Repayment of Old Loans through New Loans. Is "Cross-Financing" a Problem for the Grameen Bank?

Karin Ask, Arne Wiig and Erland Sigvaldsen

R 1997: 5

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Summary

The study analyses the problem and extent of cross-financing in the Grameen Bank system. The main finding is that cross-financing is rarely a problem. However, survey data indicate that long term borrowers, who generally have the highest loan portfolios, turn into irregular borrowers. The study was funded by NORAD.

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Foreword

This study is a revised and condensed version of our Draft Final Report to NORAD of November 1995, *Repayment of Old Loans through New Loans. Is 'Cross-Financing' a problem for the Grameen Bank.* All appendices (including Terms of Reference, Questionnaires and Statistical background analysis) are left out in this version, but can be obtained by contacting CMI.

The growing public concern about microcredits, the importance of the results obtained in our study and the observed difficulties in obtaining our Draft Final Report, led to this report. Comments from NORAD and Grameen Bank are taken into account, but references are not updated from the Draft Final Report.

The authors will especially thank Dr. Murshid and Associate researcher Ayesha Banu of the Bangladesh Institute of Development Studies, who provided invaluable help in organising the logistics for the two surveys. We are also grateful for the time and information given to us by individual Grameen Bank members and local staff at the various GB branches visited.

Last, but not least, we want to commend Inger A. Nygaard for her perseverance through the process of typing up the original report and subsequent editing.

Executive Summary

For many development programmes with the very poorest as their primary target group, the use of credit institutions has become a common approach. An outstanding example among these institutions is the Grameen Bank (GB) of Bangladesh. Starting twenty years ago as an innovative pilot project, the Grameen Bank now offers 35400 villages in Bangladesh its services, with women constituting 94 per cent of its members.

GB has been the subject of several studies that have analysed a wide spectre of its functions, both on a community and household level and for the individual borrower. These studies have shown that GB's repayment ratios are extremely high, but recently there has been some concern that the introduction of several new types of loans may have altered this situation.

The present study can be seen as a response to this concern. Addressing questions related to the repayment of loans, the study analyses the loan portfolios of individual borrowers in relation to their income generating activities and the manner in which households organise the repayment of loans. Of particular interest is whether the introduction of new loans has led to "cross-financing", that is: borrowers using a new loan to repay an old one. This practice, if widespread, could threaten both the viability of the bank and also that of the individual household.

Two surveys have been undertaken, one extensive, the other intensive. Three bank zones: Tangail, Rangpur, and Mymensingh are included in the surveys. In addition, bank staff at different levels of the bank have been interviewed. On the basis of the data gathered in these surveys, the report begins with (Chapter 2) checking the basic assumption that there has been a substantial escalation of credit among GB members. The main hypothesis is that credit escalation can generate pyramiding of loans, through the practice of cross-financing. The study analyses various factors (Chapter 3) that influence households financial strategies and management. In the last section (Chapter 4) the probability of cross-financing is tested and the study presents a broader perspective on irregular behaviour among GB members: what determines who are 'bad borrowers' from the bank's perspective?

Conclusions

Our main finding is that cross-financing using GB loans is rare. Through our intensive and extensive surveys we have only been able to positively identify a few such cases. We have also analysed the potential for cross-financing by using the time span between the disbursement of one loan and the termination of another, as a rough indicator of the possibility of using one type of loan to repay another. This analysis indicates that cross-financing do not occur on any significant level.

GB's monitoring and supervision systems have been studied in relation to member's repayment and the issue of cross-financing. We find that the bank's monitoring system constitutes an impressive apparatus for the control and management of loan operations. Recently, however, the bank has undergone a process of credit expansion, and groups have increased in numbers. This could imply a threat to the social accountability and peer pressure which acts as substitute for collateral for the individual group member. Our main conclusion is, however, that GB appears to have the issue of cross-financing using GB loans well under control.

The use of other credit sources, however, has increased, particularly in Tangail. The study is not able to document to what extent such credit is used in cross-financing. Informal financing, however, is not a significant factor in explaining missed instalments among GB members. Furthermore, the study shows that an increase in the number of loans has not led to a corresponding increase in missed instalments. Other factors are more important in explaining irregular behaviour, and we warn against a misplaced emphasis on the number of loans.

Repayment levels are high among GB members. In order to keep up repayment, however, a household is dependent upon the running of multiple projects. These projects involve several members of the household, not only those that are GB members, and the running of these projects is strongly influenced by sexual divisions in productive labour and market oriented tasks. Our data supports an assumption that internal negotiations within the household are critical to secure the stable repayment rates of GB. The study also shows that income from GB projects is the most important source for repayment of GB loans. The second most important source for repayment of loans is income from wage work, which shows that pooling of income from different activities takes place, when allocating household expenditures. It is typically found that households give the responsibility for weekly repayments to a member of the household with regular wage income.

When problems of repayment do occur - i.e. missing of instalments, the most important reason given by the respondents is a permanent problem with cash flow. Our analysis indicates that such problems are more common among borrowers with the longest membership period. This seems to indicate that old borrowers, generally with the highest loan portfolios, face problems with declining returns to investment in their GB financed projects. An important issue for GB to focus on, therefore, is how to prevent that old borrowers turn into bad borrowers. The increasing trend of missed instalments among old borrowers, indicate that credit pyramiding may develop as a problem.

The GB members covered by our surveys are mostly women with low levels of education - i.e. GB's target group. Regarding assets and income our study indicates that the majority of GB members are not among "the poorest of the poor". Our material shows that in Tangail, where GB has offered its services for a number of years, 38.6 per cent of the respondents have landholdings in excess of 50 decimals of land. The corresponding number in Rangpur is 20.2 per cent. These figures also suggest, however, that the investments undertaken by GB members have allowed them to cross the boundary from the very poorest (defined as those owning less than 50 decimals of land) to those who are slightly better off.

1 Introduction

1.1 Why focus on cross-financing

The viability of any credit institution ultimately depends on the rate of repayment among its borrowers. Many factors do influence this rate, but in essence it is a balancing act between the borrowers' financial ability to repay and the credit institution's ability to enforce repayment discipline. The Grameen Bank (GB) is regarded as a success on both accounts. Studies show that GB borrowers in general have improved their economic status, and GB reports a very high repayment ratio. The latter has to a large extent been attributed to the core principle of the GB-model, namely group-based lending and peer monitoring.

There is, however, a growing concern that the high repayment ratio may partly be sustained through increased borrowing. The availability of credit for poor people in Bangladesh has improved dramatically over the last decade. GB has rapidly expanded its membership, and so has several NGOs providing credit. In addition, the informal credit market is still very much alive.

The concepts of 'credit escalation', 'cross-financing' and 'credit pyramiding' are being used to describe aspects of a trend towards increased borrowing. In the following credit escalation means a growth in total outstanding debt of a borrower or a borrower's household (the unit of economic management). Credit pyramiding indicates that such a growth is achieved by proliferation in the number of individual loans and types of creditors at any point in time. Cross-financing refers to situations where additional borrowing is motivated by the need to service existing loans.

Generally speaking, it is obvious that credit pyramiding may set a debt trap and gradually drive the borrower to bankruptcy. In the case of poor people borrowing without formal collateral, as is the case with GB, however the problem of default is more for the bank than the borrower. The bank will not be able to recover outstanding loans, and the viability of the bank itself is at threat. To the borrower, the real danger appears to be whether a growing problem with repayment on regular instalments to the bank, drives her or him to obtain short-term credit in the informal market and mortgage out productive assets such as land. The downward spiral of povertisation will then become a reality.

The concern about these issues dates back to March 1993 when a preliminary research report from Tangail[1] was made available to GB and the donors. According to this report, nearly all loanees interviewed (41 women) borrowed to make their interest payment and repaid this borrowing with subsequent loans. This report was taken very seriously, one reason being the high credibility of the authors, Gibbons and Todd, following their heavy involvement in one of the more successful Grameen replication projects in Malaysia.

During the Project Completion Mission (PCM) for Phase III of the Grameen Bank Project later that year, several other factors increased the fears that this phenomena might constitute an important problem for GB. Firstly, the total outstanding debt had increased tremendously by about 94 per cent from 1991 to 1992, with outstanding General and Collective loans alone increasing from TK 2540 million to TK 5204 million. The individual loan limits had been raised and several new loan types were introduced, of which seasonal loans were the most notable. The second reason for the Mission's uneasiness was the fact that GB Head Office (HO) appeared to lack good and reliable information about what actually happened during the expansion, and monitoring routines for the housing loans were clearly needed. These two factors suggested that GB did not adequately control the credit expansion, and that a significant amount of cross-financing might be taking place without GB knowing it.

Furthermore, the PCM report listed "informal financing" as one of five potentially serious threats to GB's financial viability. The report states, however, that the mission did not find any hard evidence of such practices, and that the only source was the small localised survey in Tangail, by Gibbons and Todd. No final report has yet been published from this survey, and the only documentation as of May 1995, is the 7 page preliminary summary from March 1993. The question of cross-financing is hardly addressed in the vast literature on the Grameen Bank[2] except in those studies referred to above.

Following the PCM, NORAD expressed their concern about the issue of cross-financing. GB maintained that the problem was taken seriously and that their monitoring and supervision would be able to identify and handle such practices if they ever occurred. Facts were still missing, however, and GB and NORAD agreed to undertake a study to better understand the issues involved.

[1] "Research on Tangail: Crucible of the Grameen Approach to Poverty Reduction. Summary of Preliminary Final results." David Gibbons and Helen Todd, March 1993.

[2] See "The Grameen Bank. Poverty Relief in Bangladesh. Ed: A.N.M Wahid. Westview Press 1993; "Successful Rural Finance Institutions" J. Yaron. World Bank Discussion Papers no 150, 1992. The most recent publication is "Sustainability of Grameen Bank: What do we know? Paper presented at a workshop in Dhaka March 19-23, 1995. Ed: S.R. Khandker, B Khalily and Z. Kahn. None of these studies address the question of cross-financing. Khandker et al. argue that increasing the loan per borrower "is one possible way of attaining both efficiency and profitability" (p. 100).

1.2 Interpretation of the Terms of Reference

The Terms of Reference (TOR) cover a broad range of issues of potential relevance to loan repayment behaviour among members of GB. In the discussion of the TOR with NORAD and GB, it was decided to focus the study on how GB members raise funds to repay weekly instalment, as the core problem, and in this respect to put emphasis on the problem of cross-financing. The justification being that, if it occurs on a large scale and is not controlled by GB, it might directly threaten institutional sustainability. Indeed, if it was found that GB in general lends to activities that cannot generate enough income to repay the original loan, it might even question the whole GB concept.

Although income from GB funded activities obviously is an important factor in repayment behaviour, and is included in the TOR, this issue could not be addressed in full depth as it would have required data gathering beyond the scope of this study. It is easier to assess the extent of cross-financing than to make good and valid global generalisations about the economies of activities that GB finances. If the extent of cross-financing is small and the repayment percentage is high, it would appear to imply that the activities are able to generate enough funds for the borrowers. There is, after all, only two ways to repay a loan. Either it is done from own resources (income or reduction in assets) or the money is borrowed (either from GB, other formal credit institutions or non-formal credit through friends or moneylenders).

In addition to the issues specifically listed in the TOR, the Team decided to expand the scope of the study to include GB's internal monitoring routines within the area of loan recovery and specifically cross-financing. It is evident that the extent of cross-financing depends on how successful GB is in preventing members from doing it, (i.e. the routines that are in place to detect and identify it, and the procedures used to handle it if it is discovered). GB's assessments and perceptions of its seriousness in monitoring have been carefully considered.

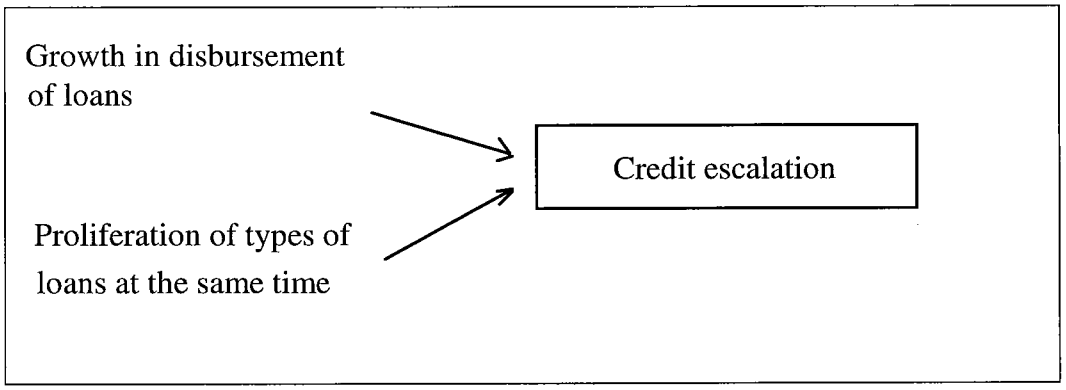
While GB to some extent is able to monitor the level of cross-financing within the bank, GB can hardly monitor the extent of informal cross-financing. Since informal cross-financing may represent a serious threat to the viability of GB, we have also analysed the extent of such informal financing.

1.3 The analytical approach

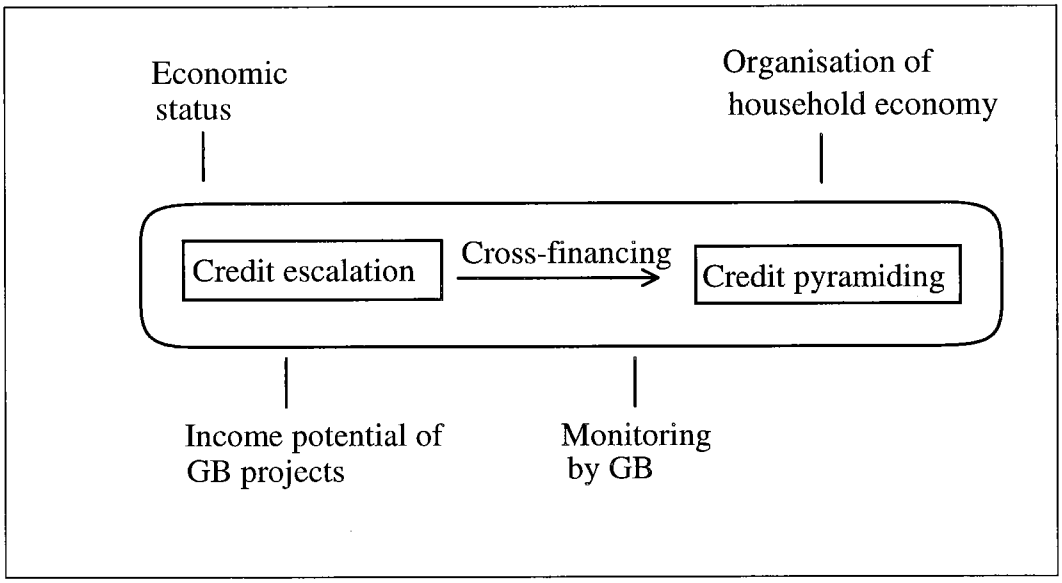
Cross-financing is a multi-dimensional issue. It may be a deliberate strategy, or an unintended consequence of availing multiple credit opportunities. It is not entirely negative. Borrowers may in fact benefit from combining different sources credit. It is, however, a major concern to GB that the total debt burden of its members is kept within a manageable level of their income. Credit escalation and pyramiding

are symptoms of an unhealthy economic situation, but not necessarily that everyone is sick.

Our first question was to look for some simple indicators that could tell us whether the emphasis of the study on cross-financing is warranted. We start by looking at indicators of credit escalation, by analysing the loan profile and history of GB members. This gives us data on outstanding debts and number of loans. The assumptions are illustrated below:

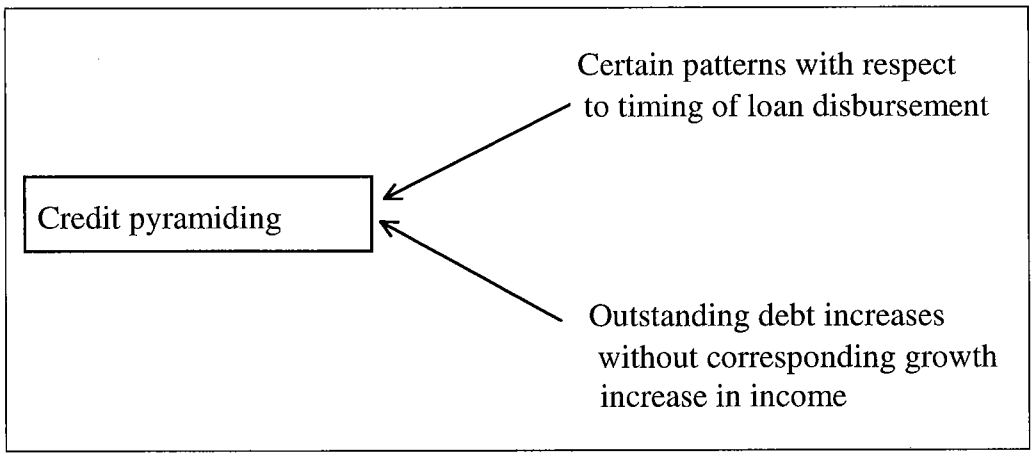


To better understand the relationship between credit escalation and credit pyramiding and the potential adverse impacts associated with these phenomena, we have to look at a variety of factors underlying the economic strategies of GB members and their households. We have decided to focus on the following factors:



The analyses of these aspects are not by themselves conclusive with respect to cross-financing as a problem. They merely point at which factors may aggravate or inhibit this development.

Finally, we try to establish certain indicators for measuring the extent to which credit pyramiding already has developed among GB members. These are:



In organising the report we have followed the analytical steps outlined above, starting with indices of credit escalation (Chapter 2), moving into factors influencing economic decision-making (Chapter 3), and concluding the report by testing in our survey material for evidences of cross-financing that bring a situation of credit escalation to one of credit pyramiding (Chapter 4).

1.4 Organisation of the study

The questions to be addressed in this study require both quantitative and qualitative research methodologies, to assess both the *extent* of the problems of credit escalation, pyramiding and cross-financing, as well as the *nature* of financial decision-making taking place within the framework of GB member households. Accordingly, the study was organised through an extensive survey (ES) and an intensive survey (IS).

The ES is a formal questionnaire type survey of GB member households within five GB branches under two zonal offices - Tangail and Rangpur. The respondents are GB members present at the time the study team visited different GB centres. Both the five branches and the centres visited (5 in each branch) were chosen by random sampling. At each centre the team selected six respondents (with a few exceptions), among those who were accessible. In this way, the survey includes 298 households - 148 in Tangail and 150 in Rangpur.

The IS used a semi-structured questionnaire to establish data on economic activities and strategies in 85 individual households in Tangail and 40 in Mymensingh. In addition, for comparison of data sets, 10 respondents were interviewed in Rangpur. We made a preliminary test of the questionnaire in Dhaka zone, which made us decide to restrict questions on household income and expenditure to the month immediately preceding our visit. This gave for more time to conduct open-ended interviews and discussions, making it possible to better verify respondents recall.

The empirical focus of the IS, was the economic strategies of the borrowers, i.e. their income generating activities, saving patterns, patterns of expenditure, and the manner in which these strategies are influenced by the decision-making processes of the household. The main objective of the ES was to generate data on the relations between loan portfolios and repayment liabilities. The ES also looked at differences in households' approaches to servicing of loans.

Additional information was gathered through conversations with GB staff at different levels and from a literature review. While visiting zonal offices in Rangpur, Dhaka, Tangail and Mymensing, we also had group discussions with loanees at centre meetings.

The IS was carried out during two field visits, the first in January-February and the second in April-May 1995, while the ES was completed during the second field work period in April-May 1995. A third field visit was undertaken in June 1995 when we concentrated on the monitoring routines of the GB.

Dr. K.A.S. Murshid and Associate Researcher Ayesha Banu of the Bangladesh Institute of Development Studies (BIDS), Dhaka, participated in the execution and design of the ES and IS respectively.

The limited time available gave little opportunity for the development of trust and confidence between researchers and respondents. We could only make clear that we would not identify our respondents to GB staff. However, the respondents appreciated our approach to ask the branch managers to leave before we started our interviews. This meant that the respondents had the courage to make critical comments on rates of interest and on bank staffs' pressure to secure prompt repayment. Respondents admitted that loans were used for other purposes than stated in their loan proposals (e.g. payment of dowry). Our impression is, however, that these practices are well known 'secrets' among group members and bank workers alike.

The interview sessions normally lasted between 1 to 1 1/2 hours. These interviews normally took place within hearing, talking and seeing distance of neighbours (who might be fellow GB members), and other villagers. We expect there has

been under-reporting of irregular activities on repayment behaviour and the extent of cross-financing. This also showed up on issues related to saving behaviour. Several respondents declined to report their savings outside the GB, whether in cash or kind.

Since our field surveys partly over-lapped with the month of Ramadan and the religious festivals of Eid-ul-Fitr and Eid-ul-Aza, the expenses quoted reflect ceremonial social costs. The price level normally rises during this season of the year, which influence both income and expenses. Shortage and black-market prices of fertilisers also affected investment in agriculture in April 1995.

2 Credit escalation and the potential for cross-financing

2.1 Indicators of credit escalation

On the background of a general increase in credit disbursement by GB and the development of several new types of loans, we are looking at the specific patterns in Tangail and Rangpur with respect to outstanding credit, number of loans and changes in repayment. [3]

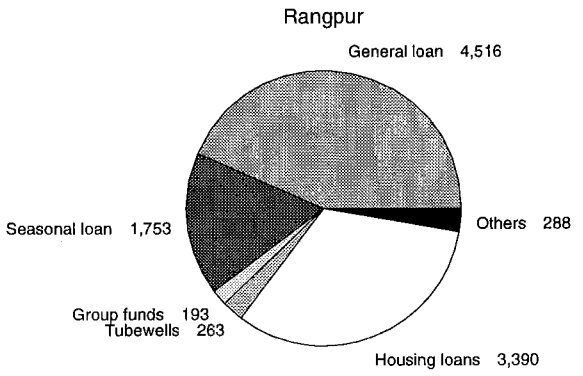
2.1.1 Disbursement and outstanding loans

We have analysed the loan portfolio of the GB members covered by the extensive survey. There are five main types of loans in the portfolio: general loans, seasonal loans, housing loans, loans from group funds, and tube-well loans. Figures 1 and 2 show the amount disbursed for each type averaged for *all respondents*, while Figures 3 and 4 show outstanding loans. All figures are given in TK.

The respondents in Rangpur have, on average, received loans to the amount of TK 10,403. The equivalent figure in the older zone of Tangail is TK 24,400. It is noteworthy that housing loans make up a much larger share of GB's loan disbursement in Tangail compared to Rangpur (48 and 33 % respectively). The composition of the portfolio of loans varies significantly by zone. While general loans constitute almost half the total disbursement in Rangpur, it constitutes only a fourth in Tangail.

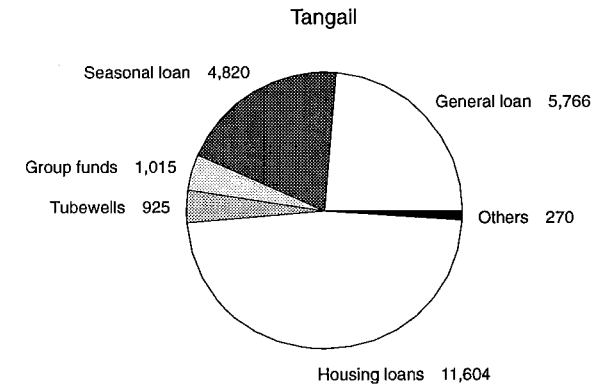
[3] The Figures and Tables are based on data from ES.

Figure 1
Amount disbursed by type of loan (Mean)



Source: Field survey, 1995

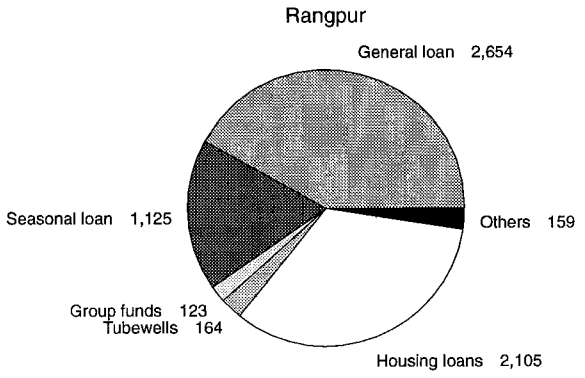
Figure 2
Amount disbursed by type of loan (Mean)



Source: Field survey, 1995

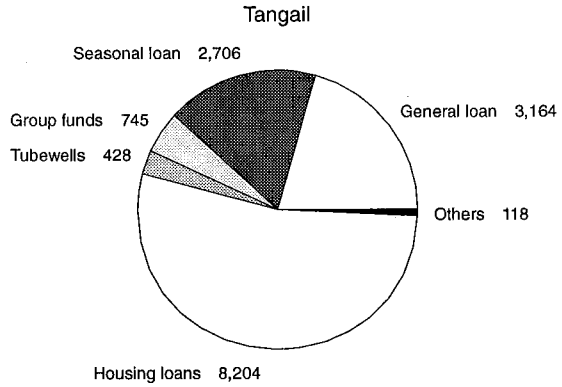
In Figure 3 and 4, we show the corresponding distribution of the outstanding loans. Comparing the two sets of figures, we see that the distribution of outstanding loans generally corresponds to the distribution of disbursed loans in the two zones.

Figure 3
Amounts outstanding by type of loan. (Mean)



Source: Field survey, 1995

Figure 4
Amounts outstanding by type of loan (Mean)



Source: Field survey, 1995

Comparing loans disbursed with outstanding loans gives us an indication of the extent of credit escalation, or in other words the extent to which GB members enter new loan obligations before full repayment of previous loans. Outstanding credit constitutes 63% of loans disbursed in the case of Tangail and 59 % in Rangpur. If we exclude housing loans the picture will change, with Rangpur remaining at 59% and Tangail dropping to 56%. This seems to indicate that the introduction of housing loans increases the degree of credit escalation.

In Table 1 we look at the relative importance, in more detail, of the three most common types of loans - general, seasonal and housing loans. Here, average is measured on the basis of number of loans.

Table 1
Loans disbursed and outstanding

	No. of loans (% in brackets)		Size of loans (average)		Outstanding (% of disbursed)	
	Tangail	Rangpur	Tangail	Rangpur	Tangail	Rangpur
General loan	137 (29)	141 (31)	6,229	4,804	55	57
Seasonal loan	124 (27)	130 (29)	5,754	2,023	56	64
Housing loan	92 (20)	48 (11)	18,668	10,593	71	62

From Figures 3 and 4 we find that average outstanding debt to GB in Tangail is TK 15,365 while in Rangpur the Figure is only TK 6,330. Table 1 shows three significant patterns which may explain this difference. Firstly, housing loans are more common in Tangail (i.e. 20 per cent of all loans in Tangail, compared to 11 per cent in the case of Rangpur). Secondly, the average size of the housing loans in Tangail is nearly twice the size in Rangpur. Lastly, the housing loans in Tangail stand out with 71% outstanding, despite the fact that introduction of housing loans started earlier in Tangail than Rangpur. Hence, the credit escalation documented seems to be the result of the combined effect of larger size of housing loans and their slower repayment rate.

2.1.2 Number of loans

In contrast to the data on types of loans and total disbursement, there is virtually no regional variation in years of membership and number of loans. The average membership period is slightly higher in Tangail (7.5 years) compared to Rangpur (6.8 years),[4] while the average number of loans are the same in both zones. Table 2 shows that 96% of all respondents had more than one active loan, and the typical respondent will have three active loans running at the same time. This clearly indicates that cross-financing is possible for the majority of GB members.

[4] One would have expected a larger difference in the average membership period since Rangpur is a newer zone compared to Tangail. Even though our choice of branches in Rangpur *District* is not biased towards new branches, our choice of district may be biased. By limiting the survey in Rangpur zone to Rangpur District, for practical reasons, we were unable to catch new borrowers in new districts such as for instance Kurigram.

Table 2
Numbers of active loans per respondent (per cent)

	Tangail	Rangpur
1 loan	3.4	4.0
2 loans	27.7	27.3
3 loans	34.5	40.7
4 loans	20.3	20.7
5 loans	13.5	6.7
6 loans	0.7	0.7
	100.1	100.1
	(148)	(150)

It is obvious that new GB members have fewer active loans, but it should not necessarily be the case that old members generally have more active loans. In fact, the latter would indicate that old members tend to engage in new borrowing before finishing repayment of old loans. Our survey (see Table 3) does indicate that the potential for cross-financing increases with years of membership. 20.4% of the borrowers which have been GB member for more than 10 years have 5 or more loans compared to 6-7% for those being member between 3-9 years.

Table 3
Relationship between numbers of loans and years of membership (per cent)

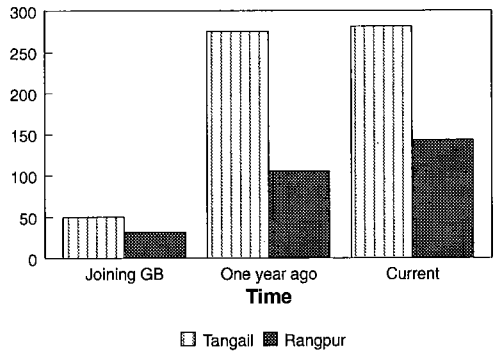
	Years of membership				
Number of active loans	1-2	3-6	7-9	10+	Total
1 or 2	75.0	31.0	25.8	21.4	(93)
3 or 4	25.0	63.0	66.7	58.2	(172)
5 or 6	0	6.0	7.6	20.4	(31)
Total	100 (32)	100 (100)	100 (66)	100 (98)	(296)
%	10.8	33.8	22.3	33.1	100

In general, the survey shows that there are significant regional differences between the zones in terms of the size of the loans and total outstanding debt. The housing loans in Tangail seem to contribute towards credit escalation. Older GB members have more active loans, indicating that cross-financing might develop.

2.1.3 Changes in weekly payment

In the ES respondents were asked about changes over time in their weekly repayments to GB. As illustrated in Figure 5, there has been a significant change since the start of GB membership. This is particularly the case in Tangail, and further underlines the high rate of credit escalation taking place in this zone.

Figure 5
Weekly payments to GB (Mean TK)



2.2 Understanding cross-financing

Borrowing from several sources is not a new practice in Bangladesh, and the internal family economy is basically a subsistence economy where money is raised from whatever source is available, according to the daily needs. Borrowing to repay another loan is thus obviously not something that GB has introduced to rural Bangladesh, it has been there all along and it is a practice that is also common in most developed countries. Some cross-financing will thus always happen in connection with seasonal fluctuations in income and other events necessitating quick money. In very general terms, *cross-financing becomes a problem when the borrower does not have the capacity to repay and service the total loan taken.*

The borrower faces several dangers if engaging in cross-financing. Cross-financing depletes the capital of the loan, and reduces the value of the new loan that is used to repay or service the old. It can turn into a vicious circle as smaller and smaller investments yield less and less return, thus necessitating even higher loans the next time around to repay the original loan. It cuts away the profit from whatever activity the borrower has undertaken, especially if a money lender loan at a high interest rate is taken.

The practice can be sustained for some time through credit pyramiding, i.e. taking more and more loans to repay higher and higher debt obligations, but is doomed to

collapse sooner or later. The Bank is then left with a defaulted loan and a borrower in high debt, possibly in an even worse situation than when the person joined GB. It is profoundly difficult to assess the moment at which borrowing from several sources crosses the boundary from being acceptable "overdraft" financing, to being a problem.

Informal financial markets typically have the ability to control the total loan that any individual can take. In the transparent village economy, it is normally known who is a credit risk and who is not. Moneylending, either within or outside the family, is based on intimate knowledge of the person that borrows and the capacity that person has to repay. The lending period differs, but is normally short, due to the perceived high risk of lending to this impoverished group. GB, on the other hand, does normally not have that accurate knowledge of its borrowers, and is dependent on the centre or group to forward information in most instances. The monitoring undertaken by the group members is according to Stiglitz (1990:351) largely responsible for the successful financial performance of GB.[5]

Due to imperfect information, GB may allow members to borrow more than they can repay. The checking of loan usage has always been difficult, but appears even more difficult now that the members per centre have been raised from 30 to 40 while the average borrower has generally increased both the number of loans and the size of these loans. The average bank worker has simply no time to make a visit for every loan that is given. The result may be a reduction of the monitoring capability of GB (see section 3.4 for a discussion). On the other hand, as long as the monitoring capability of the group is not influenced by the introduction of additional types of loans, this is not a serious threat.

It is vitally important to understand that cross-financing normally is only a symptom of other difficulties. It occurs when the borrower has met some kind of problem, either directly in connection with his/her productive activity (i.e. fall in the price of chickens) or indirectly through the family (i.e. diversion of money by spouse), or as a consequence of natural disasters.

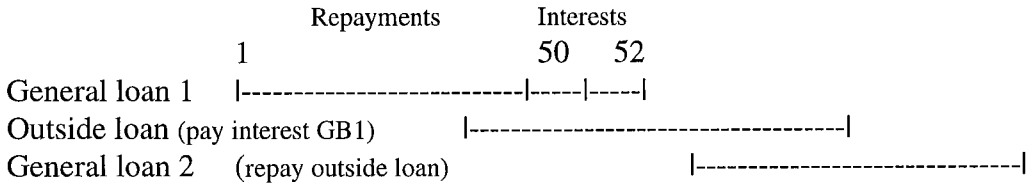
There are in general two ways that cross-financing can take place.

2.2.1 GB loan combined with an outside source

The borrower can take an outside loan to repay instalments and/or interest on a GB loan. This would happen at the end of the GB loan, when interest is due in week 51 and 52, as mentioned in the report from Gibbons and Todd. These are the largest single payments made - e.g. a loan of TK 5000 implies an interest payment of TK 250 in each of the last two weeks, compared to a weekly instalment of TK

[5] "Peer monitoring and credit markets" The World Bank Economic Review, vol 4 , no. 3. Joseph Stiglitz, 1990.

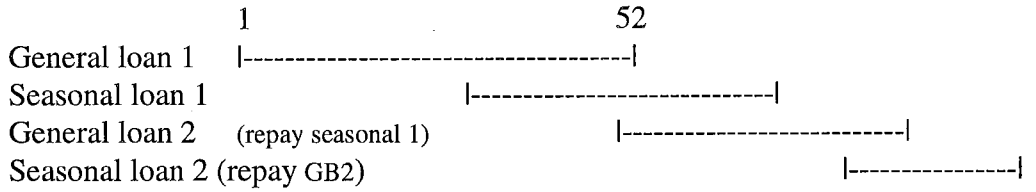
100 the previous weeks. The outside loan will then be repaid immediately after receiving a new GB loan. This is normally called "adjustment" by GB. A schematic illustration is shown below, with the horizontal lines representing the timing of the loans.



This would be an expensive type of cross-financing for the borrower as the interest rate on the outside loan may be substantial. Borrowing from the outside is normally more expensive than using GB loans, and there are thus seldom direct financial incentives for the borrower to engage in cross-financing of this sort.

2.2.2 Combining GB loans

This method involves using one GB loan to repay another. After introduction of several new loan types, it is for instance possible to take a seasonal loan in the end of the general loan period and use it to repay the general loan. The next step in the cycle would be to use the new general loan to repay the seasonal etc. The method is illustrated below.



This method may be sustained longer than the first due to the lower interest rate on the loans involved. However, it presumes poor work by the bank worker responsible for the centre, as he is either turning a blind eye to the practice or not checking the use of the different loans.

The two methods can also be combined, with both outside loans and several GB loans mutually supporting each other. The end result in all cases, is likely to be default, if the debt is allowed to continue to "pyramid".

3 Factors influencing repayment behaviour

We have argued above that cross-financing becomes a problem only when associated with a situation of longer-term inability to repay and service outstanding loans. In this section we shall investigate some of the factors determining repayment ability, looking at the economic units responsible for repayment - their present status and their economic decision-making, the economics of some typical GB-financed projects, and lastly the monitoring by GB of these factors.

3.1 Economic status of GB members

3.1.1 Land ownership

In rural Bangladesh, ownership and access to land is one of the best indicators of a household's standard of living and capacity for making longer-term investments. In the Extensive Survey we found that one third of the respondents report that they have less than 10 decimals of land[6] while 29.5 per cent have more than 50 decimals of land. On average the respondents report that their households own 58 decimals of land. In Tangail the average land holding is 77 decimals while in Rangpur the average is 39. This seem to indicate that our GB members represent rural households that no longer are among the poorest. As our sample is biased towards older members, this also indicates that GB members over time have improved their economic status and typically invested in land. Unfortunately, we have not been able to scrutinise these data further, as they do give rise to important questions.

If GB is not strictly adhering to the 50 decimal criteria when issuing new loans one may question whether GB confines its services to its target group, or more specifically; whether GB reaches the poorest in the target group.[7] As indicated by Figure 6 below, GB may do so in Rangpur. However, in Tangail 38.5 per cent of the borrowers have more that 50 decimals of land indicating that GB reaches the poor, but possibly not the poorest in this zone.

Could an explanation for this finding lie in a difference between the survey and the GB's assessment procedures in the definition of ownership to land? Is it

[6] 100 decimals = 1 acre

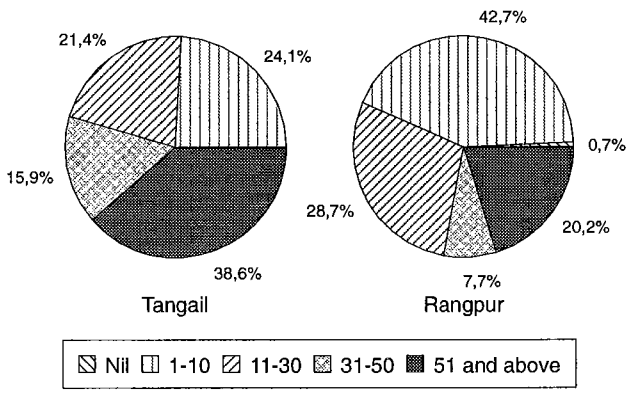
[7] According to GB, current practise differs from the criteria of eligible borrowing. One does not want to punish borrowers who have been successful.

possible that the household's land assets may differ substantially from the assets reported as owned when applying to GB for loans? In our survey the respondent (borrower) may have reported land owned by the household, while in their loan proposal they report their individual land holdings. This question has an important gender dimension since the typical borrower is a woman.

As indicated, the data could reflect a development over time where members have invested in land, and *still* been allowed to retain their GB membership. If such an asset accumulation has taken place, it reflects a *positive effect* of GB's loan operation. A study made ten years ago, based on data from Tangail, reported that only 3.5 per cent of the loaners owned more than 40 decimals of land (Hussain, 1984: 30).[8] This figure may indicate such a development of asset accumulation, an explanation that is further corroborated by the lower average holding in Rangpur which is a younger GB zone than Tangail.[9] However, we have no figures of the asset base of the loanees at the time they joined GB.

Another factor which might support the trend towards increase in ownership of land, is the possibility that the ability to repay loans is higher among members who have invested in land. If this is the case, then a bias towards these members when issuing new loans may exist.

Figure 6
Land owned (in decimals)



3.1.2 Sex, age and education

Women constitute 89 per cent of the respondents. The average age of the respondents is 36 years and 91 per cent are married. The typical household consists of 5-6 persons including 1.5 male earners and 1.0 female earner. The household size varies from 2 to 17 persons.

[8] Hussain ,Mahabub. 1984. Credit for the rural poor. BIDS

[9] A similar result as in Rangpur was found in the intensive study of Mymensingh.

Table 4
Educational background of the borrowers by zone (in percentage)

	Total	Tangail	Rangpur
No schooling	78.5 (233)	81.1	75.8
Attended primary school	10.4 (31)	4.7	16.1
Completed primary school	8.4 (25)	12.8	4.0
Completed secondary school	2.7 (8)	1.4	4.0
Total (%)	100.0 (N =297)	100.0 (148)	100.0 (149)

Only 11.1 per cent of the respondents have completed primary or secondary school, and none have any education above secondary school. The educational background of the borrowers varies by zone. Generally, in Tangail, borrowers have a slightly higher level of education than in Rangpur. However, the difference is insignificant. On average, total years of schooling are 0.99 in Tangail compared to 0.85 in Rangpur.

The number of individual earners in a household is important for the economic strategies pursued in repayment of loans. The IS shows the average number of earners per household in Tangail to be 2.4 (of 4.65 members). The figures for Mymensingh are 2.25 (4.4).

The typical GB-member in our study is a married woman passed her main child bearing age with little or no education. She is part of a larger household with more than one male income earner, and with some land. It is typically a household with a potential for improving its economic status. It is not a destitute household.

3.1.3 Change in occupation

In the ES we asked the respondents about changes in their occupational status over time. The data set for Figures 7 and 8 are not fully comparable, but we can safely conclude that the borrowers have changed their *main* income generating occupation, as their engagement in market transactions (e.g. petty trade) has increased substantially. It is significant that farming and wage work are less important than petty trade.

Figure 7
The main productive activity (respondent) before joining GB

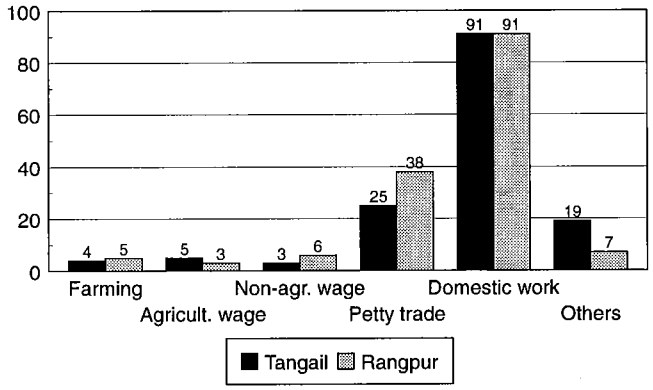
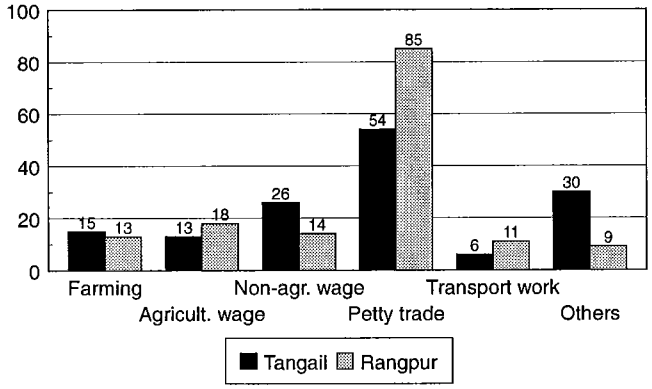


Figure 8
The main income generating activity today (household)



While the workload in terms of number of hours per day may increase for the individual GB loanee, especially women, our main finding is that additional job opportunities have been created for the borrower as well as for other household members. *Most GB-households in our study have assets in land, and are actively involved in the market.*

3.2 Organisation of the household economy

The number, sex and age of a household's members are important variables when understanding variations in the income of GB-households. The fact that resources

are pooled in the household, e.g. wages from day-labour are combined with surplus from investments of GB loans, makes it very difficult to measure the net income effect of GB provided funds. In the following, issues related to multiple sources of income and decision making in the household are discussed.

3.2.1 Gender division in income generation

Since 1983 the Grameen Bank has given preference to female members of households in providing credit, and in 1994 close to 94 per cent of the total loan amount was disbursed to, or 'channelled' through women.[10] The corresponding figure in the ES is 89 per cent. Studies of major credit programmes targeting women show that the majority of borrowers invest in activities where the rate of return and the scope of expansion is limited.[11] The rationale for giving preference to recruitment of women is that income going through women is more likely to increases the general welfare of the whole household.

There are two dimensions to the sexual division of labour that are of particular relevance to activities and earnings based upon GB loans: *the restriction put on women's general mobility through the purdah institution, and the specific social and cultural costs and obstacles to their participation in wage work.*

Gender segregation in the form of *purdah* limits women's participation in the labour market and influences the social ranking and position of the male household members in the local community. For women to engage in income generation outside the homestead there is thus a social cost to the family. According to national statistics only 13 per cent of Bangladeshi women are estimated to be in the labour force and they constitute only 10 per cent of the agricultural labour force. These low levels of female participation in the officially registered labour force needs a more elaborate explanation that goes beyond a simple description of *purdah* practises. This is the case for the gender dimension of GB projects, as well.

GB's guiding principle is that the borrower is the one who knows best what activities to suggest for the loan proposal. The type of projects funded clearly reflect gender specific dimensions, and GB staff also refer to female vs. male activities when discussing loan portfolios and proceeds from different activities. However, a 'male' activity is often funded by loans taken by a woman. We can speak of male and female dominated segments of production, where the women are mostly found in home-based earning activities. At the same time, *the nature of*

[10] Anne Marie Goetz and Rina Sen Gupta: Who *takes the credit? Gender Power and control over Loan use in Rural Credit programmes in Bangladesh.* Institute of Development studies, 1994.

[11] GB has tried to redress the problem by encouraging collective loans, but with little success. Among the respondents interviewed in the IS none were currently involved in this type of joint venture.

interdependencies must be emphasised, i.e. that tasks are shared jointly or sequentially between men and women in the household and separate accounting units do not exist.

Our second point concerns the *unequal access to and knowledge of markets* where the products are sold. When petty trade emerges as the main income generating occupation in our extensive survey it is important to keep in mind that the bazaar is the arena where the bargaining and transactions (purchasing and selling) and knowledge of prices are handled by men - who in most cases are different persons from the registered GB borrower. Also where loans are given to the female member of a household for a typically 'male' activity such as rickshaws, her son or husband will usually be in charge of allocating the income from this activity.

From the intensive survey we got the distinct impression that the loanee in many cases did not have full information on the running of businesses that were handled by the male members of the household. According to GB, this is not a widespread phenomenon and is not a threat to the family welfare or repayment discipline.

3.2.2 Multiple activities and joint decisions

Several studies show that peasant farmers follow an economic strategy of diversification that spreads the risk of investment over several different niches in the market. This concern for risk reduction will influence the borrowers' loan strategies. Introduction of new types of loans makes it possible to undertake several different types of projects and thereby diversify the risks and minimise the household's vulnerability.

Most landless and land-poor peasants in Bangladesh invest in economic niches that are linked to agriculture-based production. Seasonal shifts in income flows are therefore, a permanent feature of most projects in the portfolios of GB members. In a recent article by Habiba Zaman [12](1995), patterns of activities and use of time among rural landless women and men is compared across 3 seasons: busy (November to mid February), intermediate (March to May) and slack (June to August). The busy season begins with *amon* rice harvest and processing in November, and is followed by clearance, levelling and preparation for sugarcane, jute and *boro* rice and a wide variety of winter crops (wheat, mustard seeds) up to mid May. The slack season begins with the monsoon rains and in this season peasants bring home two important crops namely jute and *aus* rice. [13]

[12] "Patterns of Activity and Use of Time in Rural Bangladesh" in *The Journal of Developing Areas*_Vol. 29 no 3 1995

[13] Our fieldwork covered the end of the busy season and the intermediate season. The extensive survey gives data covering the full cycle of the previous year, while in the intensive survey we decided to concentrate on a shorter time span the month immediately preceding our survey for questions on streams of income and expenditure.

Different types of loans have been introduced to reduce the negative effects of seasonal variations and unpredictability in income flows. While individual loan proposals may list only one main project, both the IS and ES show that a combination of multiple income generating activities is typical for most (80 per cent) loanee households. One would expect that the introduction of additional types of loans would encourage this diversification.

The difference in timing between income flows and the weekly repayments does not appear as a main reason for additional borrowings in our interviews. However, as we have noted, the sources of funds for repayment represent a spread of activities over many niches in addition to the project for which GB loans are taken.

Several of the respondents described how they had changed plans and embarked upon a different activity than the one they had proposed in the initial loan application. The main reason given for this change was that the activity actually undertaken was more profitable than the one first suggested.

44 per cent of the respondents invested in land (IS). In the ES one half of the respondents leased-in land while 20 percent bought land during the last year. These results corroborate Gibbon and Todd's (1993) findings that virtually half (49 per cent) of the general loans were used at least partially for investment in agricultural land. These results underline the difficulties of measuring the effect of GB-provided funds on household income and also illustrates the priority given by GM-members to investment in land.

In our interviews we have included as members of the household all persons referred to by the respondents as eating from the same kitchen (*chula*) which in most cases means those who pool resources for consumption and most often live together in one house. However, there are several cases were an absent son or husband contributes to the household budget through remittances from wage work, and participates with investment of time and money in ways that help run the activity for which a loan was given.

The person identified as the GB member and bearing the legal responsibility for repayment of instalments on loans, might thus neither be identical with the actual decision maker for the financial transactions related to running the business, nor the main provider of cash for repayment of loans. Several of the households who had a wage earner among their members had allocated responsibility to him to service the weekly repayment. The intensive survey indicated that decisions concerning the use of the loan were mostly taken jointly in the household. The fact that women's credit enters general household funds and is used for multiple

purposes where other family and/or household members might have the decisive control over the use of the loan has also been noted in several other studies.[14]

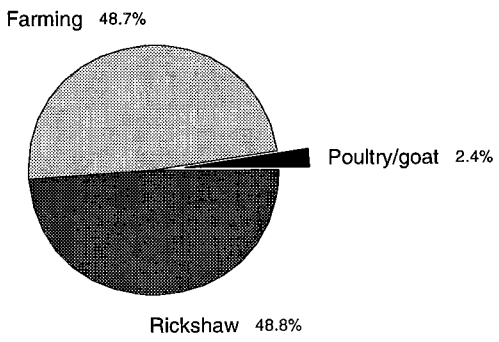
These are factors that may weaken the groups' own monitoring and peerpressure brought on the individual GB-member. Below we present three cases that illustrate the relative importance of different cash income flows in servicing of weekly dues to GB.

It appears to be important to have the ability to switch between different income generating activities to generate a steady cash flow, while at the same time developing projects that may need longer time to generate profit.

Three cases illustrating the multiple activities undertaken in the household are given below. All cases are based on data given for the month immediately preceding our survey and the respondents stressed they could not guarantee the same income for the coming month. Procedures for planning the development of individual projects seem therefore to be lacking for several of the typical small GB projects.

Case 1:
Our first case concerns cash income in a household of 4 with only two earning members - husband and wife. The wife is the GB member and has two active loans - one general and one seasonal. She explained that the two activities which she concentrates on, poultry and goat rearing, were referred to in her loan proposal. However, the two loans had largely been used for farming activities and renting out of a rickshaw, both projects run by her husband. The husband's activities account for 97.5 per cent of the cash flow to the household while the activities undertaken by herself account for only 2.5 per cent.

Figure 9
Magnitude of cash income from GB projects in household I



They have chosen to set aside money from the rickshaw business to service the weekly instalment to GB. It is a common pattern among GB households that weekly instalments

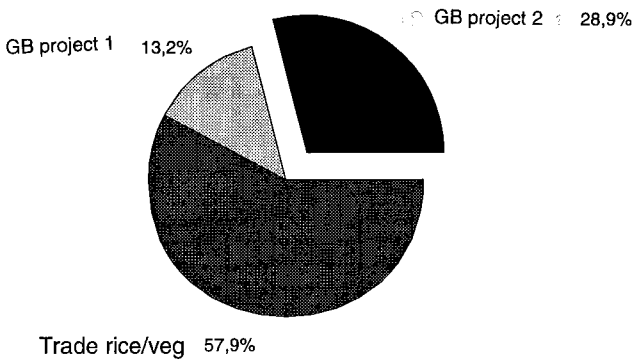
[14] "Dignity and Daily Bread" Eds. : Rowbotham et. al., Routledge, 1994

to GB are deducted from an activity that gives a stable flow of income, irrespective of whether the activity is funded by a loan from GB or not. It is also common to allocate the responsibility of servicing the loan to one specific household member who has a stable cash income.

Case: 2

In this case the loanee has invested both her seasonal and general loans to acquire land for cultivation, through purchase and through leasing arrangements. In addition she has invested in poultry.

Figure 10
Magnitude of cash income from GB projects in household II

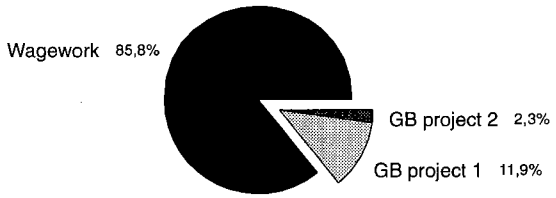


The husband of the loanee has invested the whole general loan and part of the seasonal loan in rice trade and farming. The loanee runs a poultry rearing project, and another project making puffed rice *(mori).* The two GB funded projects account for 42.1 per cent of the cash flow.

Case 3:

Our third example shows a situation where income from wage work represents the main income in the household, and where the two GB projects, poultry and paddy husking, accounts for 13.3 per cent of last month's income in the household.

Figure 11
Magnitude of cash income from GB projects in household III



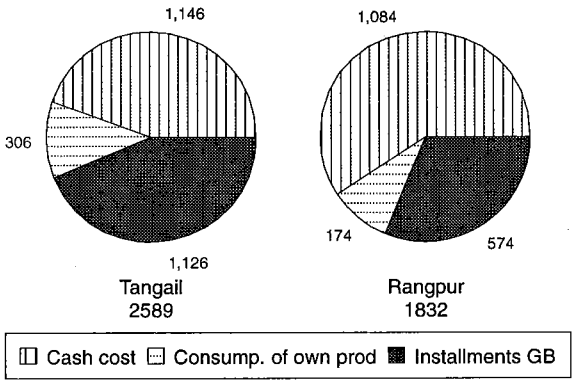
These three cases illustrate the wide difference in income flows from GB funded projects at any point in time. In the first example the GB loanee was in charge of projects that only generated 2.5 per cent of the households cash flow. However, having invested a large part of her loans in activities undertaken by her husband, this figure does not give the true picture of the role of GB financing. Our two other examples represent more typical situations where cash flow from GB funded projects constitute a larger part, 42.1 and 14.2 per cent respectively.

Securing high and stable repayment rates of GB loans depends upon internal negotiations within the household to allocate proceeds from different activities into debt servicing, and is not merely a matter of income generated by the GB funded projects.

3.2.3 Household income and loan repayment

Figure 12 illustrates the composition of monthly expenditure of households in Rangpur and Tangail (ES). The costs of reproduction of the household is divided into two: cash used to buy commodities in the market (food); and the presumed value of those commodities which are produced and consumed in the household, based on the respondents own estimates of how many months a year the household could consume rice from own production. We have also included an estimate of the average monthly payment to GB per household.

Figure 12
Expenditure per month in TK. Mean



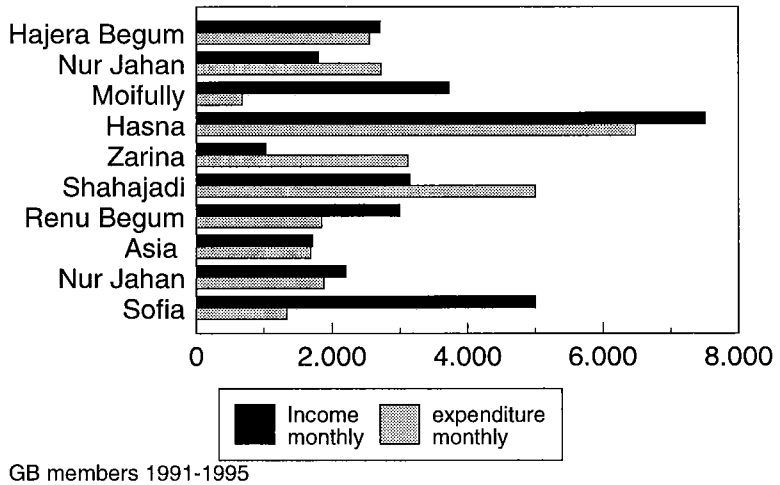
The most striking feature of Figure 12 is that while household expenditure is nearly the same in Tangail and Rangpur, the monthly repayments to GB is significantly different. As earlier shown, the reason is simple: the size of loans differ between the zones. In Tangail the payments to GB are about the double in terms of TK, but more significantly, they constitute a higher share of total expenditures (43% compared to 31% in Rangpur).[15]

If we assume that the expenditure levels reflect the income level of the households, we find that the ratio of loan repayment to income is substantially higher in Tangail compared to Rangpur. The disbursement growth in Tangail may therefore not be viable for GB in the long run. *The team is concerned about the last years' huge growth in loans, indicated by weekly payments to GB in the Tangail zone (Figure 5), apparently without any corresponding increase in income.*

Several of the borrowers reported stories about how problems related to illness among breadwinners in the family had depleted capital for the planned project. Figure 13 below summarises the findings of the intensive survey on reported income for 10 households in Tangail. Three out of 10 respondents reported higher expenditures than income last month. This is *not* intended to be read as typical for GB households, but do illustrate the precarious balance between income generated by household run projects, expenses incurred in repayment of GB loans and general household reproduction.

[15] These percentages are most likely too high, because of underreporting by the respondents on data for own production and cash expenditures. The regional comparison, however, remains valid.

Figure 13
Monthly balance of income and expenditure in ten household economies



GB members 1991-1995

It appears from the IS that income from the main activities funded by GB is enough in normal times to repay instalments. However, only minor disruptions in the flow of income caused by illness in the family, bad harvests and crop failure might threaten profits from the investment made. This result corresponds with the position taken by Khandker, Khalily and Kahn (1995).

3.2.4 Adjusting expenditures

The most common answer given in the IS to questions on how borrowers were able to repay weekly instalments with such high regularity was their active adjustment of household expenditure in relation to income flows. The most frequent method mentioned was reduction on expenditure for food. By reducing the number of meals from 3 a day to 2, costs of both rice and fuel were lowered. This is of course a short term method with built-in limits, but appears to be an integral part of the adjustment of the household economy to manage its income generating projects. The number of meals per day is also considered a good indicator to measure level of poverty. Two areas of the household budget, however, did seem to be protected against economising: clothing expenses and the education of children.

The possibility of economising on clothes is undoubtedly small in a situation where most respondents said that two or three saris were the maximum bought in one year. However, the reason given for not cutting down on these expenses was that it would signal to neighbours and fellow villagers a lack of success and decrease their social respectability and credit worthiness.

Although formal education in principal is free, costs of books, writing materials, and the additional tuition needed to succeed in exams are not. In Tangail 70 per

cent of all households (IS) had educational expenses as a regular part of their cash outlays. Investment in education for children was mentioned as an area where they had hopes for high returns.

Factors influencing the household expenditure is also related to the unstable health situation of household members. Many respondents told us how they had used part or whole of a loan to seek doctors and buy medicine for a sick husband or the children.

The marriage of daughters and sons is an important event in the family on many levels, and has consequences both for the economic and social status of the household. Even though one of the sixteen conditions for GB membership is not to give or receive dowry, several women in our interviews explained how major parts of income and capital for projects had been used for this purpose. When asked why they disregarded the rule against dowry, their explanation was that this rule only was valid in a marriage where both parties "belonged to GB" - i.e. where parents of both bride and bridegroom were GB members.

The amount of dowry given is dependent on family connections, negotiations and (in case of the bride) her physical attractiveness - for example fair skin. The dowry consists of different items, cash transfers. The sums given by loanees varied between Tk 3,000 to 20,000. When asked if they did not see the waste in spending so much money on marriage, the loanees took pain in explaining that they saw the amount both as an investment in future good relations with in-laws as well as a signal to prospective in-laws. "We will get it back from our future daughter-in-law". Concerns about the size of dowry were also given as a reason for not giving too much education to daughters. The dowry for an educated daughter would increase, since she would need an educated boy, and his mother would ask for more dowry! The same loanee explained how they had to give Tk 10,000 Tk in dowry for the darkest daughter, while they gave only Tk 3,000 for the fair one. They themselves had received Tk 4,000 in cash, plus the gold earrings and bangles their new daughter-in-law brought to their house.

3.2.5 Non-project sources for repayment

The interviews show that *wage work* is an important element in the income generation from which the funds to service loans are raised. In Tangail 15 per cent of the respondents referred to income from wage work as a major source of household income, while in Mymensingh 20 per cent did. Since different sources of income are pooled, it is difficult to determine the amount of funds for repayment that comes from wage work. However, in several of the households responsibility for repayment was allocated to one specific household member who had access to formal wage work.

An additional source of funds for repayment is through asking fellow group members for *short term loans* (1-2 weeks). In the IS, 61% of the respondents in Tangail reported they had provided this kind of help during the last year. 33% said they had received such help. The corresponding figures for Rangpur are 20% and 5%.

As solidarity and peer pressure are built-in mechanisms in GB's operations, almost all loanees interviewed had one or several times lent to (or borrowed from) a fellow group member who was unable to pay her weekly instalment. Such short term loans were provided without interest. At several centre meetings, we observed that money provided often came after active pressure from the bank worker in charge of the weekly collection. 15 days were given as the limit for repayment of such loans without interest. In cases where bigger sums were needed for longer periods, better-off group members might provide credit with interest.

Cases of long term slumps in cash flow would prompt attempts to enter the *informal credit market.* In our interviews in Tangail 17 loanees (i.e. 20 per cent) said they had taken loans outside the GB group from relatives and neighbours, but only one reported to be in debt to a money lender and then the circumstances were linked to a situation of providing dowry for a daughter at the same time as having to pay interest on a GB loan. This is likely to be underreported. In the ES, 55% in Tangail said that lending outside GB had increased over the last year (for Rangpur the figure is 7%).

In the intensive survey in Tangail 9 (i.e. 10.5 per cent) of the loanees reported that they had used *another GB loan* to repay outstanding debt, while in Mymensingh none of the loanees reported the use of such cross-financing. One important reason for this small number of reported cases, is that other members of the group may obstruct this way to handle a debt. For instance, in one case a loanee who is a GB member of 15 years standing had run into big problems over repayment of interest. She used both the group fund and TK 1000 deducted from her general loan to repay accumulated interest. She had already paid off her loan but did not manage to raise money to repay the interest on the loan. She complained that her fellow group members were not considerate as they blocked her chance to take another group fund loan with which to repay the interest.

3.2.6 Attitudes to payment of interest

The main objection raised to payment of interest was that the rate was too high. As one loanee said: "Before the rate was TK 16 per 100. Now it is TK 20 per 100. Why is that so? The bank gets money from abroad, they should use it to lower the rate of interest."

Objections to rate of interest in GB did not stop some of the respondents from taking group fund loans which they then lent to others at an interest of 20- 25 %

per month. Eight of the loanees interviewed (6.4 per cent) in our survey in Tangail have invested parts of their loans in money lending. As one loanee put it, land and money lending are the most profitable investments to make.

Several credit organisations operate in most of the villages in our survey. One loanee had heard that other credit programmes did not charge as much interest as GB, and she wants to change her bank affiliation to a programme charging lower interest. In the village of this respondent there were 3 major NGOs operating in addition to GB and comparison between different credit organisations was often brought up for discussion during the interviews.

The obligatory contribution most often singled out for criticisms by the respondents was the group tax of 5 per cent deducted from individual loans. When asked, the members had very vague ideas about why the tax was deducted and they found it unfair that they had to pay interest on the whole amount even when the tax had been deducted from their loans.

One respondent expressed that she was unhappy with paying the group tax and had not been given an answer from the bank which satisfied her about the benefit to the GB members from this deduction.

Objections to repayment of interest were thus neither raised on ideological nor on religious grounds, rather the questions and objections to bank charges reflected frustration at lack of information to understand the benefits from e.g. paying the group tax. The loanees are very familiar with calculation of interest rates and returns in the informal financial market. The main problem in GB members' practice concerning payment of interest, is in our opinion not a question of attitude but rather of lack of informed knowledge and communication about the function of interest within the GB system. The potentiality for further advancement of mutual trust between borrowers and bank on this point could be further explored.

3.3 Income potential of GB projects

In the ES 42 per cent of the respondents sell eggs and 11 per cent sell cattle milk. It seems that additional borrowers are engaged in animal fattening. 71 per cent sell poultry while 22 per cent sell cattle. Our data on net income of these activities are imperfect, but indicate that income from these activities constitute only a minor part of the household income. This observation is supported by the fact that more than 60 per cent of the respondents invested in other income processing activities than those discussed above. Even though the market income of livestock is small, livestock is important for household's own consumption.

In the IS livestock rearing and poultry were the most common GB financed projects. The types of projects among the 125 loanees interviewed in Mymensingh (40) and Tangail (85) are listed below

Production and processing	*Petty trade*	*Services*
Kitchen-garden/poultry 110	Eggs/chicken 75	Transport/rickshaw 24
Fish cultivation 10	Rice products 20	
Livestock rearing 65	Milk 13	
Piece-work 5	Shops (stationary/grocery) 8	
Farming 23		
Oil pressing 4		

3.3.1 Processing and trading

Our survey shows a pattern of division of labour within the household where a female loanee engages in homestead based production whereas her husband and sons take care of the marketing of the commodities at weekly village markets (*ghat*) or bring the products to local or regional bazaars. However, some of the products such as eggs and vegetables produced in the homestead might be sold directly from the homestead by the woman herself.

As noted above one characteristic of poor households is the existence of multiple earners, often in multiple occupations, since no single occupation is stable enough or well paid enough to guarantee an adequate livelihood. To illustrate this complexity of households' economic organisation, and provide some estimates of the profitability of different projects, we present five case stories where we indicate income from individual projects in relation to weekly instalment on loans. All names used are fictitious.

Nasrin is a 32 year old married woman living in a household together with her 38 year old husband and 4 children - 3 daughters and a son. She has at the moment only one active loan in GB. Her husband buys paddy at a price of Tk 370 per mound in the local bazaar. She husks the paddy within her homestead. She is able to husk approximately 8 mounds per week. After husking, the rice is sold at Tk 400 per mound by the husband. Disregarding her own labour costs and the husbands expenses for transport, she is able to generate a weekly income from husking of approximately Tk 240. Her weekly instalment on the loan is Tk 110.

Mahar Banu is a 26 year old married woman living in a household together with her 35 year old husband, two sons of 5 and 3 years and a mother-in-law of 70. Her family does not own land apart from the homestead, and her husband used to

be a day labourer. She has been a GB member since October 1993, and has for the moment 4 loans in the bank - one housing, one tubewell, one general and one seasonal loan. The business run by herself is rearing of chicken, where she managed to earn Tk 150 last month. She has also bought a sewing machine, but the income from sewing is very erratic. The major parts of the seasonal and general loans are invested in a shop run by her husband. Earnings from the shop last month was Tk 2,500. Comparing the gross income with her weekly instalment of Tk 160, the cash from the shop run by her husband appears as is the critical factor in servicing the debt to GB.

Nabila is a 40 year old woman living in a household of 6 - her husband, 3 sons and a daughter-in-law. She has invested her two loans - one general the other seasonal - in buying two rickshaws for her two younger sons. Her weekly instalment to GB is Tk 230. Her sons pay a fixed sum per week that covers this weekly repayment. On top, she gets Tk 60-70 from them weekly. Her husband is a day labourer. She herself earlier kept two goats and sold their milk, but since she does not own land she all the time ran into trouble with her neighbours over the goats trespassing unto the land of others. Last month she sold her two goats for Tk 1,400.

Shirin is a woman of 28. She is living together with her husband, 3 sons and a daughter. She has two active loans in the bank. The GB projects, for which she has taken loans, are rearing of poultry and purchase of a cow at Tk 3500. She has also taken a seasonal loan that was used to buy commodities for her husband's shop. She pays weekly instalments of Tk 135. Last month she earned Tk 520 on her two projects. In addition she earns money from lending money to neighbours at an interest rate of 20 per cent. Her husband's income from the shop was Tk 3,500 last month.

Neila is 25 years and married. She has 3 sons. She has taken 3 loans in GB - a general, a seasonal and a sanitary loan. The income from her two GB funded projects (rearing of poultry and a cow) was Tk 600 last month. The household owns 40 decimal of land, which her husband farms. In addition they sharecrop 30 decimals of land on a 50/50 contract, and have mortgaged-in 40 decimal at Tk 4,000. The loanee told us that her husband plans to start a business in wood, which would be her proposal when she would apply for the next loan. Her weekly instalment is Tk 200. which means that she needs money from her husband's earnings.

A general observation is that chances of expansion are limited for the kind of projects presented in these cases. Several of the loanees interviewed expressed a desire to be able to sell commodities in the bigger markets, where prices are higher than in the local bazaar.

Possibilities for higher returns are mainly found in trade ventures where it is possible to buy commodities (for instance paddy) at a low price in the local market and transport them to a larger urban market and profit from the price differentials. One group had applied for a loan to buy a van to transport their products to a larger market. Instead of increasing their profits through processing the products, the group is taking advantage of the price differences between local and regional markets. Women are, however, dependent upon co-operation from male members of the household in order to take advantage of such possibilities.

Surplus from single projects funded by GB loans, is a result of a co-ordination of multiple tasks among several members of the household. The loan is often the decisive factor for entry into more profitable income earning activities for members of the household.

3.4 GB monitoring

This section focuses on GB's monitoring and handling of cross-financing. The general monitoring processes established to cover the bank's operation are only taken into account to the extent they concern cross-financing. This section first discusses mechanisms that exist to catch the problem and what is done when it is identified, and finally looks at GB management perceptions of the cross-financing issue and likely areas for future work.

As pointed out earlier, some cross financing is not only likely to happen, it may also be quite necessary in given situations. The handling and supervision of this particular problem necessitates a certain amount of flexibility in order to allow inevitable cross-overs, but at the same time be able to identify the problem when it reaches a critical level.

It can be difficult to spot threatening cross-financing practices. What matters for the bank is to be able to identify the problem as early as possible, and to address the problem before it gets out of hand. GB has several schemes involving giving new loans before the old is repaid, aimed at getting people back into productive activities after they have been hit by a natural disaster or the like. These include capital recovery loans, destitute loans and goat loans. Small amounts are forwarded in order to get the member producing something again, thus enabling her to start paying of that loan in very small instalments. In this way the member is kept within GB and the person's repayment discipline is upheld to some degree. After the borrower has again established a productive activity, the borrower can start repaying old loans. This practice appears to have worked reasonably well in two areas where GB has had major problems, namely Patuhakali and Rangpur.

3.4.1 GB General Monitoring Systems

GB has a comprehensive monitoring system involving numerous reports and other sources of information. The basic reporting unit is the branch - and partly also the area - that generate massive amounts of detailed information on operation, accounts, lending and member activities. Most of this is manually produced and sent to the zone where it is entered into computers on two major files: one for monitoring and one for accounts. The zone also adds some files on its own operations, before the diskette is dispatched to HO and the Monitoring & Evaluation (M&E) unit. The reporting periods vary between weekly, monthly and quarterly outputs, depending on the type of information. The HO M&E unit then consolidates and produces its own reports. The PCM estimates that out of the 80 items that M&E produced, about 33 were analytical with the rest being descriptive.

Supplementing this wealth of hard data, is the monthly narrative report that every branch makes. These are sent through area and zone before being summarised and circulated at HO. An important part of the monitoring is also the continuous process of discussion and communication that takes place both horizontally and vertically in the organisation. As the PCM notes, operations are in general very transparent, and any branch would have great difficulty in hiding or suppressing problems over a longer period of time.

GB has previously been warned by different review missions against the dangers of "drowning" in its own information flows, and has been recommended to develop management information systems (MIS) that focus on a smaller number of critical variables. One such MIS system is still being developed by the M&E unit and is not yet operational, but there is no doubt that reporting has been stream-lined and consolidated. Also, more emphasis is put on analysing trends and using ratios, as compared to point-of-time reports and aggregate statements.

3.4.2 GB Monitoring of Repayment and Overdue Payments

This development is noticeable in the area of loan repayment monitoring and supervision of portfolio quality. Better routines are now also established for tracking the performance of housing and seasonal loans, loan types that were specifically mentioned in the PCM as lacking adequate monitoring.

In general, as cross-financing is mostly a consequence of other repayment difficulties and as repayment is an indicator of whether the borrower's activity generates sufficient funds, it is the monitoring of repayment that has the most immediate relation to cross-financing. GB's M&E unit uses in general three types of ratios to monitor repayment on branch level:

(1) Standard GB Repayment ratio
GB has for a long time defined repayment as 100 per cent minus the percentage figure for overdue payments. The overdue percentage is defined as general & collective (G&C) loans (principal amount) outstanding two years after disbursement, divided by the total current G&C loans outstanding (principal amount). Thus, if TK 4 are not repaid two years after it was disbursed, and the current amount outstanding is TK 200, the overdue would be 2 per cent. Repayment would thus be 100 per cent minus 2 per cent equal to 98 per cent. The main problem with this figure is that with a rapidly expanding loan portfolio, it would overstate the repayment rate. Further it cannot be used as a reliable warning indicator as two years after disbursement is normally too late to salvage the loan or address the borrower's problems.

However, in later years, GB has added a number of related indicators and broadened the analytical use of the standard repayment ratio. Firstly, GB now monitors unrepaid loans after one year and splits such loans further into age groups depending on how long the loan has been outstanding. Thus it is possible to see the age profile of unrepaid/overdue loans, and trends in repayment on a branch basis. Further, GB can find the number of borrowers with overdue in the same way, and also make comparisons of average loans unrepaid/overdue etc., both age wise and branch wise.

(2) On-time repayment rate
However, the best early warning indicator is normally thought to be the so called on-time repayment rate. At a specific date, this measures how much is repaid out of how much is scheduled for repayment. For instance, after 25 weeks, TK 50 should have been repaid out of a total loan of TK 100 according to GB's normal repayment schedules. But if the borrower after 25 weeks only repaid 40, the on-time repayment rate would be only 80 per cent. This figure can be monitored from week to week and month to month, and any deviations and problems with repayment will be immediately identified.

(3) Cumulative repayment index
Another ratio useful for watching trends in repayment behaviour over time is the so called cumulative repayment index. This is defined as total repaid, divided by total repaid plus total unrepaid at any point of time. Thus, if a bank has received payments of TK 1000 during its whole existence, but that TK 100 is unrepaid during the same period, the repayment index would calculate to TK 1000 divided by TK 1000 plus TK 100, equal to 90.9. The following month the cumulative repayment may be TK 1050, and unrepaid 102, giving an index of 91.1, in other words an improvement in performance. The absolute numbers are of less interest than the trend, and use of a ratio facilitates analytical comparisons. GB has just started calculating this ratio on a branch basis per month.

Table 5 shows some examples of these three ratios zonewise. The standard repayment method is shown for loans unrepaid after one year and overdue after two years. The on-time repayment rate is shown for G&C loans, housing and total loans. (Please note that the total rate here also includes both G&C and housing). The repayment index is shown in the last column, but it should be noted that it is not particularly interesting unless displayed as a trend. The figures were the latest available when the team visited GB in May 1995.

Table 5
Repayment indicators per zone, March/April 1995

	Standard GB Ratios		On-time Repayment Ratios			Cumm. Repaym. Index
	% Unrep. after 1 year	% Unrep. after 2 years	G&C Loans %	Housing Loans %	All loans %	
Chittagong	0.62	0.39	97	99	98	99.81
Tangail	1.32	0.23	87	95	87	99.60
Rangpur	2.20	3.98	80	83	88	98.67
Dhaka	0.21	0.06	100	97	104	99.93
Patuakhali	1.34	1.29	99	82	101	99.53
Bogra	1.30	0.39	97	96	104	99.53
Sylhet	5.63	0.59	81	79	80	98.22
Rasjhahi	0.21	0.00	92	97	97	99.93
Dinjapur	0.77	0.00	91	98	94	99.76
Faridpur	0.03	0.00	100	101	101	99.98
Comilla	0.38	0.01	99	98	99	99.87
Mymensingh	0.03	0.00	93	98	92	99.95
All zones	0.98	0.54	94	95	97	99.60

As can be seen from the indicators, GB has repayment trouble mainly in three zones, namely Tangail, Rangpur and Sylhet. Rangpur has been a problem zone for a long time as seen from the percentage of unrepaid loans two years after disbursement that is close to 4 per cent. However, the on-time repayment rate warns that the problems are not yet over, as borrowers appear to continue to have problems meeting obligations. On the other hand, the Pathuakali repayment difficulties appear more in control, as on-time repayment is now good for the G&C loans indicating that borrowers make money from their productive activities. However, both on-time for housing and the standard GB ratios show a considerable overhang from previous difficulties. Sylhet appears to have the most serious problems, with a very high portion of loans unrepaid one year after disbursement, and where on-time repayment figures give no consolation regarding improvement. The fact that several zones appear to have an on-time repayment above 100 per cent is due to seasonal loans, as these are often repaid as soon as the agricultural output is sold.

All of these ratios can be found also on area and branch level, and thus facilitate identification of problems at an early stage, and help analyse the extent and the seriousness, as the above superficial analysis is an example of.

Each month NORAD receives a report from GB that includes 21 separate statements. Most of these contain information about repayment and list a large number of different indicators, ratios and trends describing how zones, areas and branches perform with regard to loans outstanding and repayment. The team does not know how well all of these data are used in GB and whether they trigger the right responses in the organisation, but *it appears that GB has adequate information to keep track of its repayment performance on branch level.*

3.4.3 Monitoring and handling of cross-financing

After the Tangail study and the emphasis made in the Completion Report on the dangers of unchecked cross-financing GB has given the issue top priority. Quite simply, cross-financing - or "adjustments" as GB calls it - have now become expressively forbidden. All branch managers should be aware of this, according to GB management, and it has been a recurrent theme in workshops and manager meetings during the last few years. It is neither tolerated that an outside loan is taken to repay GB loan, nor that any other GB loan is used for such a purpose. Interviews with branch managers and workers confirmed the high level of local knowledge about the issue, and the policy of GB was well known.

The effect of this new GB policy should not be underrated. In an organisation with as strict discipline as GB, breaking rules and regulations are seen as serious offences, compromising the future career of any individual that is caught. The monitoring happens at all levels of GB, including group/centre, branch, area, zone and HO level. Each level is briefly discussed in the following.

(1) Group/Centre level

The first obstacle for any borrower doing cross-financing is to convince fellow centre and group members that cross-financing is acceptable. While outside borrowing may be hidden from other members, internal cross-financing is not likely to pass unnoticed. There may of course be strong individuals involved that simply do as they like, especially in older groups and centres. But in general the mutual responsibility for repayment hinders members from doing anything that may risk other members' earnings.

The crucial element here is the bank worker, and how clear he/she stresses that cross-financing does not benefit anybody and that it is only a postponement of problems. Stressing that it is not allowed may deter some, but normally arguments emphasising the borrowers self-interest is necessary for a good response. Complicating the matter is the fact that some cross-financing will always happen,

and that it may be difficult for the bank worker to get the message across of when it is acceptable and when it is not. In interviews with bank workers, they said that they emphasised to the borrowers that they would lose their profit if they took outside loans, as the interest on such loans would be very high. Thus, they risk not being able to repay and could ultimately jeopardise their membership in the bank. It is believed that strong statements to this effect, and in general a determined awareness raising effort by bank workers is likely to suppress most attempts at cross-financing.

(2) Branch
The next check point that a "cross-financier" has to pass is the branch. The bank workers have as mentioned above, direct contact with the members and the groups, and should in most instances be able to detect attempts at cross-financing. The simplest check is the usage of the loan, and according to established GB rules, all loans given are subject to this. However, in practice it appears that checking is not always carried out with the necessary care. The administrative burden for each bank worker has increased dramatically during the last few years following the expansion in both members and outstanding debt, so this is not surprising.

Of the two cross-financing methods outlined above, the alternative involving an outside founder is the hardest to discover. If the members do not voluntarily disclose this information, it is unlikely that the bank worker will identify it. However, some rules have been implemented to discourage the practice.

For general loans, nobody is allowed to repay more than five instalments at a time. But if you have repaid 40, you may pay the last ten instalments together. However, you will in any case not be allowed a new loan until the current loan is due according to the initial plan. This rule may be quite effective because a member in serious repayment difficulties will need to borrow not only for the immediate instalment, but also normally to cover larger parts of the loan. However, GB will not allow you to repay large instalments, so a borrower would have to portion out the repayment from the funds from the outside source. This will be at very high interest rates, and most money lenders will only lend you the money on very short term, and only if they are sure you will repay then. While repayment can only happen after you get a new loan, money lenders will be sceptical towards waiting 10 weeks to have it repaid. Thus, if you have a problem - say 10 weeks before the whole loan is due - whatever you do, you can not get a new GB loan before 10 weeks have passed. The question is then whether the money lender will risk lending to you at these terms. It will anyway be very expensive for a borrower, and if the borrower intends to use a new GB loan to repay the money lender's loan, the borrower also has to risk the chance that GB will check how he/she used the new loan. This will not catch smaller amounts, for instance interest at the end of the year, but it is likely to uncover more substantial problems in earnings that a borrower has had.

The other alternative involving two GB loans should in theory not be possible unless the bank worker and the branch manager willingly comply, or do poor work. The accounts and the ledgers with entries for all borrowers and all loans should show if the timing of disbursement, repayment and applications for different loans happened in any suspect pattern. Admittedly, as all loans have different ledgers, different pass books and different accounting, it may be difficult for the branch to consolidate the information at regular intervals. Still, when a new loan is given, previous borrower history should be conferred with. The checking of loan use is an additional safety guard.

The seasonal loan and the G&C loan are the loans most likely to be used in any cross-financing. The reason is that most of the other loans like tubewell, sanitary and housing loans have to be invested in fixed assets. These are comparatively easy to check, and diverting the money is more risky for the borrower.

Branch staff may obviously turn a blind eye to the practice in order to keep a good repayment rate, or to avoid any problems with interfering in member's financial matters. While the attitude may have been lax in this regard a few years back, it is the impression of the team that it is not so now. The official rule that explicitly forbids such activities appears to have raised consciousness considerably and made branch managers wary of the practice. As will be commented later, if it is found out by the internal audit, the branch manager is in serious trouble.

(3) Area

The area does little specific checking on this issue, apart from being part of the general chain of monitoring and command. An area manager is responsible for his branch managers, and he/she is supposed to watch out for any deviations from rules such as cross-financing. The area manager is also the first in line above the field office, and the first that reads branch narrative and quantitative reports. He/she is expected to address problems in the branch immediately if such are discovered.

(4) Zone

The zone is in many ways a mini-HO, and is staffed with separate functions for instance for M&E and internal audit. Data and information from branches and areas are consolidated here and computerised. The first analytical interpretations of for instance repayment data are done at the zonal level.

The zone also has the responsibility for branch audit, and every branch is supposed to be visited by the auditors once a year. In practice, the intervals are closer to 18 months according to GB. Special audits can also be initiated at the request of the zonal manager or HO if problems or any other issues have arisen that necessitates a checking of books. Irregularities fall into three categories:

- Minor errors, for instance in bookkeeping, are reported to the Branch manager for correction
- Management problems, covering more notable offences and lax management practices, are reported to the Zonal manager for further action
- Unlawful practices that are reported to the HO and that involve the breaking of rules and regulations and other issues that are considered serious by the audit. This can result in reorganisations or other administrative changes at the branch in question, including firing of workers and managers.

Any case of cross-financing found by audit involving more than TK 1000 is classified as "unlawful practices", and is reported straight to HO. It is considered a serious break of regulations and the branch manager will have to come up with a good explanation to save his career. Several examples were mentioned to the team by the Head of Audit in GB, where the typical example was a person allowed to take up a seasonal loan to repay her general loan. This can normally be found out by comparing ledgers and dates of disbursements and repayment.

Otherwise, the zone is normally the first to declare branches as "problem branches" (when 75% of the centres have repayment difficulties), and has a direct responsibility for addressing repayment difficulties or other problems than impede the performance of the branch. If a branch is declared a problem branch it is put under special administration and often under direct management of the zone.

(5) Head Office
The Head Office concentrates on the overall monitoring of performance of the branches by for instance analysing the different ratios that are made monthly and even weekly. If sudden deviations and unexplained deteriorations occur, questions are immediately sent to the zone and to the branch. The HO also has the responsibility for auditing the zones, and for more specialised audits in case of more particular issues.

To fight particularly serious problems, HO has a special Problem Solving Cell that consists of the three top managers in the bank. These have full discretionary powers in branches that are unfortunate enough to come under its auspices, and are free to do any experiment, loan- or administrative-wise, that they find necessary in those branches.

A vital HO function in regard to repayment and cross-financing, is the HO's role as overall responsible for policy, rules and regulations. HO initiates experiments, sets priorities and determines what issues are to be put on the agenda for the rest of the bank, like for instance increased focus on the dangers of cross-financing. It should be stressed that this always happens in close co-operation with the field. Few organisations of GB's size are believed to have a HO with the same

understanding and connection to field operations. But the management takes the final decision, and the increased focus on "adjustment" appears to have come from HO.

HO has also been instrumental in changing some practices that were conducive to cross-financing, as for instance the repayment schedule of seasonal loans. Borrowers were previously allowed to pay back the loan in one big instalment at the end of the period, or when they sold their agricultural products. Borrowing from another source to cover this repayment would be relatively easy, as a new seasonal loan would potentially be given immediately afterwards from GB.

According to GB, the bank has now introduced a normal G&C repayment schedule also for seasonal loans, meaning that a two per cent instalment is paid every week irrespective of season. This change was probably not only implemented because of the dangers of cross-financing, but mostly to reduce the recording and administrative burden on bank workers trying to keep track of loans with widely different repayment schedules. The reduction of risk also played a role, as GB has better control of a loan with a regular repayment schedule, than one that is supposed to be repaid in one big instalments far into the future.

3.4.4 Our assessment

Policywise, GB has taken proper steps to limit the possibilities of using GB-loans in cross-financing. GB's monitoring systems seem adequately developed to trace breaches against the explicit ban on cross-financing, and GB reports very few cases of this nature. It is not possible, however, for GB to carefully monitor all credit arrangements that a GB-member's household engage in. At the same time, it is in the combination with outside credit cross-financing is most likely to develop into a problem.

4 Is cross-financing a problem for GB?

The previous chapters have established that credit has been escalating among GB members, particularly in Tangail. We note that typical 'GB households' try to reduce their financial vulnerability by diversifying income generating investments. To succeed all able-bodied members of the household are involved. At the same time, they clearly depend on affordable credit to develop profitable projects. It remains, however, a situation of precarious financial management, with high risks involved in many of the income generating ventures undertaken. The growth in repayment obligations for most households has indeed increased the vulnerability.

In this section we present three analyses based on the ES assessing to what extent financial problems might have led to cross-financing, and to what extent credit escalation represents a problem for GB. Firstly, we plot the respondents' loan portfolios in relation to their dates of disbursement. Through these plots we are testing whether GB-members strategically have been able to time new lending to facilitate cross-financing. Secondly, we analyse what determines the size of the borrowers' loan? Applying a regression analysis, we test whether the borrowers with high loans correspond to the borrowers with the best ability to service the loans. Thirdly, we analyse what determines whether a borrower is a regular ('good') or an irregular ('bad') borrower? We are particularly concerned about the relationship between the number of loans (credit escalation through introduction of additional loans) and repayment behaviour.

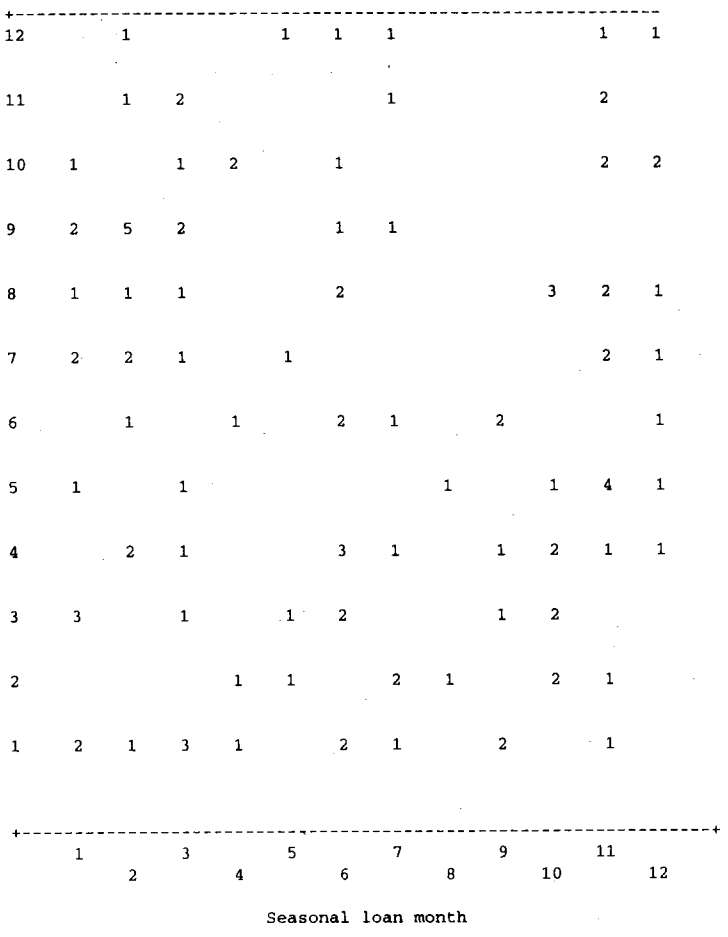
4.1 Timing of loans

A rough indicator of whether the borrowers may use one type of loan to finance instalments and interests on another type of loan is the time span between the disbursement of one type of loan and the termination of another type of loan. If for instance one respondent uses part of the seasonal loan to repay her general loan, one would expect the disbursement of the seasonal loan to be some weeks ahead of the termination of her general loan. By analysing the borrower's total portfolio of loans, we increase our capability of revealing such events. As argued in 2.2, the problem is probably most relevant for seasonal loans.

84 and 86 per cent of the respondents invested at least half of the loan during the first month after disbursement of general and seasonal loans respectively. It is costly not to invest the money immediately after disbursement, and we can assume that funds are invested very soon.

In Figure 14, we have plotted the disbursement date of the seasonal and general loans[17] for each respondent in both zones. At the horizontal axis, the month of seasonal loans is given (1 corresponds to January etc.), while the vertical axis reflects the corresponding month for general loans. If there is a specific pattern in this plot, e.g. if the plot is concentrated along, below or above an angle of 45 degrees, it may indicate that the borrowers are using one type of loan to repay another type of loan (based on the assumption that funds are invested very soon - i.e. nearly the same month). On the other hand, to the extent that seasonal loans generally are given in specific months, one would expect the plot to be concentrated along vertical line(s) reflecting the season.

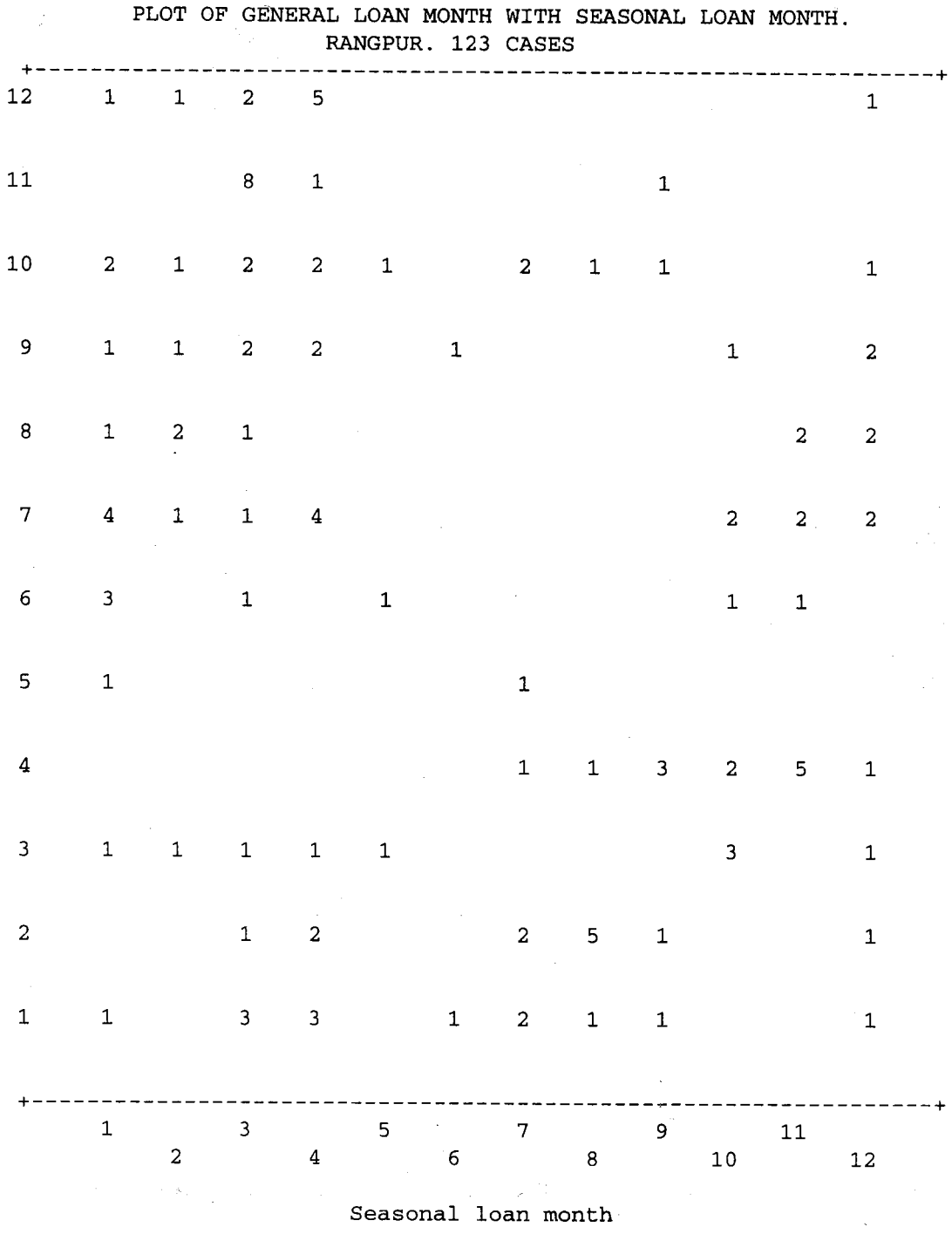
Figure 14 Disbursement months of respondents having general and seasonal loans. Tangail[18]



[17] Since general loans are given on a regular basis of one year, we have used month of disbursement as a proxy for month of expire (January corresponds to month 1).

[18] 112 respondents have both seasonal and general loans in Tangail while the corresponding figure is 123 in Rangpur. The numbers given in the scatter plots reflect the number of cases having a specific combination of month of disbursement for the two types of loans; e.g., two respondents have disbursed both a general and a seasonal loan in January (see bottom to the left in Figure 14).

Figure 15 Disbursement months of respondents having general and seasonal loans. Rangpur



As Figures 14 and 15 show, in both zones we are unable to observe any specific pattern between the month of disbursement for the two loans. Hence, *measured by this indicator of timing of disbursement, one is unable to conclude that respondents are using seasonal loans to repay general loans or vice versa.* Similar plots for other types of loans confirm this result.

4.2 Size of loans: a regression analysis

Credit escalation takes the form of increasing disbursement of loans. This section focuses on what factors determine the amount of credit of individual borrowers. Is it generally the case that borrowers with high loans, also are those with the best ability to service loans? We have applied a regression analysis where the dependent variable is the respondent's size of the loan.[19]

If it is the case that the loan size increases with the respondents' available assets, this is a good sign as far as the potential repayments to GB is concerned. In the last instance, the borrowers' economic viability influences the viability of GB. As a bank where loans are given on an uncollateral basis, GB requires that the borrowers' assets or incomes from the projects make it possible to maintain or reduce their liabilities to the bank. We also expect that the viability of the bank decreases with the level of the respondents' financial loans outside the GB system. As far as *assets and income* are concerned, we have distinguished between several variables: ownership of land, the extent of buying land, non-land assets (value of cattle etc.) and the number of male/female earners in the household. In addition we have registered zone. As far as non-institutional loans (from the informal sector) are concerned, we have distinguished between those borrowers who at present have higher and lower informal loans than at the time of joining GB.

In addition to assets and income, we also expect that the viability of GB increases with the information gathered about the respondents. As far as *information* is concerned, we have used the period of membership and the borrower's repayment behaviour (the frequency of missed instalments - or 'good' versus 'bad' borrower) as proxies.

The (stepwise) regression analysis is presented in Appendix 4, where the total disbursement of loans except housing loans are used as a dependent variable. *The results show that those respondents who both have been members in GB for a longer period, and have bought land and have high assets, generally have higher loans than the other respondents. In addition, the zone is significant in explaining the borrowers' loan size. The number of earners per household and the extent of borrowing in the informal market are insignificant variables.*

[19] Total loan except housing loans. We have also undertaken analyses including housing loans, but the results are generally the same. See appendix 4 in the Draft Final Report for a presentation of the results.

Those borrowing more from non-institutional sources now than at the time they joined GB have lower loans. The above variables explain nearly 50 per cent of the variation in the size of the loan.

From GB's point of view the above results are positive. Borrowers who have high loans in the informal market, who miss their instalments frequently and who have extremely low level of assets do not have high loans in GB. But the results also indicate that the 'richest of the poor' have higher access to loans than the very poorest.

4.3 Good and bad borrowers

In this section we focus on the problem of missed instalment. Firstly, we document the extent of irregular behaviour. We then proceed with identifying important characteristics of different types of borrowers ('good' and 'bad' borrowers).

4.3.1 The extent of irregularity

In Tangail no respondents have ever been defaulters (not repaid their loan two years after expiration). In Rangpur, one respondent has been a defaulter of housing loans and general loans, while seven respondents (or 10 % of the applicable respondents) are defaulters of the group fund facilities. For the group fund, the overdue is on average TK 633. These figures correspond to the overall picture of the Grameen Bank as a credit institution with high repayment rates. However, we expect that our figures are biased. To the extent that defaulters are expelled from the group, we were probably unable to catch them. Even though our sampling procedure was random in terms of the choice of branches, centres and villages, the choice of respondents in a centre was not. We had to interview borrowers present at the time of our visit.

An additional indicator of the extent of defaulters is whether the borrowers in some cases missed instalments.

Table 6
Missed instalments by zone, in percentage

	Total	Tangail	Rangpur
Yes	29.2 (87)	37.8	20.7
No	70.8 (211)	62.2	79.3
Total	100 (N = 298)	100 (148)	100 (150)

Almost 30 per cent of the borrowers have missed one or more instalments. The problem seems to be most acute in Tangail, probably because the sizes of the loans are higher in Tangail than in Rangpur. However, rather than using the crude categories "yes" and "no" only, one has to analyse the extent or frequency of missed instalments in the two zones (see Table 7).

Table 7
Frequency of missed instalments by zone, in percentage

	Total	Tangail	Rangpur
Often	0.7 (2)	1.4	-
Occasionally	9.8 (29)	7.5	12.0
Seldom or rarely	20.9 (62)	30.6	11.3
Never	68.7 (204)	60.5	76.7
Total	100 (297)	100 (150)	100 (147)

By registering for the frequency of missed instalments, it follows from Table 7 that *the extent of missed instalments is most common in Rangpur.* While 12 per cent missed their instalments often or occasionally in Rangpur, only 8.9 per cent did so in Tangail.

We are interested in finding out which factors determine these frequencies of missed instalments. First, we analyse the relationship between the number of loans and the extent of irregular behaviour. Second, we control for additional variables (e.g., importance of wage work, income from projects financed by GB funds and sickness). Finally, we undertake a more comprehensive statistical analysis (logistic regression).

4.3.2 Missed instalments and the number of loans

We have established in chapter 2 that most borrowers have several loans and may undertake credit pyramiding. Such pyramiding could result in borrowers becoming unable to fulfil their obligations to the GB. In the following we analyse the relationship between these two variables by controlling for zone.

Table 8
Missed instalments by number of loans controlled by zone, in percentage

	Tangail				Rangpur			
	1 or 2 loans	3 or 4 loans	5 or 6 loans	Total	1 or 2 loans	3 or 4 loans	5 or 6 loans	Total
Often or occasional	8.9	9.9	4.8	8.8	4.3	13.0	36.4	12
Seldom or never	91.1	90.1	95.2	91.2	95.7	87.0	63.6	88
Total	100 (45)	100 (81)	100 (21)	100 (N=147)	100 (47)	100 (92)	100 (11)	100 (N=150)

In Rangpur the number of loans has a significant impact on the frequency of missed instalments. While only 4.3 per cent of the respondents having one or two loans miss their instalments often or occasionally, 36.4 per cent of the respondents having five or six loans do the same. This effect is probably explained by the frequency of 'other loans', which is high in this zone (we have used "other loans" as a residual category). These other loans are given to reduce problems related to crop failure and with the aim of poverty alleviation. However, in Tangail there is no effects of the number of loans. *Based on Table 8 above, it seems likely that the type of zone (or other variables), rather than the number of loans determines the frequency of missed instalments.*

4.3.3 Missed instalments and sources of repayment

We are first analysing how 'good' and 'bad' borrowers serviced their loans. The frequencies of missed instalments are recoded, to separate 'good' from 'bad borrowers'. In our analysis good borrowers are defined as those who only seldom or never miss their instalments, while bad borrowers are those who often or occasionally miss their instalments.[20]

' Good borrowers'

The respondents who answered that they missed their instalments either seldom, rarely or never, were asked how the household was able to service their loans to GB. The respondents rated the degree of importance of different explanations from 1 to 3 where 1 is "not important" and 3 is "very important".[21]

[20] The categories are defined according to the borrowers' own perceptions.

[21] Not applicable categories are coded as blanks.

Table 9
The importance of different sources in servicing GB loans. Two zones

	Total. Mean (No of cases)	Mean Tangail (No of cases)	Mean Rangpur (No of cases)
Income from wages	2.15 (182)	2.64 (54)	1.94 (128)
Income from GB-funded activity	2.47 (218)	2.67 (89)	2.33 (129)
Income from non -GB funded activity	1.53 (145)	2.38 (29)	1.32 (116)
Sale of grain and commodities	1.95 (180)	1.76 (50)	2.03 (130)
Sale of poultry	1.88 (173)	1.45 (42)	2.02 (131)
Sale of other assets	1.62 (136)	2.0 (5)	1.61 (131)
Informal loans	1.12 (167)	1.45 (37)	1.02 (130)
Formal loans	1.03 (134)	1.4 (10)	1.00 (124)
Other reasons	1.56 (104)	1.81 (59)	1.24 (45)

In both zones, as indicated by Table 9, the single most important source of financing instalments is *the income generated by the activities which are funded by GB loans*. The second most important source of financing is *wages*. This means income from activities outside the GB system and possibly from other household members (male labour). However, the importance of this source is lower in Rangpur than in Tangail, reflecting that Tangail is a richer zone with additional income generating activities. In fact, the income from non-GB activities is the third most important source in Tangail, but is of minor importance in Rangpur. For those which are able to finance their instalments regularly, Table 9 indicates that *neither formal nor informal loans are important in the process of repaying the loans.*

'Bad borrowers'
The respondents having difficulties repaying their instalments were asked to rate the importance of five possible explanations for this.

Table 10
The importance of different explanations for missing instalments

	Mean Total	Mean Tangail	Mean Rangpur
Low earnings	2.57	2.5	2.61
	(28)	(10)	(18)
Illness	2.25	2.57	2.11
	(24)	(7)	(17)
GB loans too small to improve earnings	1	-	1
	(18)		(18)
Temporary cash flow problems	2.5	2.33	2.56
	(12)	(3)	(9)
Other	1.87	1.75	1.88
	(21)	(4)	(17)

Not surprisingly, the single most important reason pointed at by the respondents for missing instalments is that their *earnings are too low*. Even though the score on *temporary cash flow problem* seems high, only 12 respondents reported this as an applicable category. It seems reasonable to conclude that neither the size of the loan nor the difference in timing between income and expenditure are the major obstacles in the process of repaying the borrowers' instalments. Rather, *for those borrowers having problems in terms of paying their instalments, the incomes generated from the projects financed by GB loans seem to be too low.* Whether the incomes are too low because of illness or because projects are bad, we are unable to tell. However, illness seems to be an additional explanation of the problems faced by the respondents.

Results from a logistic regression analysis
This analysis is an attempt to test the degree of importance of different variables explaining irregular behaviour (missed instalments). We remain concerned whether the number of loans has a significant effect on borrowers' behaviour. Here we use a logistic regression analysis (a regression analysis where the dependent variable has two values), and as above we distinguish between two types of borrowers: "good borrowers" who seldom miss their instalments, and "bad borrowers" who do so often or occasionally. Hence, our dependent variable is the type of borrower, and has two values (coded 0 and 1).

In addition to the number of loans, the explanatory variables used for being a good versus a bad borrower are the following:
- the borrowers' assets (e.g. land, animals)
- the zone

- whether they have increased their borrowings outside the GB system (e.g. informal credit market)
- the number of earners per household
- period of time as a GB member

Some comments on the choices of independent variables are appropriate. *Period of time as a GB member* is important for at least two reasons: Firstly, according to Khandker et al (1995:92), the longer the branch works the more likely it is to lend to bad borrowers or projects. Different opposing processes may work for new and old members. On the one hand, both the borrower and GB acquire more information through experience. Over time GB acquires information about the borrower's type and repayment behaviour (whether she is an irregular borrower), while the borrower acquires business experience. On the other hand, borrowers may have a decreasing return to investment; i.e. new members may generate good projects while old members add on bad projects. In addition, old borrowers may be richer and have better outside opportunities than new borrowers. The threat of termination due to defaults may therefore be a stronger disciplining device for new members. Other mechanisms as well may work for old members. Bank workers may become more relaxed towards the monitoring of projects undertaken by old members, and borrowers may learn how to fool the system. What is the net effect of these opposing mechanisms? Is it the case that being an old member increases the probability of being a bad borrower?

Regarding the *borrowers' assets* as a variable, in a country like Bangladesh where land is such a scarce resource, one may expect that investment in land is the paramount goal of the borrower. Is it the case that borrowers who invest in land are more concerned with securing access to land rather than repaying their instalments to GB in due time? Or is it the case that those who have heavily invested in land generally acquire a surplus and therefore act as regular borrowers? Do the borrowers having assets of one type or another pay their instalments more regularly than others?

In Chapter 3 we argued that pooling of resources in the household makes it possible to handle repayments to GB. By using the *number of earners per household* as a proxy for the extent of such pooling, we may test its effects on the repayment ratios. We also want to test whether irregular borrowers have *increased their loans on the informal credit market.* Finally, we test whether there are regional differences?

These questions are addressed by the logistic regression analysis.

The main findings are the following.[22] Only two variables were *significant* in explaining the frequency of missed instalments. *The probability of irregular*

[22] See appendix 5 in the Draft Final Report.

behaviour increases with the number of years being a GB member, while the probability decreases with the number of earners per household. These results may support the hypotheses of decreasing return to scale, and that pooling of resources in the household makes it possible to handle repayments to GB.

Even though it was found that the number of loans taken by the respondent (at the same time) increases the probability of missed instalments, this relationship was not significant. It is also noteworthy that the borrowers' assets in terms of land *increases* the probability of irregular behaviour. Land owned was significant at a 10 per cent level.[23]

Based on the analysis above, one can hardly conclude that increasing the portfolio of loan increases the probability of defaults. On the background of these results, we warn against a misplaced emphasis on the number of loans. A topic that should be addressed, however, is the borrowers' income size in relation to the size of their loan, and the problem of irregular behaviour among old members.

4.4 Conclusion

The individual GB members interviewed were not particularly aware of the dangers of 'cross-financing' as such. Discussing with the members who had used part of a new loan to repay interests on an old, they all gave particular reasons for this, most often linked to immediate problems for the household. One might say that their concern for long-term household viability was given priority over the specific viability of the individual project.

While being aware of the serious consequences that a widespread practice of cross-financing can have for the bank, GB does not currently see it as a critical threat to the bank's viability or indeed its operation. A number of instances where individual members have borrowed above their capacity to repay have been reported, but the extent, when seen in the context of the overall portfolio, is rather small. There are a number of reasons for defaults and repayment difficulties, but only seldom can they be directly traced to cases of cross-financing.

It is admitted that the insistence on high repayment at every level of operation may lead a borrower to try to cross-finance to avoid being thrown out of GB, and may also lead a branch to allow cross-financing to happen in order to show high repayment figures to the zone and to HO. *But it is strongly maintained that the previously mentioned monitoring devices and procedural safe guards should*

[23] Even though investments in land increase the probability of missed instalments, this is not a serious problem to the GB as long as the borrower may use her assets or income to repay her obligations and thereby avoid being a defaulter. In a Bangladeshi context one would expect that investments in land generate a surplus while at the same time acting as a type of collateral.

catch most cases of cross-financing, and check the practice before it gets serious. The team agrees with GB in this respect.

The potential danger of a widespread practice of cross-financing is nonetheless clear to GB. The bank has experienced single defaults in the magnitude of TK 50,000 (in Tangail), where the borrower had obviously been allowed to borrow above her capacity to repay. It was a case with an "old" borrower in a well established zone.

These are the cases where GB assesses that the potential for dangerous cross-financing is the highest. The oldest branches have members that have been part of GB for many years, they have been allowed a number of different loans and have increased their total outstanding gradually. At the same time, this study shows that these borrowers miss their instalments more frequently than other borrowers. Even though their knowledge of business and financial matters has improved, it also seems likely that ways of "fooling" the system have been learnt. At this level of financial competence, one way of doing it is by lending to each other, and engage in risky business without GB knowledge about it. A factor making old borrowers more likely to engage in risky business ventures, is that the bank workers at old branches themselves become more relaxed and not as vigorous in their loan checking as they would have been at a newer branch. Members that have repaid loans regularly for ten years are not likely to have their personal financial status rechecked every time they apply for a loan. Discipline is likely to be less among older borrowers, and in some instances the groups and centres may actually be difficult to control for the branch workers. The internal culture at some branches may in other words be conducive to "adjustments". The final result may be that old borrowers add on bad projects. If this is the case, as our study indicates, *the problem faced by GB is not cross-financing per se, but how to tackle the specific problems faced by the old members.*

GB's answer to this is to increase the capacity of the bank workers to do better individual credit analysis, and maintain strict management discipline. Without venturing into the debate about "graduation" of GB borrowers, it is becoming increasingly clear that older borrowers engage in other and often more complex and risky activities than younger members. Bank workers may not be able to rightly assess the risk and the feasibility of such activities, and may thus provide loans for activities that are not viable. Or they may indirectly provide loans for cross-financing without knowing the real intention of the borrower.

GB still discusses how older members can be better accommodated and how the increased disparities in activity profiles can be adequately covered by the programme. The current system, with a number of loans for very specific purposes, may need to be changed. Several options are available. One option is a system where everybody is given an individual credit limit for the two basic types

of loans (eventually a credit limit for all GB loans). A second option is to improve the capacity to appraise projects. A third option is adhering more strictly to rules for terminating the membership in case of default. An additional option would be a limited period of eligible membership. Even though these options are not discussed in full depth in this report, they are discussed within GB.

At the same time our study reveals that GB's old borrowers poise new challenges to the bank. In as much as they represent the evidence of GB's success, their economic and social transformation gradually alienate them from the ideological foundation of GB as the 'poor women's bank'. The rural middle class in Bangladesh represent cultural values and economic strategies different from the exploited poor. It is within the framework of such middle class values and strategies that speculative investments, credit escalation, cross-financing and credit pyramiding become more probable.

From the surveys undertaken for this study, however, there is no evidence that credit escalation has developed into the pathological state of credit pyramiding. Nevertheless, it appears that old borrowers are more likely to become 'bad' borrowers, but not as a result of povertisation. To the contrary, most old borrowers have improved their economic situation.

It is a well established fact that the rich in Bangladesh at the same time are the most worst borrowers. This is a pattern for GB to avoid.