

Cost-effectiveness of Microfinance as a Poverty Targeting Tool

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Microfinance has generated much excitement in the development community because of the promise of what Morduch (1999) has termed the “win-win” proposition that microfinance institutions can serve the poor while making enough profit to cover costs. Certainly, there are examples of financial sustainable microfinance programs, and those institutions tend to serve the largest number of clients. But the reality is that “...most programs continue to be subsidized directly through grants and indirectly through soft terms on loans from donors” (Morduch (1999)). Given that few microfinance institutions are able to achieve financial sustainability, donors need to evaluate the benefits of supporting microfinance institutions against other alternative uses of those funds. This article attempts to position microfinance in the broader context of poverty reduction strategies and review the evidence on the cost-effectiveness of microfinance as a tool in the fight against poverty.

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Poverty Reduction Strategies

Poverty reduction strategies can be broadly characterized as “universal” approaches designed to benefit the poor indirectly as well as directly by promoting overall economic growth and “targeted” approaches which, as the name implies, target the poor directly. In the late 1980s debates over the effectiveness of the more traditional universal approach versus targeted interventions came to prominence. Questions were raised as to the effectiveness of broad-based subsidy schemes that often benefited the poor far less than the more well-off. Currently, conventional wisdom holds that growth is a necessary but not sufficient condition for reducing poverty, and that long-term poverty reduction can only be achieved by combining universal strategies with interventions specifically targeted toward the poor. (Weiss (2004)).

Poverty Targeting

But identifying the poor is not a straightforward exercise. Depending on the region, donors tend to use the \$1 a day or \$2 a day poverty line, while many countries have their own national poverty line. In China, for example, the national poverty line is roughly 2/3 that of the \$1 a day standard; 1/3 that of the \$2 a day standard.

Even if consensus can be reached on a poverty line, specifically identifying those households would require household survey data on consumption, expenditures and income. Thus, finely targeted schemes imply high administrative costs.

Practically, most programs rely upon targeting by activity, indicator, location or self-selection. Universal programs such as infrastructure projects or health or education programs can be broadly targeted by activity or location. As an example of targeting by

activity, it has become commonly accepted that primary education and primary health care have priority over urban hospitals or higher education since it has been established that the former are more progressive in servicing the poor. In China, infrastructure projects are often implemented in areas that are known to contain a relatively high concentration of the poor, an example of targeting by location. Specifically targeted interventions such as food subsidies, employment creation schemes or cash transfers target the poor with indicators such as lack of land ownership, type of dwelling, size of household and gender of head of household, that are correlated with poverty. Microfinance institutions may use a combination of targeting methods: locating geographically in a relatively poor area (targeting by location) and imposing eligibility requirements to participate in the program (targeting by indicator), but most rely primarily upon self-selection or self-targeting¹ by designing products that will only be of interest to the poor.

The targeting techniques commonly used have the advantage of low administration costs, but sacrifice on precision, resulting in leakage to the non-poor, Type I error, or under-coverage, Type II error. The optimal degree of targeting need not be to aim for the minimum degree of leakage since the costs of such targeting need to be compared with the benefits. (See table 1 for a visual explanation of these two types of error.)

Table 1 Around Here

¹ Other examples of self-targeting are workfare programs where payment is in cash or food at wage rates below the market level, or subsidization of low-quality foodstuffs like broken rice.

Poverty Impact Evaluation²

The poverty reducing impact of any given project would ideally be traced by evaluating the Economic Internal Rate of Return (EIRR) – the ratio of all benefits from the project to the costs of setting up and running it, where both benefits and costs are expressed in economic prices. The next step would be to look at how these returns are distributed across groups: what percentage of benefits are going to the target group, the poor, versus non-target groups. The EIRR to the target group should then be compared with Economic Opportunity Cost of Capital (EOCK) – the real rate of return on the marginal unit of investment in its best alternative use. The EOCK will differ between sectors and countries, but in practice donors often apply some standard rate between 10-12% as a benchmark for all projects. The higher the EIRR of a given project the more its poverty impact and for a project to be acceptable, its EIRR should be greater than the EOCK. Note that this is the same as requiring that the net present value – where the EOCK of 10-12% is used as the discount rate - should be greater than 0, or alternatively, that the Economic Net Present Value of a project should be greater than 1.

Readers can perhaps see how difficult it is to evaluate the poverty reduction impact in the case of microfinance. The costs of a given microfinance program can be calculated based on the amount of grants, subsidies and soft loans at below market prices and a careful analysis of other hidden costs such as the opportunity cost of any time donated by staff of the institution and any donations in kind such as rent-free facilities etc. Calculating the benefits of a microfinance program, however, is a bit more challenging. First, researchers would need to monetize the benefits of microfinance. Household

² Discussion in this section draws heavily on ADB (1997).

surveys which attempt to measure the effect of microfinance programs on income (as measured by consumption and expenditure) can be carried out, but such surveys are costly to conduct and may not be accurate. Even if completely accurate, measures of income changes may not pick up the benefit of consumption smoothing that are an important benefit for MFI clients. There are other non-financial benefits to program participants that do not show up even in an accurate measure of income – for example health and education benefits to MFI clients and their families. The economic benefits of better health or better education could perhaps be quantified by as some measure of the economic benefit of being able to work longer due to better health or increases in productivity due to better education, but other qualitative benefits such as empowerment of women participating in the programs, may not be as easy to quantify. Finally, there may be “spillover” benefits to non-participants of the program living in the same village and these effects are extremely difficult to identify.

Even assuming that it were possible to construct an accurate measure of the economic benefits from a given microfinance program, in order to look at the poverty impact ratio – the ratio of net economic benefits to the poor with net economic benefits to the project as a whole – we would also need a measure of what proportion of microfinance services are going to those below the selected poverty line.

Cost-Effectiveness Evaluation

Given the conceptual difficulties and high costs of calculating an accurate poverty impact ratio, evaluations sometimes rely instead upon a more practical measure, the cost effectiveness index (CEI). Rather than the ratio of benefits (which can be hard to

measure economically) to costs, the CEI compares costs to *output*. In the case of an MFI, output would presumably be something like each dollar of lending to the poor. Since accurately measuring the percentage of MFI clients that are in fact poor is complicated, the few CEI evaluations that have been conducted on microfinance institutions often assume a zero leakage rate, assuming that all clients are within the target group (all clients are poor). Since some costs may be covered by profits, we may want to consider only those costs that are met by outside funds: subsidies, grants, soft loans or other government transfers. A careful CEI analysis should also take into account donations in kind as explained above.

Cost Effectiveness Studies of Microfinance

There is often a general expectation that MFIs are an effective and efficient means of reaching the poor. For example, Wright (2000) argues that “...micro finance has a particular advantage over almost (and probably) all other interventions” in providing cost-effective and sustainable services to the poor. However, most studies of the impact of different forms of micro finance do not conduct a full cost effectiveness analysis in order to judge both the effectiveness of different alternatives and how microfinance interventions compare in efficiency terms with other ways of reaching the poor³.

A few studies have looked in detail at the impact and cost effectiveness of different forms of intervention. For example, Park and Ren (2001) look at the Chinese experience drawing on household survey data for 1997. They are able to compare three

³ The most natural comparison would be with other forms of targeted poverty interventions such as employment creation schemes, food subsidies or cash transfers.

types of programs based on ownership characteristics—NGO-based, mixed programs and government ownership. Whether in terms of conventional financial criteria like repayment rates, or measures of initial impact like targeting effectiveness, the NGO programs appear to function best, with the government-run programs the least successful.

Detailed mechanisms for micro lending are examined for Thailand by Kaboski and Townsend (2003), who look at different institutional variants such as production credit groups, women's groups, rice banks and buffalo banks, as well as a variety of services including training and various savings facilities. Of the forms of institutions, allowing for a range of other factors, the women's groups appear to have the largest positive impact on their members. Of the services offered, training in conjunction with credit appears to work well and the availability of savings facilities appears to be associated with asset growth amongst households. Of the savings services, regular 'pledged savings' have the largest positive impact. Explanations offered for this include the use of savings as collateral for further loans either from the institution itself or from other sources, and a reduction in the cost and risk of infrequent deposits and withdrawals. However since the poorest may not be in a position to offer regular savings this also provides an explanation for why they may benefit relatively less from MFIs.¹²

Early work by Khandker (1998) attempts to assess the cost-effectiveness of micro credit in Bangladesh (that is costs per taka of consumption for the poor) as compared with more formal financial institutions and other poverty-targeted interventions. His data are summarized in Table 2. They appear to be based on the assumption of a zero leakage rate to the non-poor. The interesting result that emerges is that the Grameen Bank

¹² Fujita (2000) makes this point in the context of Bangladesh.

is considerably more effective than BRAC and that, as expected, loans to female borrowers are considerably more cost-effective than loans to males. Further, subsidies to Grameen (but not to BRAC) appear to be a more cost effective means of reaching the poor than various 'food for work' programs. However, a 'food for education' scheme appeared to be very cost effective relative to the 'food for work' programs and to BRAC.¹³ Formal financial institutions are less cost-effective than Grameen for both female and male borrowers and less cost effective than BRAC in some, but not all, cases examined (Khandker 1998:134-139). The high figure for BRAC is undoubtedly in part due to the broad range of services that are offered in addition to microcredit. BRAC's Income Generation for Vulnerable Group Development (IGVGD) combines measures of livelihood protection (food aid) with measures of livelihood promotion (skills training and microcredit). Thus microcredit is only part of a package of poverty interventions offered under the program. Nonetheless if such services are essential to the success of microcredit, including their cost in a cost-benefit assessment of microcredit is legitimate.

It is interesting to note that Khandker does not conclude from this that all subsidies to other poverty interventions should be withdrawn and reallocated to micro finance. Rather he points out that as participants to micro credit borrowing self-select (that is they judge that micro credit suits their particular needs, often for self employed work) others amongst the poor may not be able to benefit. For this latter group other forms of targeting will still be required.

Table 2 Around Here

¹³ The study on this scheme by Wodon (1998) appears considerably more sophisticated than the other studies and compares costs with the future stream of estimated benefits to the poor in terms of gains from education. The ratio for this activity may not be directly comparable with the other figures in the table.

The above data provide ambiguous support for the idea that micro finance is a cost-effective means of generating income for the poor. The figures for Grameen support this view, whilst those for BRAC do not. More recently a couple of other estimates have become available. Burgess and Pande (2003) examine whether the pattern of commercial bank expansion in India into rural areas, previously not served by banks, has had an impact on rural poverty and their work allows a simple comparison with micro finance. Their estimates suggest that it costs 2.72 rupees to generate an additional rupee of income for the poor via social banking programs. Compared with the data in Table 2 this ratio is higher than the cost-effectiveness ratio for Grameen, but lower than that for BRAC.¹⁴

A further look at the effectiveness of Grameen is provided by Schreiner (2003), who calculates the subsidy-lending ratio at 0.22 over the period 1983-97. This is not directly equivalent to the ratios in Table 2, but assuming the same return to borrowing as in Khandker (1998) these figures can be converted into a broadly equivalent ratio of cost to gains to the poor of 1.15. This is consistent with the figures in Table 2, which would need to be averaged to give an overall return to male and female borrowing combined. The result confirms Grameen as a relatively cost-effective form of poverty intervention, although it says nothing about how the benefits from its activities are distributed between the poor, the very poor and those above the poverty line.

Conclusions

¹⁴ It should be noted that the benefits from Grameen lending found in Khandker (2003), which are almost half of those found in his earlier study, imply considerably higher cost effectiveness ratios to those reported in Table 2, unless there has been a corresponding rise in the efficiency of operations.

There has been extensive debate on the financial sustainability of microfinance institutions that we do not do justice to here. There are certainly examples of financially sustainable MFIs, and many have reached impressive scale, but the fact remains that the majority of MFIs do not achieve financial sustainability. We would simply make the point that that fact that an institution needs a subsidy to cover its costs is not in itself a reason for not supporting the institution. The issue should be what benefits for poor can be achieved with the subsidy and how the ratio of subsidy to benefits compares with alternative uses of those funds.

Detailed cost effectiveness studies of MFIs are rare, and don't fully address the wide variety of services offered, methods used to deliver those services, and types institutions providing them. Our view is that despite the difficulties of measuring the economic benefits of microfinance and the poverty impact of MFIs, continued efforts should be made to sharpen understanding of the impacts of different forms of microfinance institutions of the poor as well as the cost effectiveness of the programs.

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Table 1: Leakage and Under-Coverage of Poverty Reduction Programs

	Actual	Actual
	Recipients	Non-Recipients
Target	√	Under-Coverage (Type II Error)
Non-Target	Leakage (Type I Error)	√

*This table from Warr (?)

Table 2. Cost Effectiveness Ratios^{a)}: Bangladesh in the early 1990s

Intervention	Female	Male	All borrowers
Grameen Bank	0.91	1.48	
BRAC	3.53	2.59	
Agricultural Development Bank (BKB) ^{b)}			4.88
Agricultural Development Bank (RAKUB) ^{c)}			3.26
Vulnerable Group Development			1.54
Food for Work (CARE) ^{d)}			2.62
Food for Work (World Food programme)			1.71
Food for Education ^{e)}			0.94 (1.79)

Source: Khandker (1998) Tables 7.2 and 7.3 and Wodon (1998)

Notes: a) Ratio of costs to income gains to the poor

b) Bangladesh Krishi Bank

- c) Rajshahi Krishi Unnayan Bank
- d) Run by CARA on behalf of USAID
- e) Source for this data is Wodon (1998); figure in brackets is the cost effectiveness ratio for the very poor.