

A Survey of Literature on the Sustainability of Grameen Bank

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Abstract

This paper is designed to survey the existing literatures on the issue of financial sustainability of microfinance institutions working with group-lending approach. The paper is based on secondary data and information. The most highlighted feature of microfinance program is embodied in the innovation of group-lending approach introduced by the Grameen Bank (GB) in Bangladesh. Even though most of the micro-finance institutions have their striking results of reaching to the poorest borrowers with high repayment rates, most of them are, however, still dependent on the subsidized or soft-term loans. Grameen Bank, with all its success in poverty alleviation and in increasing living standard of the rural poor, is yet to achieve financial sustainability to a fullest form. Should it increase the lending rate, should it reduce its operating costs to a greater extent or should it try to diversify its investment or should it try to mobilize savings as a base for re-lending? All these questions are still open for further research and planning.

Key Words: Microfinance, Group-lending, Poverty alleviation, Sustainability, Subsidy

Introduction

It is worth mentioning the comment of Muhammad Yunus, the founder of Grameen Bank (GB) in Bangladesh, to start with the concept of microfinance. Yunus (1995) said (as cited by Morduch 1999a, p. 1575), Bangladesh had a terrible famine in 1974. I was teaching economics in a Bangladesh university at that time. You can guess how difficult it is to teach the elegant theories of economics when people are dying of hunger all around you. Those theories appeared like cruel jokes. I became a dropout from formal economics. I wanted to learn economics from the poor in the village next door to the university campus.

Thousands and millions of people of the world are still fighting against the absolute poverty. The authorities that try to improve their living condition face an unbelievably hard target. Nevertheless, we have some set of unusual financial institutions in different corners of the world, especially in some developing countries, working to provide financial services to the poor in a way much different than the governments do (Ray, 1998). The idea of microfinance is to have a commitment of serving clients, the poorest ones that have been excluded from the formal financial services. The objective is to alleviate poverty by providing financial services (including social intermediation⁵) to the poorest borrowers in the rural areas so that the economic and social structures can be transformed fundamentally. Globally, there are now about 10 millions of households who are served by the microfinance programs (Morduch, 1999a). During the last

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three decades, a number of microfinance institutions have attracted attentions from different corners of the world by the way they provide the poor people with microfinance facilities. Some of them are Grameen Bank and Association of Social Advancement (ASA) (Bangladesh), BancoSol (Bolivia), Bank Rakyat and Kredit Desa (Indonesia), Village Banks (Latin America), and more. The group-lending has taken most of the spot light and the idea was to have a vision of building programs around households' 'social' assets even when physical assets are few.

Microcredit, Poverty and Vulnerability in Bangladesh

The evidence on the impact of micro-credit can be assessed from two inter-related angles. Firstly, who does have the credit reach and secondly how does it affect the welfare of different groups of individuals and households? However these households are typically marginal farmers and can be considered part of the 'vulnerable non-poor' group, prone to transient bouts of poverty (Zaman, 1998). On the other hand, there is also evidence that there are a large proportion of extremely poor households (Khandker, 1998; Husain, 1998; Zaman 1998). Not only do the poorest join the microcredit programs, but also their borrowing pattern is similar to better-off members of their group (Zaman, 1998; Halder and Husain, 1999). There is evidence, however, to suggest that poorer households use a larger share of their loans for consumption purposes compared to better-off households. Having noted that the poorest join those credit programs and that they also actively borrow after they join, it has to be mentioned that there is evidence which suggests that households who join microcredit programs a few years after the village group has been established tend to be less poor, compared to the members who join at the start of the program. This pattern has been observed for Grameen Bank members (Matin, 1998). This feature of better-off households joining over time has also been noted as a general rule of thumb in many targeted anti-poverty programs worldwide (Lipton, 1996). The poverty-reduction impact of microcredit in Bangladesh remains controversial. Data collected by the World Bank in 1992 have been used to show widely varying results depending on the methodology chosen to assess impact. Khandker (1998) estimates that for every 100 BDT (Bangladeshi currency) lent to a woman, household consumption increases by 18 BDT; interestingly the figure is 11 BDT if the same amount was lent to a man. Moderate poverty falls by around 15% and ultra poverty by 25% for households who have been Bangladesh Rural Advancement Committee (BRAC) members for up to 3 years. Interestingly, this rate of poverty reduction appears to decline with increasing membership length. For instance, for households who have been members for more than 5 years, the absolute rate of reduction was 9% for moderate poverty and 18% for ultra-poverty suggesting that the rate of poverty reduction per year was considerably lower than for households who had been members for up to 3 years. Khandker's (1998) results also suggest that the poverty reduction impact of credit declines with cumulative loan size for BRAC. Khandker's (1998) results are more intuitive in the case of the two other microcredit programs in his study, GB and Bangladesh Rural Development Board (BRDB), where the rate of reduction in the incidence of poverty increases with cumulative loan size. Morduch (1998) pointed out a problem that the assumption of perfect targeting which underlies Khandker's (1998) selectivity correction is flawed given the fact that in the data set, 30% of households were above the eligibility threshold. Using an alternative approach to correct for selectivity, Morduch (1998) finds no evidence of increase in consumption (and therefore reduction in poverty) using the same data, however, it was found that microcredit contributes to reducing household vulnerability. Morduch's (1998) results indicate that program participants do not benefit in terms of greater consumption levels, but they participate because they benefit from risk reduction.

Objectives

This paper is designed to survey the existing literatures on the issue of financial sustainability of microfinance institutions working with group-lending approach. Since Grameen Bank, Bangladesh introduced this model of group-lending, focus is given on the issue of the same institution. The main objectives of this paper are as follows:

General Objective(s): To examine and discuss the issue of financial sustainability of microfinance institutions, group-lending approach of Grameen Bank, Bangladesh in particular.

Specific Objective(s): Important factors influencing the sustainability of group-lending will be discussed to see what really is happening to this most highlighted microfinance program. This paper uses available literatures and secondary data on the issue of financial sustainability of microfinance institutions.

Scope, Methods and Limitations

This study is based on secondary data and information. The papers reviewed for this study have mostly been collected from different websites, journals, discussion papers, seminar proceedings, annual reports etc. Although there are many highlighted micro finance institutions throughout the world, the scope of the paper is limited to the operations of Grameen Bank only. The papers surveyed have been restricted to the year 2001. As a result no information and modification after the year 2001 have been included. It could have been better if it had the developments after the year 2001.

What is Sustainability?

Sustainability is considered from two levels: operational and financial. Operational sustainability is the ability to generate sufficient revenue to cover operating costs, not necessarily the actual cost of capital. Financial sustainability is defined as the ability to buy inputs from competitive capital market. When an institution has achieved the operational sustainability, it will be able to run but the capital will be depleted over time. Without achieving the financial sustainability, the institution will not be able to survive if it has to obtain all inputs at market rather than subsidized rates (Morduch, 1999a).

Group Lending Approach to Microfinance

The most highlighted feature of microfinance program is the innovation of group-lending approach, introduced by Grameen Bank in Bangladesh. The aim was to remove informational asymmetry at low cost. GB lends to very poor households who are the members of a group. A group consists of 5 borrowers and the members are able to borrow in sequence. No collateral is required and the nominal interest rate is around 20% (Ray, 1998). While loans are made to individuals, all the members of the group are held responsible. These groups of 5 meet together weekly with seven other groups so that the bank official can meet with 40 clients at a time (Morduch, 1999a). The central feature of group lending policy is that in the event of a default, no group member is allowed to borrow again (self-selection and peer monitoring). As such, the borrowers have the incentive to use their information to form groups and this induces a self-selection that no individual-based lending scheme can mimic (Ray, 1998). Hence, the group-lending approach is able to solve the problem of informational asymmetries. The members of the group have the incentives to monitor each other, reducing monitoring costs also, and, in the process, can exclude risky borrowers from participation, eventually ended-up with maximizing repayments even in the absence of collateral requirements. GB's group lending model has been

replicated in Bolivia, Chile, China, Honduras, Ethiopia, India, Malaysia, Mali, the Philippines, Sri Lanka, Tanzania, Thailand, the USA and Vietnam (Morduch, 1999a).

Sustainability and Group Lending: The Theory

The Grameen Bank of Bangladesh has triumphed against long failures of poverty alleviation to help start international movement that heralds new approaches. The movement emphasizes market-based institutions to facilitate credit to the poorest households in order to generate self-employment. Until recently, GB has reported repayment rates of 98% with modest profits while serving over 2 million landless borrowers. Despite reporting profits, GB is in fact subsidized on a continuous basis. Its performance has been uneven and weaknesses have only started to come into public. While GB has made great financial progress in 15 years since its founding (membership is expanded 12 times), it remained constrained by high expenses per unit transacted and relies on the generosity of donors and socially minded investors (Morduch, 1999b).

Ghatak (1999) showed how the selection process in group-lending can be pivotal in improving repayment rates, allowing lower interest rates and raising social welfare. With the existence of informational asymmetry, lender is unable to distinguish between safe-type and risky-type borrowers. Since neither type has assets to put up as collateral, lender will receive nothing in the event of the failure of the project. So to break even, the lender needs to set the interest rate at a level, which is high enough to cover its per-loan capital cost. Since the safe-type borrowers have a lower expected return, they will leave the market. This is the case where the risky-type borrowers drive out the safe-type borrowers from the market. This scenario is inefficient since the safe-type borrowers are driven out even though they have socially valuable projects. In this situation, Becker (1991) explained that there is no mutually beneficial way for risky and safe types to group together and group lending thus leads to assortative matching: all types group with like types. Ghatak (1999) demonstrated that the group-lending contract (with groups having more than 2 members) could bring the safe types return back into the market. As such, the joint liability increases average repayment rates and thus the lender can afford to maintain a lower interest rate while not losing money. Ghatak (1999) provides a theory based on two contractual features of group lending programs to explain why they can potentially achieve high repayment rates despite the fact that borrowers are not required to put-in any collateral: the existence of joint liability and the selection of group members by borrowers themselves. Screening potential loan applicants is a costly activity for the lenders. At the same time, borrowers from the same locality are expected to have some information about each other's projects. Therefore, one way of looking at contracts based on self-formed groups is that they are a means of deliberately inducing borrowers to select their group members in a way that exploits this local information. Ghatak (1999) examined one possible mechanism through which group lending can improve efficiency based on the self-selection of borrower-groups and the effect on the pool of borrowers. The existing research on this topic, until very recently, has explored other mechanisms focusing mainly on the effect of joint liability on the behaviour of individual borrowers. Early work by Stiglitz (1990) and Varian (1990) explored how joint liability may induce borrowers in a group to monitor each other, thereby alleviating moral hazard problem. Besley and Coate (1995) addressed the question of how joint-liability contracts affect the willingness to repay through peer pressure on delinquent group members. An interesting implication of the assortative matching property proved in their paper is that risky borrowers who will end up with risky partners will be less willing to accept an increase in the extent of joint liability than safe borrowers for the same reduction in the interest rate. This implies that the

degree of joint liability can be used as a screening instrument to induce borrowers to self-select loans that differ in terms of individual and joint liability.

Group-lending may also provide benefits by inducing borrowers not to take risks that undermine the bank's profitability, which solves the problem of moral hazard (Stiglitz, 1990; Besley and Coate, 1995). Moral hazard may induce borrowers to involve with some high risky projects in an attempt to increase their individual welfare. No collateral requirement can even increase the incentive to the borrowers to do that. And it is impossible for the lender to monitor them as well. In this case, the lenders prefer to have a high level of interest rate to be charged. This leads to the problem of inefficiency again. Stiglitz (1990) demonstrated that if the joint liability payment were set high enough, the borrowers would always choose to do the safe type of activities. This is better for the bank and the bank can thus afford to lower the interest rate to offset the burden. Through exploiting the ability of neighbours to enforce contracts and monitor each other, even when the bank can do neither, the group-lending approach again offers a way to reduce equilibrium interest rates, raises expected utility and repayment rates.

Sustainability and Group Lending: Facts and Evidence

Now we turn our discussion on the facts and evidence regarding sustainability of group-lending approach. In this particular instance, some of the most important factors that influence the sustainability of Grameen Bank are addressed in detail.

High Repayment Rates: The most impressive of GB's achievements has been to show that the vast majority of their poor clients repay on time even though the loan does not have any collateral requirement. Both theoretical and policy discussions have focussed on the joint-liability contract as the key to this success (Armendariz and Morduch, 1998). The definitions of repayment rates varies widely over microfinance institutions and GB's definition is, however, not standard (Christen, 1997). GB's annual reports give two measures. The first measure is the amount not repaid for more than a year as a fraction of the amount currently outstanding (but not yet due). For example, a hypothetical \$1 million loan in January 2002 is due in January 2003. By January 2004 it is determined that \$100,000 of the original principal has not been recovered. The GB calculation then divides the overdue \$100,000 by the amount of loans outstanding in 2004, not in 2002. The second measure follows the same principle but applies to loans overdue for more than two years (Morduch, 1999b). This method of calculation obscures evidence on repayment difficulties when the scale of lending increases steadily over time. If, for example, 10% of the loan are always in default and portfolio size grows rapidly; the denominator of the ratio will increase overtime and the overall ratio will fall below 10% (Von Pischke, 1991).

Table-1 shows the repayment rate and loans outstanding and the growth of those loans of the GB during the period from 1985 to 1997. Loans outstanding increased substantially over the period, from 225.3 million in 1985 to nearly 10.5 billion BDTTaka in 1997. During this period, reported overdue beyond 1 year averaged 1.5% of the portfolio of the general loans. Overdue beyond 2 years are averaged 1.12%. The recalculations by Morduch (1999b) in the last 2 columns and in the bottom row of the table are an attempt to get closer to the standard accounting principles. Here, calculation is made for the portion of the portfolio that was delinquent in retrospect, i.e., overdue are calculated using the amount of loans outstanding at the time of disbursement as the denominator. Thus, the recalculations show an average overdue of 7.76% for more than 1 year and 5.87% for more than 2 years.

Table - 1						
Reported Repayment Rates on General and Collective Loans						
as of December 31, 1985 - 1997						
	Reported Overdue (%)		Loans Outstanding		Loans not repaid on time	
	as a fraction of loans outstanding		Disbursement less Repayment			
Year	Overdue (1 year plus)	Overdue (2 year plus)	Level (mill Taka)	% of Increase	1 year plus	2 year plus
1985	2,78	0,7	225,3		3,78	4,66
1986	2,87	1,25	301,2	33,7	3,84	3,97
1987	1,86	1,72	457,4	51,8	3,97	3,44
1988	1,6	1,45	723,6	58,2	5,76	4,78
1989	1,82	1,2	996,6	37,7	7,51	5,82
1990	3,28	1,24	1270,5	27,5	6,19	4,81
1991	4,72	2,18	1585,1	24,8	3,19	3,14
1992	2,48	1,83	3168,6	99,9	1,89	1,87
1993	0,82	0,99	6167	94,6	3,86	5,25
1994	0,76	0,63	7893,4	28	15,02	9,03
1995	2,89	0,72	8239,1	4,4	11,99	
1996	13,85	3,78	8560,4	3,9		
1997	9,45	6,82	10450,7	22,28		
Avg; 1985-1997	1,50%	1,12%		40%	7,76%	5,87%
Source: Morduch, (1999b) ==> based on data from various years of the Grameen Bank Annual Report						
Final 2 columns and bottom row are calculated by Morduch						

Table-1 also shows that the current value of general and collective loans outstanding doubled in 1992 and very nearly doubled again in 1993. Pushing to achieve a large scale can help to reduce average costs if there are sufficient scale economies, but it can also jeopardize performance if done too fast. And this is what in fact happened to GB. As Morduch said (1999b, pp. 232), "The adjustments are best thought of as upper bounds on the effective quality of the portfolio. It is not uncommon to hear about bank staffs who roll over loans in order to keep their repayment numbers up and give struggling borrowers breathing room. One branch manager told that he 're-schedules' about 5% of his portfolio by extending seasonal loans to struggling borrowers."

Profits and Subsidies: Table-2 provides evidence on GB's performance between 1985 and 1996. The table shows the rapid increase in Grameen's operation. The size of average loan portfolio increases from \$10 million in 1985 to \$271 million by 1996. Membership has expanded 12 times over the same period, reaching to 2.06 million in 1996. Reported profits differ considerably from Morduch's (1999b) adjusted profits in the table. The main adjustment made by Morduch (1999b) is to make provisions for loan losses.

Table - 2						
Grameen Bank: Selected Financial Indicators						
Million of US \$ in 1996						
	1985	1990	1992	1994	1996	1985-96 (avg)
Size						
Avg annual loans outstanding	10,00	58,30	83,80	211,50	271,30	108,00
Members ('000)	172,00	870,00	1 424,00	2 013,00	2 060,00	1 101,00
Overdues rates (%)						
Reported overdues rate	2,80	3,30	2,50	0,80	13,90	1,60
Adjusted overdues rate	3,80	6,20	1,90	15,00		7,80
Profits						
Reported profits	0,02	0,09	- 0,15	0,56	0,46	1,50
Adjusted profits	- 0,03	- 1,51	- 3,06	- 0,93	- 2,28	- 17,80
Subsidies						
Direct grants	-	2,30	1,70	2,00	2,10	16,40
Value of access to soft loans	1,10	7,00	5,80	9,00	12,70	80,50
Value of access to equity	-	0,40	2,70	8,00	8,80	47,30
Subsidy per 100 units outstanding	11,00	21,00	16,00	7,00	9,00	11,00
Interest rates (%)						
Average nominal on-lending rate	16,80	11,10	15,80	16,70	15,90	15,90
Average real on-lending rate	5,90	3,00	11,60	13,10	10,10	10,10
Benchmark cost of capital	15,00	15,00	13,50	9,40	10,30	11,30
Average nominal cost of capital	7,90	2,20	2,10	5,50	3,40	3,70
Subsidy dependence index	80,00	263,00	106,00	45,00	65,00	74,00
Average nominal break-even rate	30,20	40,20	32,60	24,20	26,20	25,70
Source: Morduch, (1999b) ==> based on data from various years of the Grameen Bank Annual Reports						

Grameen has been very slow in writing off losses so far. It is surprising to see that categories and expenses are moved around to ensure that Grameen posts a modest profit steadily. Most notably, loan loss provisions are made only to the extent that the bank can still report positive profits. This does not really satisfy the international accounting standard but it allows the bank to funnel surpluses into the expansion of operations. While the action is understandable, it diminishes the transparency of the bank's accounts. Morduch's (1999b) adjusted rates ensure that in each year Grameen writes off a modest 3.5% of its portfolio and this is still much less than the average overdue rate of 7.8%. And unfortunately, the result is approximately \$18 million losses between 1985 and 1996, rather than the reported profits of \$1.5 million (Morduch, 1999b) (see Annex 1 for details of GB's loan loss provisions).

Grants from donors are considered part of income in the calculation. If the bank had to rely only on income from lending and investment, it would have instead suffered losses of \$34 million during the stated period. The bulk of the Grameen's subsidies enter through soft loans⁶. It pays

⁶Grameen gets its funding from various sources, and the main contributors have shifted over time. At the beginning, the bulk of capital were provided by the donor agencies at a very cheap rate. During the mid 1990's, GB got most of its fund from the Bangladesh Bank (central bank of Bangladesh), with some marginal fund coming from money markets. GB's high profile and social mission guaranteed it a source of funding at an attractive rate. Using the benchmark cost of capital

an average of 3.7% on borrowed capital. Had it not had the access to concessional loans, it would have had to pay more. An alternative benchmark capital cost used by Morduch (1999b) is the Bangladesh deposit rate from IMF International Financial Statistics (1997) plus a 3% adjustment for transaction costs⁷. The difference in rates yields a total value of access to soft loans of \$80.5 million between 1985 and 1996. GB received an additional implicit subsidy of \$47.3 million through access to equity, which was used to generate returns below opportunity costs. Even though subsidies have increased over time in absolute amounts, Grameen's scale of operation has grown even more quickly. As a result, the annual subsidy per dollar outstanding has fallen substantially, levelling off at about 10 cents per dollar. The result for 1985-96 indicates that GB, in the absence of subsidy, would have had to increase its nominal interest rate on its general loan product from 20% to around 32%. Overall, the average break-even rate is 25.7%⁸ (see Annex 2 for details on interest rates and subsidy dependence). Borrowers might not be happy with this increase in loan rate. Nevertheless, it is not obvious that they would defect. Clients of BRAC are already paying 30% nominal base interest rates, for example. Alternatively, continuous reduction in the administrative costs might provide a breathing room. In the early 1990s, salary and personnel costs accounted for almost half of the GB's total cost while interest costs were held below 25%. Reduction in the wages and salaries has been impossible since they are related to the government wage scales. So, the emphasis should be on increasing efficiency (Morduch, 1999b)⁹.

of the deposit rate plus 3% yields that Bangladesh Bank had been offering GB about a 40% discount on its interest payment (Morduch, 1999b). In recent years, GB has made a major shift to financing via bonds and those bonds too are subsidized in the sense that they are guaranteed by Bangladesh Government. The rates on the bonds are 4% for 3-year bonds, 5% for 5-year bonds and 6% for 10-year bonds. These rates are, if any, more favourable for the GB than the Bangladesh Bank lending rate and the bonds have been sold to nationalized banks within Bangladesh. According to Khandker (1998), when GB issued bonds in 1995 to generate market resources at the market interest rate, it had difficulty mobilizing market resources. In that year, all nationalized commercial banks had tremendous liquidity and were eager to buy GB bonds but with the government's guarantee. The government had to step in and GB was rescued for its shortage of liquidity in that year. Assuming an average cost of 5% on bonds and a rate of 9% in alternative safe investments, Bangladeshi nationalized banks implicitly subsidized (or the government, through its guarantee) GB in the amount of Taka 258 million (\$6.4 million) in 1994-1995 or about \$3.10 for each of GB's 2 million members. The remaining funds are derived from an array of sources including International Fund for Agricultural Development (IFAD); the governments of Norway, Sweden and the Netherlands; the Ford Foundation etc. The cost of those funds varies from 0 to 3% and (except for the Ford Foundation loan) are payable in Taka.

⁷Estimating the economic opportunity cost of funds is not so easy since the capital market of Bangladesh is rife with intervention. Morduch (1999b) used Bangladesh Bank deposit rate and add 3% for transaction costs. The 3% adjustment here can be seen as a reflection of transaction costs, as well as the value of implicit subsidies via government guarantees on bonds and exemptions from taxes and reserve requirements. The guarantees and exemptions would be lifted if the bank was to operate as a standard commercial entity. Hashemi and Schular (1997) derive their benchmark as 3% plus the maximum of the rate Grameen pays its own depositors (8.5%) and the deposit rate reported in IMF, 1997. Instead, Morduch (1999b) calculated a lower rate so as not to penalize Grameen for paying generous interest rates to their depositors. Khandker et al. (1995) instead used the rate on 3-year deposits, and they make no transaction cost adjustment. Their rate took a sharp plunge to 6% in 1994 as a result of liquidity troubles and broader distortions in the banking system. That rate is too low to serve as a meaningful benchmark capital cost. It can be noted that during this period, the general public could get interest rates of 13% per year on post office time deposits. In fact the 3% adjustment is modest given that through much of the period the spread between deposit and lending rate was 4% (IMF, 1997).

⁸The subsidy dependence index summarizes the subsidy data by yielding an estimate of the percentage increase in the interest rate required in order for the bank to operate without subsidies of any kind (Yaron, 1992).

⁹One study in 1991 found that, 54% of female trainees and 30% of male trainees dropped out before taking up first positions with Grameen and much of GB's direct grants are funnelled to supporting training efforts (Khandker et al, 1995).

In fact Grameen's self-reported successes have been exaggerated. Its current process of pursuing cross-subsidization and alternative income generation projects is appealing, but it has its own perils; profitable sectors are always vulnerable to competition over time. Even if the bank is not the economic miracle as many have claimed, it is not obvious that its failure to reach financial self-sufficiency is in itself a problem. As long as benefits sufficiently exceed costs and donors remain committed to the cause, Grameen could hold up as a wise social investment.

Level of Interest Rate: Win-win proposition emphasizes to achieve the financial sustainability. This proposition relies upon the fact that credit demand in rural credit market is interest inelastic. So, the level of interest rate should be such that it can ensure self-sufficiency. GB has two ways to approach full self-sufficiency: lowering the cost or increasing the revenue. Further cost reduction is not so easy especially when salary costs are kept high by the commitment to paying staffs according to government salary schedules, a restriction however not felt, for example, by GB's competitor, the Association for Social Advancement (ASA). Hence, attention turns naturally to the increase in revenue or, in other words, increase in the lending interest rates (Morduch, 1999b).

Grameen currently charges borrowers 20% per year for a general loan and housing loans cost 8% per year. The rate is calculated on the 'declining balance', i.e., it takes into account that the loan is being steadily repaid over the year in weekly instalments. As a result, the amount of interest recovered by Grameen for a given 1000 BDT loan is roughly equivalent to a flat rate of 20% on 500 BDT paid back in full 1 year later (Ray, 1998). A series of other charges are levied on top of the direct interest charges and it is thus helpful to consider average interest rates paid by the borrowers, inclusive of all fees.

Morduch (1999b) solves the equation for appropriate level of on-lending rates in order for the bank to operate without subsidies. In his simple model, he showed that:

$$L(1+r^*)(1-d) + I = L + C + S$$

The left hand side gives expected income and the right hand side gives cost, in the absence of soft loans, given that,

L = volume of loans outstanding before adjustments are made for problem loans

(1 - d) = the fraction that is expected to be repaid

I = total investment income

C = total cost, including the cost of capital

S = total value of implicit subsidies

r* = break-even interest rate to operate without subsidies

The break-even interest rate is thus:

$$r^* = \{C + S - I + dL\} / \{L(1 - d)\}$$

and the percentage increase in the current interest rate required for the bank to break even is:

$$(r^* - r)/r = \{C + S - I + dL - r(1 - d)L\} / \{rL(1 - d)\}$$

and this expression can be rewritten as:

$$(r^* - r)/r = (S + K - \{L(1 + r)(1 - d) + K + I - L - C\}) / \{rL(1 - d)\} = (S + K - P) / \{rL(1 - d)\}$$

where P corresponds to reported net profits and K to direct grants (K also includes the value of discounts on expenses). Reported profits are gross revenues from lending, grants and investments less repayment of principal and all other associated costs. The final formula is identical to Yaron's (1992) subsidy dependence index (SDI), given that appropriate adjustments are made to reported profits and to the volume of loans outstanding. In Yaron's (1992) formula, the default rate d is assumed to be folded into L through appropriate provisioning. Yaron (1992)

also assumed implicitly that non-payment rates of interest are identical to non-payment rates of principal.

To reach full economic sustainability between 1985 and 1996, Grameen would have had to increase average lending rate by about 65% to a rate of 26% per year. The calculations imply that, holding all else equal, the rate charged on general loan would have to increase to about 33% (a real rate of 30% in 1996). Earlier studies yield the conclusion that the subsidies are falling which means that the break-even rate is steadily converging to the rate Grameen actually charges (Khandker et al, 1995; Hashemi and Schuler, 1997). The calculations here yield slightly larger break-even rates than the previous studies, but for the most part they are in a similar range through 1994. The evidence here shows that the downward trend has been broken, however (Morduch, 1999b). While Grameen is reluctant, charging a nominal rate around 30% is not unprecedented in Bangladesh. BRAC effectively charges a base rate of 30% loans to a similar client base. Neither BRAC's repayment record nor outreach seems to have suffered as a result. BRAC's clients, however, tend to get more for their money than Grameen's, with more training and technical assistance than Grameen offers (Schreiner, 2001).

Rosenberg (1996), Senior Advisor at Consultative Group to Assist the Poorest (CGAP), offers another model for estimating the interest rate that a Microfinance Institution (MFI) will need to realize on its loans if it wants to fund its growth primarily with commercial funds at some point in the future. The model presented here is simplified, and thus imprecise. However, it yields an approximation that might be useful for many MFIs. Rosenberg (1996, pp. 2-6) explained his model as follows:

Pricing Formula: The annualised effective interest rate (**R**) charged on loans would be a function of five elements, *each expressed as a percentage of average outstanding loan portfolio*: administrative expenses (**AE**), loan losses (**LL**), the cost of funds (**CF**), the desired capitalization rate (**K**), and investment income (**II**).

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

Administrative Expense Rate: Administrative expenses include all annual recurrent costs except the cost of funds and loan losses, e.g., salaries, benefits, rent, and utilities. Depreciation allowance (provision for the cost of replacing buildings or equipment) must be included here. Also include the value of any donated commodities or services, e.g., training, technical assistance, management, which the MFI is not paying for now, but which it will have to pay for eventually as it grows independent of donor subsidies. Administrative expenses of efficient, mature institutions tend to range between 10% and 25% of average loan portfolio.

Loan Loss Rate: This element is the annual loss due to un-collectible loans. The loan loss rate may be considerably lower than the MFI's delinquency rate: the former reflects loans that must actually be written off, while the latter reflects loans that are not paid on time, many of which will eventually be recovered. The MFIs with loan loss rates above 5% tend not to be viable. Many good institutions run at about 1%-2%. Thus far, in its short history, the MFIs, specially the efficient one, have had loan write-offs equal to less than 1% of its average portfolio.

Cost of Funds Rate: Here the cost of funds does not mean the MFI's actual cash cost of funds. Rather, it is a projection of the future "market" cost of funds. As the MFI grows, it will have to draw ever-increasing portions of its funding from commercial sources.

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

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

The formula is expected to generate the interest rate, which will be required when the MFI moves beyond dependence on subsidies. An MFI that wants to reach commercial sustainability should charge such an interest rate even though it may be receiving subsidized support. Entering these five elements into the pricing equation produces the annual interest yield the MFI needs from its portfolio. The pricing formula, again, is:

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

Rosenburg (1996) considered the following values of those five variables as representative of an average MFI:

Administrative Expense (*AE*) = 0.25; Loan Loss (*LL*) = 0.02; Cost of Funds (*CF*) = 0.21; Capitalization Rate (*K*) = 0.16; Investment Income (*II*) = 0.015. Plugging these values in the pricing formula gives us:

$$R = \frac{0.25 + .02 + 0.21 + 0.16 - 0.015}{1 - 0.02}$$

$$R = 0.638$$

Thus Rosenberg (1996) found that MFIs need an annual interest yield of around 64% on its portfolio.

As seen before, Morduch (1999b) estimated that the annual average break-even rate of interest for GB should be 25.7% (annual break-even rate for only general loans is to be 32%) to operate without subsidy. But the important thing to be noted here is that Morduch (1999b) and Rosenberg (1996) do not conform to the same factors regarding the calculation of appropriate level of interest rates to be charged by the microfinance programs. Morduch (1999b) was looking for the break-even rate with which the program can continue with the revenues it is earning from operations after initiated with the subsidized fund. But Rosenberg (1996) put emphasis on internally generated capital. According to his calculation, the program should earn enough revenue to accumulate internal capital so that it can gradually be able to have access in

the competitive capital market for its funding. This is what we can see in his fourth variable namely, capitalization rate. In fact, Rosenberg (1996) put emphasis on the objective of making the program a profit making organization. If we calculate the needed annual interest yield of GB using Rosenberg (1996) model, we would find an entirely different picture. Followings are the values of Rosenberg's (1996) five variables that has been assumed for GB:

Administrative Expense (AE) = 0.10; (assuming that GB is an efficient and a mature institution)

Loan Loss (LL) = 0.0587; (the average of loans not repaid in 2 years and plus, see Table 2)

Cost of Funds (CF) = 0.113; (see Table 2)

Capitalization Rate (K) = 0.16; (Rosenberg's assumption)

Investment Income (II) = 0.015; (Rosenberg's assumption)

Plugging these values in the pricing formula gives us:

$$R = \frac{0.10 + 0.0587 + 0.113 + 0.16 - 0.015}{1 - 0.0587}$$

$$R = 0.4426$$

Thus to be able to operate without subsidy and compete for open capital market funding, GB might need annual interest yield of more than 44%. This calculation reveals the fact of ongoing debate on the issue of subsidy and sustainability. Rosenberg (1996) wants the microfinance programs to be an efficient and profitable organization while, Morduch (1999b) put the emphasis on a non-profit, still efficient, organization. The calculation put here is just an approximation and does not correspond to all the actual data of GB. Nevertheless, it can support the argument that Grameen should increase its annual interest yield to be able to manage funds from the competitive market. And the actual level of interest rates to be charged by Grameen should obviously be higher than what they are charging now in order for them to operate without subsidy.

Mobilization of Savings: Development of facilities for safe but liquid savings is a means of promoting household welfare. Early microfinance programs were not effective in mobilizing savings may be because they thought that poor household are too poor to save. But recent experience shows that even poor households are highly interested to save if they are offered appropriate facilities. According to Robinson (1995), incorporating savings mobilization in microfinance programs makes sense for variety of reasons. Firstly, it can provide a relatively inexpensive source of capital for re-lending. Secondly, a savings program may create a natural client pool. Third, with the accumulated savings the low-income households can gradually build up assets to use as collateral, a reserve to reduce consumption volatility over time and even they may become able to make self-finance investments. On the other hand, however, handling a lot of small savings can be prohibitively expensive.

Experience showed that the subsidized programs have not been more aggressive in mobilizing savings. Morduch (1999a) offered an interesting explanation about why it is better for the subsidized program to promote savings mobilizations. According to him, the interest rate spread is one of the reasons why there are fewer incentives for savings mobilization. They used to charge interest rates r on loans and offer depositors a rate d , which was less than r to avoid loss. Since r was kept artificially low in the name of welfare maximization, d was often kept even lower and thereby the incentives for savings were diminished. So, increasing lending rate is clearly helpful here. In fact this is not the appropriate rate to maximize if capital is subsidized with social welfare objective ahead. A more appropriate spread would be $\{m - (d + a)\}$, where m

is the rate at which donors obtain funds and a reflects the per unit administrative cost of managing and mobilizing savings deposits. Thus, m is the donors' opportunity cost and $(d + a)$ is the program's opportunity cost. As such, savings mobilization at deposit rates above lending rates can, however, reduce the costs of the program, rather than adding to them provided that the donors reward the programs for generating funds at a cost lower than they face. One way to do this is to split the difference between donors and programs of $\{(m - c) - (d + a)\}$ per dollar of savings mobilized and relent (c is the rate to be paid for the subsidized capital) and thereby reduce concessional lending by donors by one dollar for each dollar of lending thus generated. By implementing the proposed scheme, clients, programs and donors can share benefits from savings mobilization rather than losing. In fact, formal credit and savings for the poor are not recent innovations. Some customers, neglected by commercial banks have been served by credit cooperatives and development finance institutions. These organizations have legal charters that govern their financial operations. But during the recent past, the new methodologies of delivering microfinance services have been emerged, especially microcredit. Much of this innovation has been pioneered by non-governmental organizations (NGOs), which typically do not have a legal charter authorizing them to engage in financial intermediation. Nevertheless, governments, donors, experts and practitioners are now talking about new legal structures for microfinance to create a legal ground for them to engage in such activities.

In spite of small accounting profits in most years, Grameen was not once operationally profitable, financially self-sufficient, or privately profitable. For example, without revenue grants or discounts, accounting profit in 1994 fell from about \$600,000 to -\$17 million. Furthermore, if GB had replaced equity lost to inflation and paid its members a market return on their shares, then net worth would have eroded by almost \$35.4 million. A risk premium on subsidized funds in equity would have cost Grameen \$1.6 million more. Nevertheless, Grameen enjoys a unique place as the pioneer one of microfinance. Its workers can keep their jobs despite a lack of financial self-sufficiency since donors are not likely to stop their support. Workers manage revenues and expenses, as such the bottom line shows a profit, but not a big profit. Donors do not seem to care that their grants and discounts lard the reported profit. The conflict between the goals of workers and of investors does not bite yet since donors have relieved workers of the need to push for even operational profitability, let alone for financial self-sufficiency. In spite of the lack of financial self-sufficiency, Grameen is expected to be sustainable since its support from donors will not end. And all of this is not to say that a subsidized MFI is a waste or that it cannot mitigate a market failure. Government failure may wreck attempts to fix market failure. An MFI might not be the best way to improve social welfare. Society does not yet know whether the social benefits of microfinance exceed the social costs. It needs to measure them (Schreiner, 1997).

The Debate: Subsidy or Self-Sufficiency

Excitement about the promise of microfinance does pose some good reasons. But there are also good reasons for caution. Alleviating poverty through formal banking institutions is not a well-accepted idea now-a-days since those attempts have, in most cases, only the history of failures. Loan repayment rates often dropped below 50% and the costs had gone up. The centrepiece of all these experiences is a story of disaster and much of the volume of credit was diverted to the politically powerful, away from the intended recipients (Adams et al, 1984). The set of unusual, new microfinance institutions are an exception to this. Most of the programs have already proved that they are able to reach to the poorest and are now serving millions of poorest households in different corners of the world. In addition to providing them with required credit,

some of the programs also offer education on health, gender issues and legal rights. These programs have pioneered in transforming the fundamental social structures of the rural households with the objective of social development ahead of them.

In 1997, a consortium of policymakers, charitable foundations and practitioners started a drive to raise over \$20 billion for microfinance start-ups in next ten years (Microcredit Summit Report, 1997). In most of the cases, those funds are mobilized and channelled to some new and untested institutions. Moreover, existing resources are reallocated from traditional poverty alleviation programs to microfinance. The evidence suggests that the greatest promise of microfinance is so far unmet. High repayment rates do not always mean profits. In fact, most of those programs are continued to be subsidized directly through grants and indirectly through soft terms on loans from donors. A recent survey shows that the poverty focused programs with a commitment to achieving financial sustainability cover only about 70% of their full costs (Micro Banking Bulletin, 1998). While many hope that weak financial performances will improve over time, even established poverty-focused programs like Grameen could not make it possible to meet its all the requirements without ongoing subsidies. The continuing dependence on subsidies has given donors a strong voice against all these subsidies. The fear of repeating past mistakes has pushed donors to argue that subsidization should be used only to meet start-up costs (Morduch, 1999a).

The microfinance movement, like many popular mass movements, is featured both by widespread agreement on the broad objectives and by multiple disagreements on key issues. The movement is in fact characterized by two broad opposing views regarding the way these programs are operating to help the poorest of the poor through access to the financial services. These two views are institutionist approach and welfarist approach. Morduch (2000) refers to this division as 'Microfinance Schism'. Institutionists, on the one hand, regard financial deepening as the primary objective of the microfinance. They put emphasis on achieving financial self-sufficiency. With the assumption of positive client impacts, they think that breadth of outreach (number of clients) should take precedence over depth of outreach (levels of poverty reached). The attention here is the institutional success, which is normally gauged by achieving financial self-sufficiency. Welfarists, on the other hand, are looking for the depth of outreach. They focus on the immediate improvement of the living standards of the poor, even if some of these services require some subsidies. They think that the increase in income and savings will empower the poor to improve the conditions of their life (Woller et al, 1999).

The institutionists emphasized 'best practices' which is embraced by most of the microfinance experts. By best practices they mean those practices that improve institutional efficiency and effectiveness in all aspects of the organization. They consider that the standardization and adoption of best practices is an essential step on the way of achieving financial self-sufficiency, access to capital markets and maximum outreach to the poor. While, the welfarists distinguish themselves primarily by their value-based commitments to serve the poorest of the poor. They do not, however, differentiate themselves from the view of institutional efficiency or effectiveness. They believe that increasing financial self-sufficiency is desirable. Nevertheless, they are reluctant to take it for granted that financial self-sufficiency is necessary to fulfil their institutional mission since they consider the primary objective of microfinance is depth, not the breadth, of outreach (Woller et al, 1999).

The best practices view or the 'win-win' proposition asserts that the microfinance institutions that follow the good banking principles will also be successful in alleviating poverty and by the time they will be able to grow without constraints imposed by the donors as they achieve financial sustainability. In their argument, a key point is that poor households demand access to credit and not cheap credit and thus the programs should charge higher interest rates to increase their revenue. With all these awareness, however, most of the programs remain substantially subsidized. And the reason is assumed to be the social objectives. The emphasis of win-win proposition has been centred on the general aspects of institutional performance and that the mechanisms through which those financial services have been delivered are also important to enhance institutional performance. In fact, a lot of examples proved that mechanisms, can and do, matter for the efficiency, transparency and appropriate management incentives. Still for some programs, ongoing subsidization is an important means through which social missions are achieved (Morduch, 2000).

Now a days, microfinance movement pose diverse programs but all of which are engaged in providing financial services to the poor. Some of them are only looking for profits and some of them have centred their target on social aspects. There are some common grounds between these two but with some critical differences as well. As Morduch (2000, pp. 626) says, "Addressing the schism opens up the chance to address misconceptions. It is not profit maximization that makes a program efficient. Instead, what matters is having a hard budget constraint, something possible even with subsidies. Nor is it so that subsidization necessarily leads to mis-targeting. Fear of mis-targeting may limit the size of the optimal subsidy, but it does not necessarily make it zero. Nor is it so that savings mobilization is necessarily held down by charging interest rates on loans that are below levels needed to break even. The need to preserve management incentives means that even financially sustainable, socially minded programs will likely have ongoing difficulties raising substantial amounts of capital on the open market".

Conclusion

The microfinance programs have created evidence for the formal institutions that the imperfections in rural credit markets are possible to remove and in the process poor households are benefited and given hope to improve their living standards. While failures in the government programs are increasingly becoming evident, NGOs have the energy, dedication and financial resources to pursue social development process.

Group based programs have been extraordinarily successful in poverty alleviation by a number of different measures. Those successes can be celebrated and efforts should be made to replicate them. There are many weaknesses in the foundations on which these claims rest, however. Failed cases can help to highlight those important institutional junctures that are crucial to the overall workings of programs in more prosperous times. They can also help to provide the information as to how, as opposed to why, group based microfinance program works. Answering these questions is vital for those concerned with microfinance programs. They can provide insights into the types and combinations of institutional resources that need to be assembled if programs are to be both financially and socially sustainable (Woolcock, 1999).

With the building up of institutional capacity, an MFI can influence the design of policies and information reporting standards set by government agencies and by donors. The building up of institutional capacity should enable the directors and managers of MFIs to develop efficient management information systems for identifying and managing risks and satisfying relevant data

and information requirements of stakeholders. There is an urgent need for donors to synchronize their information requirements to avoid imposing undue additional costs and operating burdens on MFIs. For MFIs, the principal challenge is to build up the institutional capacity to expand client outreach and secure the financial sustainability of their operations. Some microenterprise development programs provide both financial and non-financial services to their clients. Non-financial services vary widely according to the socio-economic environment and the perceived constraints faced by the target clientele. For these institutions, there is a distinct need to introduce and adopt sound commercial practices into their financial activities as well as to formalize the provision of operating information. These are best achieved through exposure to and application of best practices techniques for managing risk, reducing administrative costs, increasing revenues and collection and organization of information which is necessary for internal management and control systems (Greuning et al, 1998). Nevertheless, a conducive regulatory framework for microfinance activities is a necessary but not sufficient condition for the microfinance programs to be a successful one.

Even though most of the micro-finance institutions have their striking results of reaching to the poorest borrowers with high repayment rates, most of them are, however, still dependent on the subsidized or soft-term loans. With the objective of social development ahead of them, should the subsidy be continued or should the costs be shifted to the clients? Grameen Bank, with all its success in poverty alleviation and in increasing living standard of the rural poor, is yet to achieve financial sustainability to a fullest form. How to reduce its dependency on concessional rates is the fundamental question ahead of Grameen Bank now. Should it increase the lending rate, should it reduce its operating costs to a greater extent or should it try to diversify its investment or should it try to mobilize savings as a base for re-lending? Bearing in mind the success of MFIs, specially in the case of social development or at least to the extent that they have so far succeeded to increase the living standards, as supported by a lot of experts in this field, of the poorest people in the rural areas in many countries of the world, continuous subsidization may be supported. But to ensure better performance of the MFIs, regulational procedures should be introduced.

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Appendices

Annex 1

Revised Profits and Loan Loss Provisions													
Millions of Taka for the Year 1985 - 1996													
	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	85-96 (US\$)
General and Collective Loans													
Outstanding portfolio, December	225.3	301.2	456.7	724.2	992.7	1266.9	1584.2	3113.2	6159.7	7854.7	8184.2	8546.7	86.8
Net loan loss taken	0.6	0	0	2.1	4.4	6.1	3.3	3.9	7.3	10	7.5	6.4	0.1
Loan loss provision	0.6	0	2.4	10.2	5.8	9.9	13	38.7	45.2	191.5	316.7	271.6	1.9
Reserve for losses, December	0	0	2.4	10.5	11.9	15.7	25.4	60.2	98.1	279.6	588.7	853.9	4
Portfolio less reserve, December	22.53	301.2	454.3	713.7	980.7	1251.2	1558.8	3052.9	6061.6	7575.1	7595.1	7692.8	82.8
Net loan loss taken (%)	0.3	0	0	0.3	0.4	0.5	0.2	0.1	0.1	0.1	0.1	0.1	0.10%
Loan loss provision (%)	0.3	0	0.5	1.4	0.6	0.8	0.8	1.2	0.7	2.4	3.7	3.1	2.20%
Housing Loans													
Outstanding portfolio, December	0	0	154.5	289.9	460.7	588.7	788.5	1162.7	2572.4	3376.2	3485.4	3147.3	35
Net loan loss taken	0	0	0	0	0	0	0	0	0	0	0	0	0
Loan loss provision	0	0	0	0	0	0	0	0	100	133.6	35.7	9.5	0.6
Reserve for losses, December	0	0	0	0	0	0	0	0	100	233.6	269.2	278.7	1.8
Portfolio less reserve, December	0	0	154.5	289.9	460.7	588.7	788.5	1162.7	2472.4	3142.6	3216.2	2868.5	33.2
Net loan loss taken (%)	0	0	0	0	0	0	0	0	0	0	0	0	0%
Loan loss provision (%)	0	0	0	0	0	0	0	0	3.6	4.1	1.1	0.3	1.80%
Revised Provisions													
Portfolio if 5% write-off	225	290	597	984	1404	1785	2273	4162	8524	10805	11129	11138	117.7
5% loan loss provision	11	15	30	49	70	89	114	208	426	540	557	557	5.9
Portfolio if 3.5% write-off	225	293	601	993	1419	1806	2299	4195	8585	10930	10848	11290	117.3
3.5% loan loss provision	8	10	21	35	50	63	80	147	300	383	380	395	4.1
Reported net profit	0.4	0.4	0.4	1.2	2.3	3.1	-8.3	-5.7	9.6	21.7	15	19.1	1.5
Revised net profit, 5%	-10.3	-14.1	-27	-37.8	-62.1	-76.3	-109	-175	-271.5	-193.5	-189.1	-256.7	-38.7
Revised net profit, 3.5%	-6.9	-9.9	-28.2	-23.4	-41.6	-50.2	-75.8	-113.8	-145.8	-35.8	-12.4	-95.2	-17.8
Source: Morduch, (1999b) ==> based on data from various years of the Grameen Bank Annual Reports													
Final 2 rows are calculated by Morduch													

Source: Morduch, (1999b) ==> based on data from various years of the Grameen Bank Annual Reports

Final 2 rows are calculated by

Morduch

Annex 2

Break-even Interest Rates and Subsidy Dependence, 1985-1996 (in millions of Taka)													
	The final column gives averages in millions of 1996 US\$, except for the subsidy data, which are sums												
	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	85-96 (US\$)
Average loan portfolio	212	288	486	856	1356	1929	2233	3295	6539	9866	11115	11065	108
Interest income	36	44	65	113	162	214	316	522	1056	1646	1976	1756	17
Avg nominal lending rate	16.8	15.2	13.4	13.2	11.9	11.1	14.1	15.8	16.1	16.7	17.8	15.9	15.90%
Avg real lending rate	5.9	4.3	3.8	3.8	2	3	6.9	11.6	16.1	13.1	12	10.1	10.10%
Direct subsidy via grants	0	0	0	0	60	76	73	62	87	76	83	86	16.4
Implicit subsidy via loans	23	64	105	139	191	233	244	215	285	345	504	529	80.5
Implicit subsidy on equity	0	1	1	12	35	91	165	249	295	284	304	367	47.3
Total subsidy to bank	23	65	106	151	285	399	482	526	668	705	891	982	144.2
Subsidy per 100 Tk.													
Outstanding	11	23	22	18	21	21	22	16	10	7	8	9	11%
SDI (with 5% provision)	89	179	167	146	243	279	207	116	75	54	59	75	83%
SDI (with 3.5% provision)	80	168	155	133	228	263	194	106	65	45	51	65	74%
Zero profit interest rates implied by SDI (with 3.5% provision)													
Nominal rate on all loans (%)	30.2	40.8	34.1	30.7	39.2	40.2	41.6	32.6	26.6	24.2	26.9	26.2	25.70%
Nominal rate on general loans (%)	28.8	42.8	40.8	37.4	52.5	58	58.9	41.1	33	29	30.2	33	31.80%
Real rate on general loans (%)	17.9	31.9	31.2	28	42.5	49.9	51.7	36.8	33	25.4	24.4	30.3	28%
Source: Morduch, (1999b) ==> based on data from various years of the Grameen Bank Annual Reports													
Fixed assets are net of depreciation													
Implied rates of interest on loans are based on the SDI calculated with 3.5% loan loss provision													

Source: Morduch, (1999b) ==> based on data from various years of the Grameen Bank Annual Reports

Fixed assets are net of depreciation

Implied rates of interest on loans are based on the SDI calculated with 3.5% loan loss provision

Note: By 1996, total reserves for loan losses amounted to over 10% of the loan portfolio. But the reserve would have been far lower had bad loans been written off in a timely fashion. Instead, GB wrote off general and collective loans at an average rate of 0.1% of the portfolio and wrote off no housing loans. If instead, GB had created a loss reserve equal to a modest 3.5% of loans outstanding each year, it would have had to put aside \$49.4 million over the period, rather than the \$22.9 million that it put aside (an average of \$1.9 million per year between 1985 and 1996). The result would have been continual losses. Provisioning for and writing off 3.5% of loans outstanding each year allows for the possibility that 30% of the loans overdue longer than 2 years will eventually be collected (assuming that 5% of debts remain unpaid after 2 years). The measure of profits includes income from direct grants. GB received \$16.4 million of grants over the period, with \$12.2 million arriving in the final 6 years. The grants helped to pay for GB's training programs, R & D and programs of particular interest to donors. If direct grants are further subtracted from profits, the losses would sum up to \$34.2 million between 1985 and 1996. Christen et al. (1994) and Khandker et al. (1995) calculated that Grameen was operationally self-sufficient by 1993, but the evidence here shows that the bank is short of covering its operating costs in any year (Morduch, 1999b).

Notes for Contributors and General Readers

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- 02 The journal covers various topics that are of interest to the business professionals and managers. The main objective of the journal is to publish articles, notes, comments, etc. on relevant topics in the fields of business, economics, social sciences and allied subjects which may contribute to the development of academic, professional and administrative expertise in the business sector. All papers received will be subjected to a blind review process in which they are evaluated by a panel of scholars who are unaware of the identity of the author.
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