINESS INCOME			
1. YES	56.67(544)	59.86(431)	47.08(113)
2. NO	43.33(416)	40.14(289)	52.92(127)
SAVINGS ATTITUDE			
1. YES	73.02(701)	72.22(520)	75.42(181)
2. NO	26.98(259)	27.78(200)	24.58(59)
LOAN MONITORING			
1. YES	63.85(613)	62.08(447)	69.17(181)
2. NO	36.15(347)	37.92(273)	30.83(74)

Setting up Peer Groups

The Bulletin Tables are designed to present performance benchmarks against which managers and directors of microfinance institutions can compare their institution's performance with that of similar institutions. Since the microfinance industry consists of a range of institutions and operating environments, some with very different characteristics, an MFI should be compared to similar institutions for the reference points to be useful.

The Bulletin Tables address this issue with a peer group framework. Peer groups are sets of programs that have similar characteristics—similar enough that their managers find utility in comparing their results with those of other organizations in their peer group. The Bulletin Tables present peer groups on two bases: simple and compound peer groups.

Simple Peer Groups look at MFIs based on a single characteristic. This allows users to analyze performance based on a common factor, such as age, location or scale of operations. MFIs have been grouped according to the following ten characteristics for this edition of the Bulletin:

- 1) **Age:** The Bulletin Tables classify MFIs into three categories (new, young, and mature) based on the maturity of their microfinance operations. This is calculated as the difference between the year they started their microfinance operations and the year of data submitted by the institutions.
- 2) **Charter Type:** The charter under which the MFIs are registered is used to classify the MFIs as banks, credit unions/cooperatives, NGOs, and non bank financial institutions.
- 3) **Financial Intermediation:** This classification measures the extent to which an MFI intermediates between savers and borrowers, funding its assets through mobilized deposits.

It is calculated as a percentage of total assets funded by voluntary savings.

- 4) **Lending Methodology:** Performance may vary by the way the institution delivers its loan products and serves borrowers. The Bulletin Tables present MFIs based on the primary methodology used, determined by the number and volume of loans outstanding.
- 5) **Outreach:** Scale of outreach is measured as the total number of borrowers served.
- 6) **Profit Status:** According to their registration, MFIs are classified as 'not for profit' and 'for profit' institutions.
- 7) **Region:** MFIs are divided into five main geographic regions: Africa, Asia, Eastern Europe and Central Asia (ECA), Latin America and the Caribbean (LAC) and Middle East and North Africa (MENA).
- 8) **Scale:** Institutional scale is measured by the size of an institution's loan portfolio in USD. The measure of scale is regionalized to reflect differences in income levels across regions.
- 9) **Sustainability:** MFIs are grouped according to their level of financial self-sufficiency, representing their ability to cover all costs on an adjusted basis.
- 10) **Target Market:** The Bulletin Tables classify MFIs into three categories—low-end, broad, and high-end—according to the average balance of loans served. For international comparison, this balance is stated as a percentage of local income levels (GNI per capita).

Compound Peer Groups use a more complex set of variables to analyze MFI performance. This creates benchmarks where institutions have a greater number of similar factors affecting performance.

The Bulletin Tables present compound peer groups based on three main factors: (1) Region; (2) Scale; (3) Sustainability.

Peer Group Composition

The quantitative criteria used to categorize these groups are summarized in the *Peer Group Classifications* tab of the [2006-2008 MFI Trend Lines Benchmarks](#). The entire sample of institutions that fall into these categories is located in the Peer Group Participants tab of the [2006-2008 MFI Trend Lines Benchmarks](#). Confidentiality limits the publication of names of financially self-sufficient MFIs included in the database.

More detailed information about each institution can be found in the Peer Group Participants tab of the [2006-2008 MFI Trend Lines Benchmarks](#).

Data Quality and Statistical Issues

Because the Bulletin tables rely primarily on self-reported data, we grade the quality of the

information based on the degree to which we have independent verification of its reliability. The data quality grade is not a rating of the institution's performance. Additionally, in the statistical tables included in the Benchmarks tab of the [2006-2008 MFI Trend Lines Benchmarks](#), the median values are displayed for each indicator. However, you can also view the 25th Percentile, 75th Percentile, Maximum, Mean, Minimum, and Standard Deviation values for each indicator by selecting your choice in the upper left-hand corner of the Benchmarks tab in the [2006-2008 MFI Trend Lines Benchmarks](#). For more details on both Data Quality and Statistical Issues, see Appendix.

View the 2006-2008 MFI Trend Lines Benchmarks. (Note: The 2006-2008 MFI Trend Lines Benchmarks are also available in Bahasa Indonesia, Chinese, Spanish, French and Russian. To view in another language, select the language of your choice in the upper left-hand corner of the Index tab in the [2006-2008 MFI Trend Lines Benchmarks](#).)

APPENDIX

MICROBANKING BULLETIN, ISSUE 20, SEPTEMBER 2010

The *MicroBanking Bulletin* is open to all MFIs that are willing to disclose financial data that meet a simple quality test. Participating MFIs typically have three characteristics: 1) they are willing to be transparent by submitting their performance data to an independent agency; 2) they display a strong social orientation by providing financial services to low-income persons; and 3) they are able to answer all the questions needed for our analysis.

Data Quality Issues

The *Bulletin* has a data quality grade to represent the degree to which we have independent verification of an MFI's data. Three star information (***) has been independently generated through a detailed financial analysis by an independent third party, such as a CAMEL evaluation, a CGAP appraisal, or assessments by reputable rating agencies. Two star information (***) is backed by accompanying documentation, such as audited financial statements, annual reports, and independent program evaluations that provide a reasonable degree of confidence for our adjustments. One star information (*) is from MFIs that have limited themselves to completing our questionnaire. These grades signify confidence levels on the reliability of the information; and in no way represent a rating of the financial performance of the MFIs.

The criteria used in constructing the statistical tables are important for understanding and interpreting the information presented. Given the voluntary nature and origin of the data, the *Bulletin* staff, Editorial Board and funders cannot accept responsibility for the validity of the results presented, or for consequences resulting from their use. The data quality grade makes tentative distinctions about the quality of data presented to us, and we include only information for which we have a reasonable level of comfort. However, we cannot exclude the possibility of misrepresented self-reported results.

Potential distortions may arise from: (1) unreported subsidies and (2) misrepresented loan portfolio quality.

There can also be inaccuracies in reporting the costs of financial services in multipurpose institutions that also provide non-financial services, in part because of difficulties in assigning overhead costs. These risks are highest for younger institutions, and for institutions with a record of optimistic statement of results. If we have grounds for caution about the reliability of an MFI's disclosure, we will not include its information in a peer group unless it has been externally validated by a third party in which we have confidence.

Adjustments to Financial Data

The *Bulletin* adjusts the financial data it receives to ensure comparable results. The financial statements of each organization are converted to the standard financial statement presentation used by the *Bulletin*. This presentation can be simpler than that used by most MFIs; so, the conversion consists mainly of consolidation into fewer, more general accounts. In some instances, and where the original accounts did not have appropriate disclosure, the *Bulletin's* accounts reveal more details on the financial service operations than did the originals. After this reclassification, three analytical adjustments are applied to produce a common treatment for the effect of: a) inflation, b) subsidies, and c) loan loss provisioning and write-off. In the statistical tables the reader can compare these adjusted results.

Inflation

The *Bulletin* reports the net effect of inflation by calculating increases in expenses and revenues due to inflation. Inflation decreases the value of net monetary assets, represented by the *Bulletin* as the difference between equity and fixed assets. This erosion in the value of net monetary assets is obtained by multiplying the prior year-end equity balance by the current-year inflation rate.¹ Fixed asset accounts, on the other hand, are revalued upward by the current year's inflation

¹ Inflation data are obtained from line 64x of the International Financial Statistics, International Monetary Fund, various years.

rate, which results in inflation adjustment income, offsetting to some degree the expense generated by adjusting equity.² On the balance sheet, this inflation adjustment results in a reordering of equity accounts: profits are redistributed between real profit and the nominal profits required to maintain the real value of equity.

MFIs that borrow from banks or mobilize savings have an actual interest expense, which is an operating cost. In comparison, similar MFIs that lend only their equity have no interest expense and therefore have lower operating costs. If an MFI focuses on sustainability and the maintenance of its capital/asset ratio, it must increase the size of its equity in nominal terms to continue to make the same value of loans in real (inflation-adjusted) terms. Inflation increases the cost of tangible items over time, so that a borrower needs more money to purchase them. MFIs that want to maintain their support to clients must therefore offer larger loans. Employees' salaries go up with inflation, so the average loan balance and portfolio must increase to compensate, assuming no increase in interest margin. Therefore, an institution that funds its loans with its equity must maintain the real value of that equity, and pass along the cost of doing so to the client. This expectation implies MFIs should charge interest rates that include the inflation adjustment expense as a cost of funds, even if this cost is not actually paid to anyone outside the institution.

Some countries with high or volatile levels of inflation require businesses to use inflation-based accounting on their audited financial statements. We use a proxy of this same technique in the *Bulletin*. Of course, we understand that in countries where high or volatile inflation is a new experience, MFIs may find it difficult to pass on the full cost of inflation to clients. These adjustments do not reflect policy recommendations; rather, they provide a common analytical framework that compares real financial performance meaningfully.

Subsidies

We adjust participating institutions' financial statements for the effect of subsidies by presenting them as they would look on an unsubsidized basis. These adjustments do not intend to suggest that MFIs should or should not be subsidized. Rather, they allow the *Bulletin* to see how each MFI would look without subsidies for comparative purposes. Most of the participating MFIs indicate a desire to grow beyond

² In fact, an institution that holds fixed assets equal to its equity avoids the cost of inflation that affects MFIs which hold much of their equity in financial form.

the limitations imposed by subsidized funding. The subsidy adjustment permits an MFI to judge whether it is on track toward such an outcome. A focus on sustainable expansion suggests that subsidies should be used to defray start-up costs or support innovation. The subsidy adjustment simply indicates the extent to which the subsidy is being passed on to clients through lower interest rates or whether it is building the MFI's capital base for further expansion.

The *Bulletin* adjusts for three types of subsidies: (1) a cost-of-funds subsidy from loans at below-market rates, (2) current-year cash donations to fund portfolio and cover expenses, and (3) in-kind subsidies, such as rent-free office space or the services of personnel who are not paid by the MFI and thus not reflected on its income statement. Additionally, for multipurpose institutions, the *MicroBanking Bulletin* attempts to isolate the performance of the financial services program, removing the effect of any cross subsidization.

The cost-of-funds adjustment reflects the impact of soft loans on the financial performance of the institution. The *Bulletin* calculates the difference between what the MFI actually paid in interest on its subsidized liabilities and what it would have paid at market terms.³ This difference represents the value of the subsidy, which we treat as an additional financial expense. We apply this subsidy adjustment to the average balance of borrowings carried by the MFI over the year. The decreased profit is offset by generating a "cost of funds adjustment" account on the balance sheet.

If the MFI passes on the interest rate subsidy to its clients through a lower final rate of interest, this adjustment may result in an operating loss. If the MFI does not pass on this subsidy, but instead uses it to increase its equity base, the adjustment indicates the amount of the institution's profits that were attributable to the subsidy rather than operations.

Loan Loss Provisioning

Finally, we apply standardized policies for loan loss provisioning and write-off. MFIs vary tremendously

³ Data for shadow interest rates are obtained from line 60I of the International Financial Statistics, IMF, various years. The deposit rate is used because it is a published benchmark in most countries. Sound arguments can be made for use of different shadow interest rates. NGOs that wish to borrow from banks would face interest significantly higher than the deposit rate. A licensed MFI, on the other hand, might mobilize savings at a lower financial cost than the deposit rate, but reserve requirements and administrative costs would drive up the actual cost of such liabilities.

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.

Wherever 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 a minimal even playing field 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.

Table 1 Financial statement adjustments and their effects

Adjustment	Effect on Financial Statements	Type of Institution Most Affected by Adjustment
Inflation adjustment of equity (minus net fixed assets)	Increases financial expense accounts on income statement, to some degree offset by inflation income account for revaluation of fixed assets. Generates a reserve in the balance sheet's equity account, reflecting that portion of the MFI's retained earnings that has been consumed by the effects of inflation. Decreases profitability and “real” retained earnings.	MFIs funded more by equity than by liabilities will be hardest hit, especially in high inflation countries.
Reclassification of certain long term liabilities into equity, and subsequent inflation adjustment	Decreases concessional loan account and increases equity account; increases inflation adjustment on income statement and balance sheet.	NGOs that have very long-term, very low-interest “loans” from international agencies that function more as donations than loans, or transformed institutions with subordinated debt.
Cost of funds adjustment	Increases financial expense on income statement to the extent that the MFI's liabilities carry a below-market rate of interest. Decreases net income and increases subsidy adjustment account on balance sheet.	MFIs with heavily subsidized loans (i.e., large lines of credit from governments or international agencies at highly subsidized rates).
Reclassification of donations below net operating income	Reduces net operating income on the income statement. Increases accumulated donations account under equity on the balance sheet.	NGOs during their start-up phase. This adjustment is relatively less important for mature institutions.
In-kind subsidy adjustment (e.g., donation of goods or services: line staff paid for by technical assistance providers)	Increases administrative expense on income statement to the extent that the MFI is receiving subsidized or donated goods or services. Decreases net income, increases subsidy adjustment account on balance sheet.	MFIs using goods or services for which they are not paying a market-based cost (i.e., MFIs during their start-up phase).
Loan loss provisioning adjustment	Usually increases loan loss provision expense on income statement and loan loss reserve on balance sheet.	MFIs that have unrealistic loan loss provisioning policies.
Write-off adjustment	On balance sheet, reduces gross loan portfolio and loan loss reserve by an equal amount, so that neither net loan portfolio nor total assets is affected.	MFIs that leave non-performing loans on their books for over a year.

ABOUT MIX

The **Microfinance Information Exchange, Inc. (MIX)** is the leading provider of data, benchmarks and analysis for the microfinance industry. Dedicated to strengthening the microfinance sector by promoting transparency, MIX provides detailed financial, operational and social performance data on microfinance institutions, in addition to general business information on investors, networks and service providers associated with the industry. MIX does this through a variety of publicly available platforms, including MIX Market (www.mixmarket.org) and the **MicroBanking Bulletin**.

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Microfinance Information Exchange, Inc.
1901 Pennsylvania Avenue, NW Suite 307
Washington, DC 20006
Tel: +1 202 659 9094

Fax: +1 202 659 9095
e-mail: info@themix.org
website: www.themix.org