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Part I

Introduction

1

Efficiency and Sustainability in Microfinance

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1.1 Promise and achievements

More than many other development strategies, microfinance, that is, the provision of financial services to the poor on a sustainable basis, sets high expectations. It is supposed to help attain – more or less directly – several of the Millennium Development Goals adopted by the United Nations in 2000. Microfinance should enhance access to education, health services, water and social services. In addition, it should extend and deepen the market, pushing out the frontier of the financial sector (von Pischke, 1991), pioneering where commercial institutions do not (yet) dare to tread. Such positive externalities are rarely associated with other poverty-reducing strategies. Above all, microfinance institutions are expected to be able – ultimately – to pay for themselves. After just a few years of start-up support, they should in principle become fully self-financing.¹ The question is: is that actually happening?

It is true, over the past 20 years there has been a spectacular proliferation of microfinance institutions (MFIs):² at the end of 2005 over 3000 MFIs were reported to be operating worldwide, serving over 113 million poor families,³ raising at least US\$40 billion in small deposits and distributing US\$50 billion in small loans. Within five years (1999 to 2003) MFIs in West Africa, for example, overtook banks in their client outreach, offering services to 25 per cent of the active population compared to the 8 per cent reached by banks (PASMEC, 2005).

Microfinance is not just promises; there is evidence of positive impact. There can be little doubt that MFIs reach the poor and help them to better cope with risk, to take advantage of income-generating opportunities and to reduce their vulnerability (Paxton, 2002). While this impact may be less spectacular than many had hoped for, on the whole, millions

of the poor would be worse off without microfinance. In comparison to alternative development strategies, microfinance certainly has not done badly at all. As far as outreach to the poor and tangible impact on incomes is concerned, microfinance has delivered. But this is not the whole story.

The promise of microfinance is also to achieve a positive impact on poverty via institutions that are fully financially self-sufficient, meaning that they can survive without any subsidies. This is unusual for anti-poverty strategies which one tends to associate with endless and substantial resource transfers. Microfinance is different: it claims to be able to cater to the needs of the poor operating on pure market principles. Of course, it is generally admitted that at the start of a microfinance scheme some public money is required and even for a transition period until the institution has reached market maturity; but there is a broad consensus in microfinance circles that, with time, subsidies should phase out. Poverty outreach and financial sustainability are thus the twin goals that make up the essence of microfinance, placing it somewhere in the middle between welfare schemes and commercial banking.

'Full financial sustainability' or 'financial self-sufficiency' is defined as a ratio of adjusted operating revenues to adjusted operating expenses (financial, administrative, provisions), where the adjustments show whether or not the institution could cover its costs if its activities were unsubsidized and if it had to raise capital at commercial rates. These adjustments call for some complicated calculations that many MFI managers may not have the time to carry out; or they may be reluctant to disclose failure to have reached full financial self-sufficiency, the hallmark of the best MFIs. Whether for lack of capacity or unwillingness, the fact is that only very few MFIs report audited and verified figures.

The *MBB (MicroBanking Bulletin)*, a database to which leading MFIs report voluntarily, and the only source of information displaying financial performance data of microfinance institutions worldwide with a consistent methodology, shows in its April 2006 issue that of 302 MFIs reporting to it, two-thirds (209) were indeed financially self-sufficient. One could conclude then that the promise of microfinance can be fulfilled, that it is possible to cater to the poor and yet make a profit sufficient enough to cover the relatively high costs of carrying out financing activities in this market segment. Compared to the total sample of 302 MFIs these financially self-sufficient MFIs tend to be older (eight years and more), larger in terms of clients and loan portfolio and use individual lending techniques (Table 1.1).⁴

To have 209 out of 302 MFIs reporting voluntarily is not bad at all, particularly if one takes into consideration that all MFIs reporting

Table 1.1 Selected indicators for a sample of microfinance institutions, July 2003 (per cent, unless otherwise indicated), comparing all MFIs with financially self-sufficient MFIs

	All MFIs	Financially self-sufficient MFIs
Institutional characteristics		
Age (years)	8	10
Average assets (million US\$)	7.9	14.5*
Institutions (number)	124	66
Offices (number)	19	17
Financing structure		
Capital/asset ratio	42.7	40.4
Commercial funding liabilities ratio ¹	44.1	76.0*
Deposits to total assets	12.3	16.4
Gross loan portfolio/total assets	70.9	73.1
Outreach indicators		
Active borrowers (number)	15,553	22,841
Percent of women borrowers	62.9	61.9
Average loan balance per borrower (US\$)	532	621
Average loan balance per borrower/ GNP per capita	54.3	66.4
Voluntary savers (number)	3,345	6,019
Average savings balance per saver (US\$)	269	258
Financial indicators		
Return on assets	0.1	5.7*
Return on equity	2.3	14.6
Profit margin ²	0.3	19.4
Operating expense/Loan portfolio	29.4	22.2
NPLs (overdue >30 days) to gross loans	2.8	2.5
NPLs (Overdue >90 days) to gross loans	1.5	1.5

Notes: The sample of MFIs comes from the *MicroBanking Bulletin*. It is obtained by voluntary participation of MFIs worldwide, and therefore vulnerable to self-selection bias. Participating MFIs are benchmarked, and the information may be used by investors, donors and other service providers. A more detailed description can be found at <http://mixmbb.org>.

¹ All liabilities with 'market' prices in per cent of average gross loans.

² Net operating income/financial revenue.

* The value of financially self-sustainable differs from the total sample at the 1 per cent significant level.

Source: MBB, 2003.

to the MBB appear to improve in their financial performance from 2001 to 2004, even those that manage to cover their costs only with *unadjusted* operating revenues. Still, a few hundred success stories do not make up for the thousands that do not report to the MBB, and

whose success or failure to phase out subsidy dependence remains unknown.

The *MBB* is one of the principal publications of the MIX (Microfinance Information eXchange, Inc.). While the *MBB* has fairly rigorous reporting requirements there are other MIX data facilities that put the threshold somewhat lower. The 'MIX Market', notably, lists all the microfinance institutions that report to it, ranking them by a five-diamond system according to data quality and disclosure. Here the data on financial self-sufficiency are not adjusted: the MIX Market reports 'operational self-sufficiency' (OSS). OSS values exceeding 100 per cent signal that operating revenues cover and exceed operating expenses, regardless of whether or not their capital and staff costs are subsidized. There is no distinction here between institutions that are heavily subsidized with substantial and long-term credit lines at concessional rates and other MFIs receiving a one-off donation of office furniture and computers. Operational self-sufficiency is the very minimum in performance that one can expect from an MFI: if an MFI cannot break even with external support and fails to get closer to the break-even point over time, then it has a problem.

This applies to over 259 MFIs of the 640 that report to the MIX Market as of December 2006; and even the 381 institutions with operational self-sufficiency in excess of 100 per cent may not be able to do without subsidies: an OSS value of, say, 140 per cent means that the institution manages to generate a comfortable margin, but whether this is largely or just marginally due to heavily subsidized refinancing facilities cannot be determined.

While the MIX Market population may be three times the number of MFIs that report to the *MBB* and thus be somewhat more representative, it is still just the tip of the iceberg of thousands and thousands of known MFIs that report to neither database, and, if one goes by the reports of the Microcredit Summit, even this may not capture the universe of all microfinance institutions worldwide.

The lack of reliable information puts donors and government on the spot. How can they withdraw from an anti-poverty strategy that they had helped to start up and which should become ultimately self-financing if the extent of continued subsidy dependence is not known? Not only are the data lacking, but the performance indicator 'operational self-sufficiency' is itself confusing, as it lumps together what is being earned by the MFI's own loan operations and what it received as subsidies.

In 1995 the donor community arrived at a straightforward consensus that all MFIs should finance themselves after seven to ten years.⁵ Indeed, some do (which, by the way, has not stopped some of their donor partners continuing to subsidize them). Others have not, and their number by far exceeds the success stories. The seven to ten-year transition period is over now, so donor agencies and governments are beginning to ask themselves what conclusions they should draw:

- Are MFIs that continue to be subsidy dependent simply slower at arriving at full financial sustainability or structurally unable to meet the target?
- Financially self-sufficient MFIs have more assets, clients and staff; they use more credit lines and take deposits. Since the successful MFIs appear to be larger than the less successful MFIs, could it be that the failure to become fully financially self-sufficient is due to the lack of scale economies?
- If it is scale that determines whether and how an MFI can combine poverty outreach and financial performance, social and financial goals, why is it that some MFIs do not grow faster? Is it the local context or is it poor management of the MFI?

It is also possible that the norm of seven to ten years was simply unrealistic and this could go some way to explaining the high proportion of apparent underachievers in terms of financial self-sufficiency. The time limit may have made sense for MFIs in a particular region with particular market characteristics, say South Asia, but not globally. It could also be that the norm of full financial self-sufficiency after seven to ten years has induced managers of some MFIs to make decisions that are actually detrimental to the goal they are after, such as excessively pushing the growth of the loan portfolio at the expense of their mission and the quality of their loan portfolio.

If failure to become financially self-sufficient is not due to poor management but to contextual factors and to a market with a low client density and limited absorption capacity of debt, then the financial performance of an MFI cannot be interpreted in isolation of its context. While all MFIs pursue the twin goals of poverty outreach and financial self-sufficiency, they combine these two goals differently. This means that the, say, 90 per cent of apparent 'underperformers' cannot be measured against the standard of the 10 per cent of performers, just on the basis of their *financial* performance.

In a first step towards differentiation, the *MicroBanking Bulletin's* peer group and benchmarking methodology classifies MFIs by region, loan portfolio size, institutional type (member-based or not) and target market. This adjusts for regional and other variations in the entire MFI universe. Theoretically, the differentiation by peer groups and setting of meaningful relative benchmarks could be pursued indefinitely, since no two MFIs are really alike: they differ by delivery methodology, institutional maturity, accessibility and competitiveness, even within the same country.

Assuming that the set of characteristics currently used by the *MBB* and *MIX* represents a meaningful degree of differentiation between types of MFIs, another question arises: how can one apply financial self-sufficiency as a criterion of performance to those MFIs that *choose* to position themselves more towards the 'social' end of the continuum between poverty outreach and financial sustainability? Poverty-focused MFIs set their priorities differently and may want to take more time to reach full financial sustainability than other MFIs that attach a higher priority to full financial sustainability. Just as it would not make sense to measure commercially viable MFIs primarily or exclusively in terms of their poverty impact, so it is obviously debatable to use financial self-sufficiency as the primary performance criterion for more poverty-oriented MFIs.

There has to be a balance in the measurement of advancement towards these two goals, taking into account the plurality of MFI types and missions. After all, donors and governments also position themselves differently on the continuum between pure market prescriptions and state interventions.

To recognize the multiple combinations possible between poverty outreach and financial performance is one thing, to transform this into a practical principle guiding decisions on subsidization is another. Donors and governments face several challenges:

- The information about subsidy dependence is available only for a few hundred MFIs.
- The most commonly used indicator of financial performance, operational self-sufficiency, can be misleading as it lumps together genuine operating net revenue with transfers.
- Scale economies are fundamental for a successful combination of social and financial goals; but local markets do not always allow such scale economies.
- There are MFIs and MFIs: some may have made a deliberate decision to achieve full financial self-sufficiency as rapidly as possible even if

this is at the expense of poverty outreach. How should donors accommodate the multiplicity of mission goals and their combinations in the microfinance industry?

There is a puzzling variety of MFIs out there, some regulated and others not, many multi-purpose NGOs, others cooperatives, banks or non-bank financial institutions, a few very large and many others with barely a few thousand clients. To be even-handed in their decision to continue, discontinue or start funding support, governments and donors need to be able to discriminate between different types of MFIs and different operating environments. At present this is not possible. What a donor can do – at least for those MFIs that produce statistics on social and financial performance regularly – is to distinguish between MFIs of varying degrees of financial self-sufficiency, or to rank MFIs by the extent to which they reach many very poor clients. However, whether a given MFI is doing as best as it can *given the circumstances* can only be determined on the basis of a criterion that transcends social and financial performance.

What donors need is a criterion that captures all possible combinations of poverty outreach and financial performance, since profitability in isolation is not a reliable yardstick for performance measurement of MFIs, which are constrained profit maximizing institutions. A criterion that encompasses both financial and social dimensions of microfinance is efficiency. It is equally applicable to commercially viable MFIs and not yet financially self-sustaining MFIs that seek more immediate poverty reduction. This book argues that it is possible and fairer to base the performance measurement of MFIs – and hence entitlement to continued donor and government funding – on their efficiency relative to other MFIs sharing the same mission and operating in comparable contexts. Efficiency allows donors and governments to base their decisions on overall achievement in both dimensions, financial and social.

1.2 Efficiency in the microfinance literature

Efficiency relates quantities and costs of inputs and outputs. A firm is efficient if it maximizes the quantity/price of an output for given quantities/prices of inputs; alternatively it is efficient if for a given quantity/price of output it operates with the least quantity or least costs of inputs. Efficiency is not an entirely unfamiliar concept in microfinance. The Microfinance Consensus Guidelines (CGAP, 2003), which provide donors and MFI practitioners with a common framework for measuring performance, present nine ratios for efficiency/productivity.

Two of these relate an output to another output (value of loans disbursed to total number of loans disbursed), two other ratios relate the number of active borrowers/clients to an input, that is, the number of loan officers/staff. Four ratios relate operating expenses (or a subset of these) to an output (average gross loan portfolio) or to the number of active borrowers/clients. One ratio is singled out as the 'most commonly used efficiency indicator for MFIs', and that is operating expense/average gross loan portfolio or total assets.⁶

The definition of 'efficiency' in the microfinance literature has evolved considerably.⁷ The first issue of the *MicroBanking Bulletin (MBB)* of 1997 does not mention efficiency at all. The notion 'operational efficiency' appears for the first time in the 1999 *MBB*. The *MBB*'s fourth issue of 2000, dedicated entirely to 'efficiency in microfinance', proposes two indicators of efficiency: administrative expenses/average loan portfolio and yield/ average loan portfolio.⁸ In 2001 yield/portfolio is dropped as an indicator of efficiency and the ratio 'administrative expense/average gross loan portfolio' is split up into two (staff and other administrative costs), as shown in Table 1.2.

From 2005, the set of efficiency indicators appears to have finally settled with five measures (Table 1.3). The only change compared to earlier exercises is that the *MBB* now also adjusts the gross loan portfolio and the number of active borrowers; there is also now an indicator relating adjusted operating expense to the adjusted average number of loans.

The efficiency ratios presented in the Donor Consensus Guidelines and the *MBB* are input/output ratios, using the outputs 'loan portfolio' and 'borrowers'. Other outputs (savings accounts, other financial services) are not considered, nor inputs such as total liabilities, long-term debt and so on. Given the differences in costs, volume and fungibility of financial resources (equity, soft loans, market loans and deposits), it would be interesting to add these inputs to the calculation of efficiency ratios.

Table 1.2 Efficiency indicators in the *MBB*, sixth edition (2001)

Efficiency		
Total administrative expense/loan portfolio	Administrative expense + in-kind donations/ Average gross loan portfolio	(%)
Salary expense/Loan portfolio	Administrative expense + in-kind donations/ Average gross loan portfolio	(%)
Other administrative expenses/Loan portfolio	Administrative expense + in-kind donations + personnel expense/ Average gross loan portfolio	(%)

Table 1.3 Efficiency indicators in the MBB, tenth edition (2005)

Operating expense/Loan portfolio	Adjusted operating expense/Adjusted average gross loan portfolio	(%)
Personnel expense/Loan portfolio	Adjusted personnel expense/Adjusted average gross loan portfolio	(%)
Average salary/GNI per capita	Adjusted average personnel expense/GNI per capita	(%)
Cost per borrower	Adjusted operating expense/Adjusted average number of active borrowers	(x)
Cost per loan	Adjusted operating expense/Adjusted average number of loans	(x)

The way efficiency is defined and efficiency ratios are constructed has direct implications for the performance measurement of MFIs. The choice of the denominator, for example, changes rankings amongst MFIs: in Latin America, FIE, Los Andes and FONDESA achieve high efficiency values because of large average loan sizes, whilst two WWB affiliates in Colombia come out best when measured by borrower/staff ratios (von Stauffenberg, 2002).

Efficiency measurement in microfinance calls for techniques that can be applied to performance measurement both of profit-maximizing and constrained profit-maximizing or public service units, such as data envelopment analysis (DEA) or similar linear programming techniques.

1.3 Efficiency: the concept

Microfinance is not the only sector using 'best of class' or 'best practice' concepts. In banking, manufacturing or not-for-profit organizations, measures are being used to determine how close a given firm comes to the efficiency frontier (Berger and Humphrey, 1997). Given the diversity of objectives of MFIs, ranging from very pronounced poverty focus all the way to quick commercialization, non-parametric approaches such as DEA seem to be in principle more suitable (see an application in Chapter 6).⁹

In 'frontier efficiency' the performance of an average firm is expressed as economies in input use that it could achieve if it produced on the frontier instead of on its current location. A value of 0.79, for example, signals that a MFI could save on 21 per cent of inputs, such as loan officer staff time, if it operated on the frontier. The value can also be

expressed as a percentage inefficiency, in this case 27 per cent: $(1-0.79)/0.79$.

DEA-based studies of the efficiency of banks, insurance companies and other financial institutions by Berger and Humphrey (1997) come up with findings of interest to the performance measurement of MFIs:

- Cross-country comparisons have limited value because of differences in the regulatory and economic environment which should be controlled for (as is done in Chapter 6). This is reflected in the fact that MFIs in the same country share similar ranges of spread.
- In banking, market power is significantly associated with lower deposit rates and higher loan rates, after accounting for efficiency differences, but it has little effect on profits. This should have an interesting resonance in microfinance with institutions that are not profit-maximizing units, but where competition is gradually obliging MFIs to take a critical look at deposit mobilization and remuneration and pricing of loans.
- How outputs are specified and how the range of outputs is determined makes a difference to efficiency; especially whether deposits are counted as an output or as an input. As most MFIs see deposit-taking as a service their clients expect them to provide, it may be appropriate to include deposits (number of accounts or total deposit volumes) as outputs. This is not the case in the Consensus Guidelines, the *MBB* nor the Micro Rate/IDB Technical Guide.
- There is no strong evidence that the legal form, ownership and organizational form make much of a difference to efficiency. This could be an aspect in which microfinance differs from banking, given its labour-intensity and associated agency problems and the widespread use of clients in the loan appraisal, monitoring and enforcement process.
- Broadening the range of products and services seems to reduce cost efficiency: this would probably also be the case in microfinance but has so far not been empirically shown.

The confusion between efficiency and financial sustainability may partly have to do with the use of ratios to measure efficiency. Financial performance is easier to observe, which may have biased the construction of ratios in favour of financial aggregates, rather than the combined social and financial outputs that are the trademark of microfinance. DEA, by contrast, uses multiple inputs with multiple outputs to construct *best practice* cost and production frontiers. The qualification of a particular

variable as 'input' or 'output' depends on one's interpretation of what finance is all about: in the intermediation model the input 'deposits' is transformed into an output 'loans'; in the production model (Nieto, Cinca and Molinero, 2004) deposits are seen as an output – a financial service – produced by inputs such as labour, financial resources and information technology and communication (ITC) equipment.

The interest in applying DEA to MFI performance measurement lies in three particularities that fit the real-life situation of MFIs. First, DEA requires that the entities whose performance is assessed relative to each other must be homogeneous, that is, 'use the same resources to procure the same outcomes albeit in varying amounts' (Thassoulis, 2001, p. 21). This is meaningful in an environment where credit-based NGOs compete with other types of MFIs such as savings and credit cooperatives. DEA also seeks to single out performance drivers that the management of a firm can influence, separating controllable from uncontrollable variables. This makes sense in microfinance because of important differences in market and regulatory contexts: some countries have interest rate ceilings, others not; some prohibit deposit-taking, others not; some governments are actively involved in retail microfinance, others stay out. Thirdly, DEA accommodates the fact that a unit uses several inputs and produces several outputs: measurement takes into account whether the output mix is modified as a result of an increase or reduction in input uses. Again, considering the modifications over time in product range and use of different kinds of labour and capital that one finds in microfinance, this is an appealing feature of DEA as a measurement tool of efficiency.

The application of DEA by Nieto, Cinca and Molinero (2004) on 30 Latin American MFIs shows that the level of efficiency achieved by a particular MFI depends on the specification of the input and output variables chosen. Some MFIs score high on efficiency because of superior technical efficiency or productivity values (number of loans per loan officer), others score high because of the maximization of revenues for a given level of operating expense, that is, because of the efficient use of financial resources (allocative efficiency). Differentiating the observed MFIs by legal status also brings out different efficiency rankings. If one allows for scale effects by integrating or leaving out the output variable 'gross loan portfolio', yet another ranking of MFIs emerges.

Nieto, Cinca and Molinero's DEA application uses the number of credit officers and total operating expenses as indicators of inputs, whilst outputs are measured by the number of loans outstanding, the gross loan portfolio and the income from interest and fees. These two inputs and

three outputs can be combined in 21 possible variable specifications. The finding is that no MFI is efficient under all specifications. The way variables are specified thus determines the ranking and efficiency status of individual MFIs: 'there is no single path to efficiency in MFIs' (Nieto, Cinca and Molinero, 2004). The MFI WWB Popayan is nearly on the efficiency frontier in terms of number of loans per loan officer, whilst another MFI, FINDESA, is the relative best in terms of optimizing interest and other operating revenue per unit of operating expense.

The advantage of a DEA application over ratio analysis for efficiency measurement in microfinance is that it integrates all possible interrelationships between the factors of production in microfinance.¹⁰

1.4 Applicability of efficiency concepts in microfinance

The business of microfinance can be seen from two angles: one can see it as the transformation of certain inputs into certain outputs; one can also see microfinance as the intermediation of surplus holding units and deficit units. In the first case efficiency is a matter of maximizing output quantities or revenues with given inputs, or minimizing input use for a given quantity of outputs. In the intermediation perspective efficiency in microfinance is signalled by the spread, that is, the difference between what MFIs pay for their resources and what they charge for their services. Data collected for this book (see Section 1.6 for more details) show that the spreads in microfinance are high, generally 20 per cent and more, with only around a quarter falling just below 20 per cent.¹¹

In microfinance, efficiency is thus a matter of technical transformation of inputs (staff, funds) into outputs (loans, other services). Such 'technical' efficiency measures include ratios such as the number of clients per loan officer or staff. In our sample of 45 MFIs, eight have ratios of more than 400 clients per loan officer, and two of less than 100, whilst the bulk (35 MFIs) have between 100 and 400 clients. Looking over the five-year period 1999 to 2003, 35 MFIs made improvements in the ratio, but in ten MFIs the ratio dropped.

Measures of allocative efficiency show whether output prices have been maximized for given input prices (loan officer wages, interest paid on credit lines) or alternatively whether input prices have been minimized for a given output price. Most of our sample 45 MFIs remain more or less within a certain range of operating expenses over time, though at very different levels. In Viet Nam the three MFIs reviewed have consistently low operating expenses because they do not pay for physical

infrastructure and staff expenses as part of their operations are taken care of by the state. By contrast even large MFIs such as CARUNA and FDL in Nicaragua or CACTRI and San Roque in Bolivia show consistently high levels of operating expenses.

MBB data show that MFIs generally do act on and modify input and output prices to improve their technical and allocative efficiency, though within certain constraints. MFIs that focus on the very poor and engage in very small transactions set their interest rates high compared to other, mixed portfolio MFIs (interest rates in the range of 35–37 per cent on average as opposed to a range between 20 and 26 per cent on average), unless constrained by interest rate ceilings (Christen, 2000). These poverty-oriented MFIs charge relatively high interest rates, but also seem to pay modest salaries; their staff members are as productive as staff in other MFIs; still, these MFIs do not seem to attain full financial sustainability. There can thus be a situation where an MFI is efficient technically and in allocative terms under market constraints, but not fully financially sustainable. This discrepancy between efficiency and financial sustainability in real-life MFIs confirms the need to highlight efficiency as a neutral and higher-order performance criterion.

There are good reasons why MFIs that serve very poor clients often appear to charge higher interest rates than MFIs catering to a more mixed clientele. As in commercial finance, microfinance has high fixed production costs; MFIs with a portfolio of many small loans carry higher unit costs, as their clients may often live in inaccessible locations and need more interactions. These poverty-focused MFIs would have to raise the interest rate even higher, near the level of usury rates, to ensure full financial sustainability. By choice or by imposed regulation, MFIs may not want nor be able to do that. Yield maximization is not always a reliable indicator of efficiency in microfinance since, as we have seen, many institutions are unable to move upscale (Morduch, 2000).

Inversely, according to *MBB* data, financially sustainable MFIs can afford to charge comparatively modest interest rates, because they face lower financial and administrative costs catering to easier market segments. The question is whether these administrative costs are lower because of good management or because of context-related factors such as population density, a higher debt absorption capacity, a more homogeneous clientele, the acceptance of group liability and more competition in factor markets. As MFI are *not* profit-maximizing entities per se, ratio analysis alone relating input and output quantities and costs cannot reveal the drivers of efficiency. However, it is precisely this sort of information that donors and governments need to be able to make an informed

decision on whether or not to subsidize an MFI that is not yet self-financing but efficient, or to cut off support to another MFI that is not yet self-financing, but inefficient.

According to *MBB* data the most commonly used efficiency ratio in microfinance, operating expenses related to average gross loan portfolio, is much higher in financially unsustainable programmes than in sustainable programmes (51 per cent compared to 24 per cent) (Christen, 2000). This can be due to several factors: it could be the result of inefficient management failing to compress costs or expand the loan portfolio; but it could also be due to a limited debt absorption capacity of clients, scarcity of qualified loan officers, low client density, lack of competition and so on: contextual factors.

To understand the determinants of the classical efficiency indicator in microfinance, that is, operating expenses/average gross loan portfolio, it helps to look at its three main drivers: average loan balances, staff costs and staff productivity.

Average loan balance

Average loan balance (expressed as a percentage of GDP) is a common poverty indicator: it reflects the debt absorption capacity of clients and the MFI's poverty focus. When an MFI decides to set itself up in a particular location, it cannot always freely vary its clientele. The average loan balance in this location may be too low for compressing administrative expenses, but this is a deliberate choice on the part of the MFI: it may want to stay within this market niche and serve the poor. Such an MFI cannot be labelled 'inefficient' only because its average loan balances are small. Within any given market segment, some MFIs can be efficient and others not: average loan balance alone is an indicator that has nothing to do with efficiency.

Staff costs

The second driver of operating expense is staff costs. Salaries and other labour costs reflect supply and demand in a particular labour market for a given level of skills, experience and trustworthiness. Of course, it is possible that an MFI carries high staff costs because it failed to search the market of loan officers sufficiently, but high staff costs could also be the result of scarcity of skills and experience. Hence it is more meaningful to compare the wage rates paid by MFIs facing similar local labour markets and using similar delivery techniques, that is, production functions, as illustrated in Table 1.4. The lower ratio of wages to GNP per capita in poverty-focused MFIs is not a reflection of inflated pay rates or

Table 1.4 Wages/GNP per capita

	MFI average	Poverty focused MFIs
Individual	4.9	2.4
Solidarity	6.7	5.4
Village banking	5.1	4.7

Source: Christen, 2000.

Table 1.5 Staff productivity (clients/loan officer)

	MFI average	Poverty focused MFIs
Individual	99	159
Solidarity	127	135
Village banking	186	199

Source: Christen, 2000.

unsatisfactory staff productivity. In fact, poverty-focused MFIs appear to pay lower wages per head and have comparable or even higher levels of staff productivity (Christen, 2000) (Table 1.5). Their high level of operating costs is due to other factors, rooted in different production functions.

Staff productivity

Staff productivity is the third driver of administrative costs. It is determined by organization and management but also depends on location and delivery methodology: MFIs in rural areas using an individual client approach are likely to show lower staff productivity than MFIs operating in urban areas with a mix of group lending and individual lending. Staff expenses are higher if transactions are small and frequent, as they require the same staff-time in screening, negotiating, controlling and monitoring larger transactions. Cost-reducing delivery techniques, such as joint liability, cannot be applied systematically, because they are not universally accepted: they may work wonders in Bangladesh, but not necessarily elsewhere. Moreover, there is less scope for risk diversification in rural markets than in others, and this affects provisions for bad debt – and thus yield.

One also needs to differentiate between loan officers that are regular, paid staff and those that are volunteers. The *Caisses Villageoises* in Mali,

for example, relied on volunteers for up to two-thirds of total staff. As competition increased with other MFIs in Mali, the *Caisses Villageoises* found it difficult to retain these volunteers and were obliged to recruit salaried staff. This drove up operating expenses and affected adversely its compliance with financial performance benchmarks.¹²

The three main drivers of efficiency in microfinance (average loan balances, staff costs and staff productivity) are thus only partly under the control of MFI managers. They constrain pricing at full cost and they also constrain the compression of costs. Put differently, pricing financial services at fully cost-covering levels is not feasible for *all* MFIs.

1.5 Efficiency versus financial sustainability

Can MFIs that are unable to charge fully cost-covering interest rates be automatically considered 'inefficient'? Poverty-focused MFIs are not avoiding pricing their services so as to cover their costs: MFIs that focus on the very poor and engage in very small transactions particularly tend to set their interest rates relatively high; compared to average MFIs they also tend to have the highest staff productivity in their respective regions and delivery techniques and compressed staff pay (Christen, 2000). In terms of allocative and technical efficiency they seem to operate already fairly close to their efficiency frontier. They appear to have pushed managerial efficiency to the limit and few options remain to obtain full financial sustainability, other than raising the average loan size. In other words, they may have no choice but to go up-market.¹³

Cases such as Bancosol in Bolivia illustrate that MFI managers can choose to modify their production function (by switching from group liability-based loans to individual and collateral-based loans). The result is a relative realignment of the MFI's mission, between poverty outreach and financial sustainability, but not necessarily a radical departure from its social goals.

Emphasizing or de-emphasizing financial sustainability versus poverty outreach can be the choice of the managers and owners of the MFI. It can also be the result of pressure by donors. Donors may wish to see a better financial result, or, to the contrary, donors may want to see more focus on the very poor. If management follows these instructions, then the production function of the MFI (namely range and nature of products and services, mix of financial and non-financial services, requirements for collateral, group vs. individual loans, but also use of data processing and transport technology) changes, which means that its efficiency norms – technical and allocative – change as well.

Joint liability, a technique of microfinance delivery, is a case in point. Production functions in microfinance differ in their collateral requirements and the scope for externalizing transaction costs to clients. Joint liability is popular with more poverty-focused MFIs because it suits very poor clients without any assets whatsoever. KAXA Taon, an MFI in Mexico with 3000 clients, used to be such an MFI. It started with joint-liability based lending until, under donor pressure to improve financial performance, it introduced individual lending in 2002. Group-based loans declined from 100 per cent of the total loan portfolio in 2001 to 58 per cent of total loans outstanding in 2003. At the same time, average loan size – a rough indicator of poverty focus – increased from 485 pesos in 1999 to 3165 pesos in 2003. While no tangible guarantee had been required for a group loan, it became a requirement for individual loans. The financial result improved from a deficit of 37,789 million pesos in 2000 to a surplus of 41,065 million pesos in 2003.

Similarly the CVECA Sissili in Burkina Faso, with 17,000 clients/members in a mainly rural environment, came under pressure from diverse donors in 2002 to improve its financial performance. The MFI announced that it would set itself a target of at least 70 per cent operational self-sufficiency. To that end it opened branches in urban areas catering to better-off clients, largely wage earners in the public sector. The MFI declared its continued commitment to rural operations. It hoped that the change in the production function would compensate for losses incurred in operations in rural areas.

These examples suggest that efficiency and financial sustainability are distinct dimensions of institutional performance in microfinance. In a perfect market and contextual environment it probably makes sense to equate efficiency with yield and operating costs relative to the loan portfolio; but in a market where most operators are not profit maximizers, financial sustainability fails to fully capture performance. Two, not uncommon, scenarios illustrate this. In the first, an MFI operates in an environment that constrains scaling up and leads to prohibitively high cost-covering interest rates, and at the same time also constrains further reductions in staff and non-staff costs. A second scenario is where a fully financially sustainable MFI continues to receive grants and subsidies, although they are no longer needed; in fact such a financially self-sufficient MFI could actually be technically inefficient compared to its peers.

Both scenarios show that in the longer term, it may be better for the growth of a competitive and undistorted microfinance market in developing countries that donors and governments look beyond financial performance and poverty outreach and consider more systematically a

dimension that has so far been largely overlooked: efficiency. Admittedly it is easier to read the bottom-line financial results of an MFI than to go through the pains of separating endogenous from exogenous drivers of operating expenses; but donors need to better understand this difference and appreciate how it influences the rationality of their decision to start, continue or discontinue specific forms of grants to individual MFIs, their networks and associated support institutions.

1.6 Structure of the book

The book draws on a survey of 45 MFIs, carried out in the framework of a joint project under the Geneva International Academic Network (GIAN), involving the University of Cambridge, the University of Geneva, the Institute of Development Studies (IUED) and, as coordinating agency, the ILO. Details are given in Annex I. Some of these MFIs perform well financially, others reach large numbers of very poor people, and a few manage to do both at the same time. The relative best performers are listed on the MIX, but most are not. In fact, most MFIs surveyed are probably representative of the larger population of MFIs in that they still struggle to get up to scale and combine their social and financial objectives, and they still depend on outside support.

The book is organized in five parts, including this introduction. Part II sets the stage and builds the conceptual framework; Part III presents four methods of empirical analysis, while Part IV applies these methodologies to specific regional contexts; Part V concludes, with policy recommendations.

In the chapter that follows, Chapter 2, Diop, Hillenkamp and Servet open Part II with a critical examination of the ambiguous links between access to finance and poverty reduction. In Chapter 3, addressing some of the reservations voiced by the previous authors, Comim takes Sen's 'capability perspective', arguing that intangible changes can be attributed to access to finance, beyond material improvements.

Having explored through these two chapters the relevance of microfinance to poverty reduction, we need to examine whether all kinds of institutions are equipped to deliver: whether in some types of MFIs and under some external constraints a microfinance institution may need to sacrifice financial performance for poverty outreach, or, inversely, need to move up-market to guarantee positive financial returns. In Chapter 4, Simanowitz examines the conundrum of the trade-off between social and financial objectives and how it can be managed practically.

In the concluding chapter of Part II, Chapter 5, Morduch addresses the role of the donor in microfinance and introduces the notion of 'smart

subsidies'. As positive spreads are perfectly compatible with substantial financial exclusion or the failure of new institutions to emerge and innovate in order to capture the demand for small-scale finance, there is a case for corrective action by public authorities. Morduch argues that government measures can be meaningful and effective, and can be designed in such a way as to avoid negative externalities.

Part III moves from theory to practice, presenting different methodologies for the empirical measurement of efficiency in MFIs. Because of the variety of goal combinations in the space between poverty reduction and profitability it is a real challenge to measure performance. In Chapter 6 Flückiger and Vassiliev present the DEA method, considering microfinance as a production function and the optimality of input use and output pricing. Using empirical data concerning over 40 MFIs in Peru, they show that efficiency can be measured in relation to one MFI ('best of class') that demonstrates the relative best combination of inputs and outputs.

Financial institutions can be treated in the same way as any other firm, producing goods and services with a given input mix, but the efficiency of financial institutions, including MFIs, can also be interpreted as the transformation of financial resources from surplus-holding units (depositors, investors) into deficit units (credit-taking firms and households). This financial intermediation model is implicit in Chapter 7 by Beck, which looks at efficiency in finance from the macroeconomic and sectoral point of view, focusing on spread as the key indicator of efficiency in finance.

Hamed explains in Chapter 8 how an application of multivariate analysis to the 45 countries in the GIAN survey leads to the determination of four clusters of MFIs that differ in the combinations of poverty outreach, financial performance and efficiency. The findings show that efficiency and financial results are distinct dimensions of performance. According to Hamed there are five drivers that position an MFI on the socio-financial space: location, legal form, scope for externalization of transaction costs, method of staff remuneration and delivery technique (group vs. individual loans, collateralized vs. uncollateralized loans). That leaves the precise location of an MFI relative to its peer leader to be determined. In an application of factor analysis, Ferro Luzzi and Weber demonstrate in Chapter 9 that it is possible to present graphically the location of MFIs as clusters, the relative best performers and the distance of any given MFI in a cluster to that relative best performing MFI.

Part IV presents four case studies that illustrate the variety of exogenous variables bearing on the precise position of an MFI on the

poverty–profitability continuum. The Mali case by Serra, Botti and Chereh-Robson (Chapter 10) deals with the consequences of subsidy dependence despite impressive growth and an encouraging policy and regulatory environment. The case of Morocco, presented by Meknassi in Chapter 11, is instructive for the probably unique combination of government support, commitment by the commercial banking sector, scale and pronounced poverty focus. The setting is entirely different in Eastern Europe and Central Asia (Chapter 12 by Pytkowska) where most MFIs are involved in lending to microenterprise activities to the exclusion of anything else. Finally, Chapter 13 (by Sciaraffia Merino) presents a unique application of an auctioning system to subsidies in microfinance. The Chilean PAC initiative offered *ex post* grants to commercial banks that could provide evidence of having given a micro-loan to an eligible microenterprise. Evaluations appear to show not only that this method was less costly to the taxpayer than alternative measures of getting credit to microenterprises, but also that a substantial proportion of these clients graduated into the banks' regular portfolio: an illustration of a 'smart subsidy'.

While the social value of microfinance is recognized by donors and governments, these same are reluctant to lend support to MFIs indefinitely. Part V examines both the importance of efficiency for donor agencies in their decision-making and the effects of public policy on the efficiency of MFIs. Chapter 14 (by Balkenhol) sums up the argument and identifies the implications for managers of MFIs, governments and donors. It calls on the donor community to focus on efficiency as the fundamental performance criterion so as to be able to encompass different degrees of social and financial missions in the large universe of MFIs.

Notes

- 1 'Poverty outreach and financial performance can be attained simultaneously' (Christen et al., 1995).
- 2 Some estimates put the total number of institutions at 1500, with 54 million clients; the World Bank's Sustainable Banking with the Poor Inventory refers to 1000 MFIs that have a minimum of 1000 clients and started operations before 1992; the Microcredit Summit Campaign lists 2931 MFIs serving over 80 million clients as of end 2003; Mosley refers to 7000 institutions. Schrieder and Sharma put the figure at 7000 (1999, p. 67); see also Lapenu and Zeller (2001, p. 10).
- 3 Microcredit Summit Campaign: State of the MCS Report 2006, p. 2.
- 4 *MBB*, Issue 12, April 2006, p. 47.
- 5 According to the 'Guidelines for the Selection and Promotion of Financial Intermediaries for MSE Finance', adopted in 1995 by the international donor

community and later by the Consultative Group to Assist the Poorest (CGAP), a donor consortium. These pink book norms have recently been replaced by a less rigorous target in the 'Donor Guidelines on Good Practice in Microfinance' (CGAP, 2004a).

- 6 The Consensus Guidelines warn that this indicator may lead to misinterpretations: 'MFIs that provide smaller loans will compare unfavorably to others, even though they may be serving their target market efficiently ... ; likewise MFIs that offer savings and other services will also compare unfavorably to those that do not offer these services.'
- 7 This section has benefited from thoughtful contributions by Yousra Hamed.
- 8 In an article in the same *MBB* issue, Todd Farrington (2000) proposes three efficiency indicators, the administrative expense ratio (as Christen), the number of loans per loan officer (Christen considered this as one of three drivers of operating expense together with wage costs and staff productivity) and the ratio of loan officers to total staff (not used by Christen). By contrast, Farrington does not consider yield/portfolio as an indicator of efficiency.
- 9 See Charnes et al. (1994) for an overview of DEA theory, methodology and applications.
- 10 In the words of Nieto, Cinca and Molinero (2004), ratios are 'only consensus indicators'.
- 11 Further analysis is required to explore the spread of MFIs with the spread in banks of the same environment, as well as the spread of MFIs in rural environments and others. The relation of spread with market power also needs to be explored further.
- 12 As one MFI staff member commented, 'initially it was normal for everyone to work for the community without being paid; unfortunately lately the competition with other NGOs that pay their staff is making things more difficult for the CV. As a result many cashiers who had been trained by our extension service leave and work in other NGOs where they get better wages. [...] These NGOs also compete with unrealistically low interest rates, because they get a lot of funding from donors' (GIAN survey questionnaire response, translated from French).
- 13 According to Christen (2001, p. 16) seven out of nine leading MFIs in Latin America, for example, saw an increase in their average real outstanding loan balance as a percentage of per capita GNP from 1990–99, remaining, though, still below poverty parity. Only two (Procredito Caja de los Andes and ADEMI) ended up with a portfolio that was clearly no longer poverty focused.

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