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Dynamics of Overlapping in the Microcredit Sector of Bangladesh

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Abstract

Overlapping borrowing, defined as the practice of taking new loan before an earlier loan has been fully repaid, has become an important phenomenon in the microcredit sector in Bangladesh. The paper outlines the trend and pattern of overlapping over the period 2005-2014, examines the rationale for overlapping and investigates its short and long term consequences, by using a panel dataset. The study finds that starting from a relatively low level in 2005, the extent of overlapping has increased sharply to about 41 per cent of all borrowers by 2014, accounting for about 25 per cent of total microcredit loan in recent years. Enterprise financing is the main reason behind overlapping, accounting for nearly half of all overlapped loans. There are two distinct groups of overlappers who use the strategy of overlapping for two distinct reasons. The first group – consisting of about half of all overlappers – uses it as a strategy for scaling up economic activities without incurring a sharp discrete jump in repayment burden. The other group uses it as a coping strategy to deal with contingencies that compel them to take loans for non-productive purposes. The first group is able to enjoy both higher income in the short run and stronger financial viability in the long run in comparison with non-overlappers, but this is not so for the second group. For the latter, overlapping is still a useful coping strategy in the face of shocks but it is a poor substitute for a proper system of social protection.

Dynamics of Overlapping in the Microcredit Sector of Bangladesh

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I. Introduction

The phenomenon of overlapping credit has become a highly contentious issue in the microcredit sector worldwide. In the popular perception as well as in some semi-academic literature, overlapping is usually viewed in a negative light. The negativity stems from the tendency to equate overlapping with over-indebtedness. It is assumed that by resorting to overlapping microcredit borrowers become entangled in a trap of over-indebtedness which in turn induces them to resort to further overlapping so as to repay one loan with the help of another, and so on. The culprit, in this view, is commercialization of microcredit, which induces the MFIs to compete for a given pool of borrowers by offering loans to those who are already clients of other MFIs.

But there are reasons to suspect that this particular view of the cause and effect of overlapping credit is far too simplistic. The stress on commercialization as the primary cause puts unduly exclusive emphasis on the supply side and ignores the demand side - the point that borrowers may have a variety of good (as well as some bad) reasons for resorting to overlapping borrowing out of their own volition. For example, they may want to scale up their economic activities but cannot gather enough capital from a single MFI; or, they may want to borrow from multiple sources in order to bridge a mismatch between inflow and outflow of cash, or they may simply want to tide over a temporary shock by borrowing from another MFI while being a regular client of one MFI. Similarly, identification of over-indebtedness as the inevitable consequence represents an unduly single-track thinking as it ignores the possibility of other consequences. What those other consequences could be depends a great deal on what motivated people to resort to multiple borrowing in the first place. If they did it to scale up their enterprise or to meet an unexpected shock, they could end up with a far more sustainable economic condition than would otherwise be the case.

These arguments suggest that while overlapping credit is an important emerging phenomenon in the microcredit sector, its causes and consequences need to be studied carefully. Not many studies exist, however, on this important issue. There are a few scattered studies on India, Pakistan and a handful of countries in Africa and Latin America, but most of the studies lack

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both rigour and comprehensiveness.[1] The most systematic study on this topic has been done by Khalily and Faridi (2011), for Bangladesh; they demonstrate that overlapping borrowing has both multiple causes and multiple consequences.[2]

There is, however, a need to revisit those issues, partly because the structure of the microcredit market has been changing rapidly in Bangladesh but mainly because the nature of data used by Khalily and Faridi did not permit them to ascertain the long-term sustainability of multiple borrowers in a rigorous manner. Assessment of long-term sustainability ideally calls for longitudinal data, but the study by Khalily and Faridi was based on a cross-sectional survey, and the recall method was used to collect data over a period of time, which may not be very reliable.

Fortunately, appropriate panel data have now become available with the completion of two rounds of the Access to Finance Survey conducted by the Institute of Microfinance in Dhaka. This is a nationally representative sample survey of households covering both rural and urban areas of all but one district (exception being Rangamati) of Bangladesh, conducted by following a similar sampling design and having roughly the sample size as the *Household Income and Expenditure Survey* (HIES) of the Bangladesh Bureau of Statistics. The present study makes use of this rich data set to undertake a rigorous analysis of the causes and consequences of overlapping credit in the microcredit sector of Bangladesh. The availability of panel data permits a more informed analysis of why people are motivated to take overlapping credit, and with what consequences.

The rest of the paper is organised as follows. Section II investigates the extent and evolution of overlapping in the microcredit sector of Bangladesh over the period 2005-2014. The motivation behind overlapping is then explored in section III, by analysing the pattern of loan use by different groups of overlapping borrowers. Section IV examines the consequences of overlapping – in terms of both short term welfare and longer term economic viability of households. Finally, section V summarises the main findings and offers some concluding remarks.

II. Overlapping: Definition, Trend and Pattern

The term overlapping needs to be defined clearly first with a view especially to distinguishing it from related concepts. The essential idea of overlapping credit is taking new loans before an earlier loan has been fully repaid. A related concept is multiple borrowing, which is often used synonymously with overlapping, but they are not intrinsically the same. The term multiple borrowing usually refers to the case in which the same borrower (either an individual or a household) borrows from more than one source. It is obvious that multiple borrowing in this sense can occur without any overlapping because a person who has borrowed from one source may subsequently borrow from another after repaying the old loan fully. On the other hand,

1. See, *infer alia*, Casini(2010), Gonzalez (2008), Hossain (2013), Krishnaswamy (2007), Mukharjee (2010), Venkata and Yamini (2010), and Vogelgesang (2003).

2. See also Faruque and Khalily (2000). One of the earliest studies on overlapping in Bangladesh is Chawdhury and Matin (2002).

overlapping can occur without borrowing from multiple sources if a person borrows from the same source before the earlier loan has been fully repaid. Multiple borrowing is, therefore, neither necessary nor sufficient for overlapping to occur.

Nonetheless, historically, there was some justification for conflating the two terms because there was a time when the same MFI would not normally offer new loans before an old loan has been fully repaid; in that situation anyone who wanted to take overlapping credit had to turn to a different lender, thus giving rise to multiple borrowing. Times have changed, however, and increasingly MFIs are allowing their clients to take up new loans before an old loan has been fully repaid. When the same MFI allows such overlapping loans, they usually tend to offer somewhat different products - for example, a person may first be given an enterprise loan (i.e., loan meant for income-generating purposes) to be repaid in one year but before the year is out she may be allowed to take another loan for a different purpose, say, house construction/repair, or for sending some household member overseas, perhaps with different terms and conditions. Even though the purpose, as well the terms and conditions, may be different for these loans, the fact remains that it has become increasingly possible to take overlapping loans without changing the lender. As a result, the concepts of overlapping credit and multiple borrowing have become increasingly delinked.

The essential feature of overlapping is thus not the multiplicity of lenders but the simultaneity of multiple loans taken by the same borrower. These simultaneous loans may be taken from different lenders or from the same lender; in either case, they would qualify as overlapping loan. It is this idea of simultaneity that we have used in defining overlapping in the present study.

A further distinction needs to be made here. The analysis of overlapping credit may be undertaken either at the individual level or at the household level. An earlier study defined them as 'person overlapping' and 'household overlapping' respectively (Khalily and Faridi 2011). In the present study, we have chosen to focus only on overlapping at the household level. The reason is that the decision of whether or not to take overlapping loan is taken at the level of the household, including the decision about which individual member of the household is to apply for the loan. Whether the task is assigned to the same member or a different member may be a matter of interest for some purposes, but not so much for our present purpose, which is to investigate the reasons behind overlapping and its consequences for household welfare. Household is the appropriate unit of analysis for this purpose.

Overlapping is thus defined in the present study as the phenomenon in which the same household takes new loans from MFIs before paying off earlier loans fully. A number of features of this definition are worth reiterating. First, overlapping is not contingent on the identity of the lender; it can occur with the same lender or a different lender. Second, overlapping is not contingent on which member of the household takes the loans; if a new loan is taken by a household before paying off another loan, this would be counted as overlapping loan regardless of whether the same member or different members of the household were involved. Third, a new loan may overlap not just with the immediately preceding loan, but with any past loan. Suppose, for example, a new loan is taken just after the immediately preceding loan has been fully repaid but the household is still carrying an older loan which is yet to be repaid fully, perhaps because it had a longer repayment period than the immediately preceding one. This would still be a case of overlapping. Finally, since the recent upsurge in the interest in overlapping has arisen mainly in the context of microcredit, we have confined our attention only to the loans taken from the MFIs. In other words, the presence or absence of simultaneity has been checked only among the MFI loans taken by a household; any possible simultaneity between MFI and non-MFI loans or among non-MFI loans has been left out of the purview of the present study.

It is obvious that for this concept of overlapping to be made operational, it is necessary to have detailed historical data i.e., information on all the loans taken by a household over a period of time, with details of the dates on which each loan was taken and its repayment period. In order to identify overlapping, it will be necessary to check whether the date of taking a loan falls within the repayment period of any previous loan. Clearly, a snapshot of current loans owed by a household will not serve the purpose. Looking at the historical data, if the starting date of a loan is found to fall within the repayment period of a previous loan, then it would be treated as a case of overlapped loans and the household would be treated as an overlapping household.[3] It is possible that while some of the loans taken by a household may be designated as overlapping by this criterion, there may be other loans taken by the same household that may not qualify as overlapping. Such households would still be treated as overlapping households.

The informational requirement for a proper study of overlapping is thus quite stringent. The present study was fortunate to have at its disposal the rich information contained in the credit history of a large number of households surveyed in two rounds by the Institute of Microfinance (InM), Dhaka, for its project on Access to Finance. The two rounds of the survey were carried out in 2010 and 2014 respectively. The 2010 survey sought information in the credit history of all households extending to at least five preceding years. The 2014 survey sought similar information from the same set of households over the period 2011-2014. Together, we thus have credit history of the same panel of households for the ten-year period from 2005 to 2014. Detailed information was collected for each loan taken during this period, including the amount of loan, the start date, the purpose for which loans were used (not just the declared purpose on paper but actual uses of loans, allowing for the possibility of multiple uses of the same loan), rates of interest, repayment period, the amount of loans outstanding, etc. By checking the start date of each loan against the repayment period of all previous loans, we were able to identify overlapped loans and overlapping households in the manner described above.

In Figures 1 and 2, we present the trend of overlapping during the period 2005-2014 in terms of two indicators - viz., overlapped loans and overlapping borrowers respectively. Figure 1 shows the trend in terms of overlapped loans i.e., the share of overlapped loans in all microcredit loans and Figure 2 shows the trend in terms of overlapping borrowers i.e., the proportion of microcredit borrowers who had resorted to overlapping in a particular year.

[3] It is conceivable that the previous loan was actually repaid before the repayment period was over. In that case, the relevant information one would need is not the repayment period of the earlier loan but when it was actually repaid. Such cases of course would be very rare, but in any case the dataset we have used for the present study does contain the additional information needed.

Figure 1

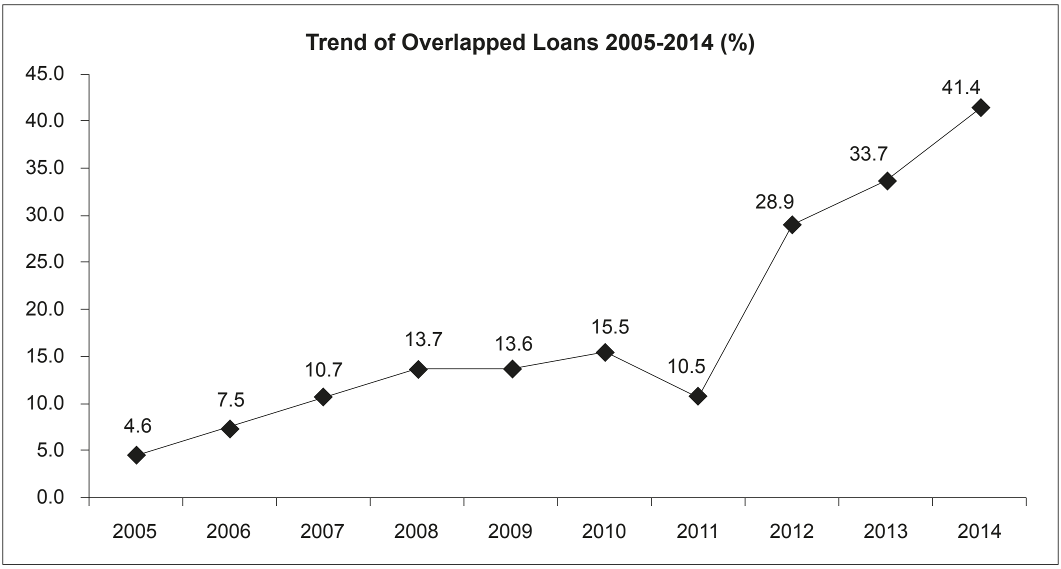
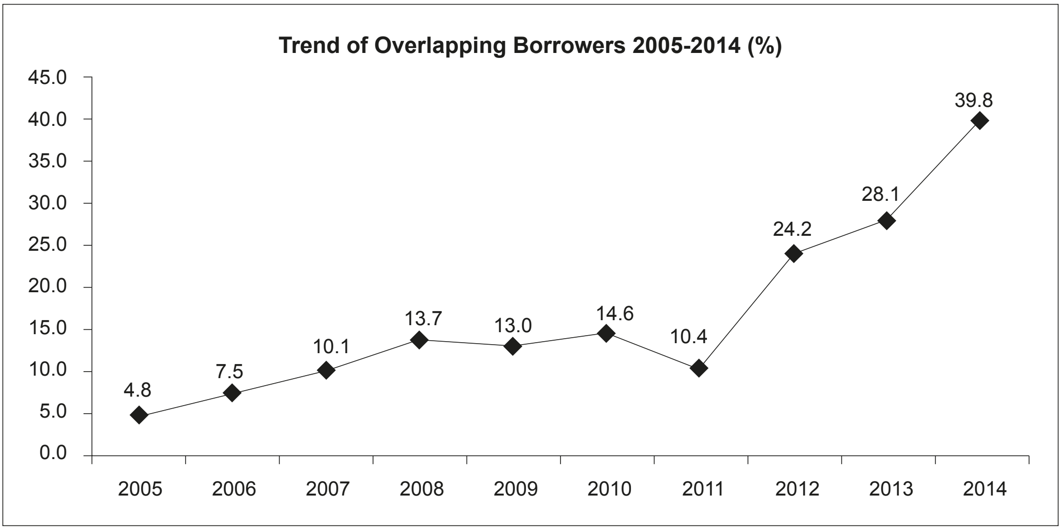


Figure 2



The two trends are very similar. They are consistently upward, but with a sharp break around the years 2010-2011.[4] Until 2010, the extent of overlapping was low but rising steadily. The proportion of overlapped loans was only 4.6 per cent in 2005 and rose to 15.5 per cent in 2010;

[4] A word of caution is needed in interpreting the sudden drop in overlapping in 2011. This is almost certainly a statistical artefact arising from the fact that because of the way the questionnaire was formulated it was not possible to get a complete picture of loans taken in the first survey year 2010. (The same was true for the second survey year 2014 as well, but to a much lesser extent.) An important consequence of incomplete information for 2010 is that the overlapping figures for 2011 are almost certainly underestimated since one would fail to capture the cases in which a borrower in 2011 had overlapped with some loans taken in 2010, on which we do not have any information. This is what explains the curious drop in the extent of overlapping in 2011.

but since then it has been rising very rapidly reaching 41.4 per cent by 2014. The proportion of overlapping borrowers has followed a similar trend - rising steadily from 4.8 per cent in 2005 to 14.6 per cent in 2010 and then accelerating to 39.8 per cent by 2014.

The contrast between the period before and after 2010 is summarised in Table 1 which shows the average picture for the five-year periods 2005-2009 and 2010-2014 as well as for the overall ten-year period 2005-2014. For the ten-year period as a whole, the overlapping borrowers constituted 35.0 per cent of all microcredit borrowers and the overlapped loans accounted for 26.3 per cent of all loans. But there is a sharp contrast between the two halves of the period. In the first half (2005-2009) the proportion of overlapping borrowers was only 6.1 per cent; in the second half (2010-2014) it jumped to as high as 35.4 per cent. At the same time, the proportion of overlapped loans in all microcredit jumped from 12.3 per cent to 28.9 per cent. Taking the second half as representative of recent pattern, we can thus say that just over one in three microcredit borrowers tend to take overlapping credit and a little over one-fourth of all microcredit loans are in the nature of overlapped loans.

Table 1
Extent of Overlapping: 2015-14

Use of loan	2005-2014	2005-2009	2010-2014
Overlapping borrowers as percentage of all borrowers	35.0	6.1	35.4
Overlapping loans as percentage of all loans	26.3	12.3	28.9
Overlapping loans as percentage of all loans by overlappers	50.4	43.8	56.1
Average number of overlapped loans per overlapper	1.9	1.3	1.9

The extent of overlapping, as measured by the proportion of overlapped loans, may rise in two ways: (a) an increasing proportion of households take overlapping loans and (b) the overlapping borrowers begin to take an increasing number of overlapped loans i.e., the intensity of overlapping, as measured by the number of overlapped loans per overlapping borrower, goes up. Both have occurred in the present case, but the first factor has played by far the major role. The proximity of the numbers in Figures 1 and 2 clearly demonstrates that the rise in the proportion of overlapped loans has occurred primarily because of the rise in the proportion of overlapping borrowers. The fact that the second factor has also played a role - but a much smaller one - can be seen from Table 1. It shows that for the overlapping borrowers the share of overlapped loans in all microcredit was 43.8 per cent during 2005-2009; it rose to 56.1 per cent during 2010-2014. For the ten-year period as a whole, just about half of all microcredit taken by overlapping borrowers is in the nature of overlapped loans.

The relatively small role played by the second factor highlights an important point. While the extent of overlapping has clearly increased sharply in the recent years, the same cannot be said about the intensity of overlapping - as measured by the number of overlapped loans taken by an average overlapper. The intensity is low and rising only slowly. Thus, in the second half of the period under consideration (2010-2014), an average overlapper had taken only about two overlapped loans (1.9 to be precise) over the span of five years (Table 1). This represents a slight increase from the average of 1.3 in the preceding five years, but two overlapped loans in a five-year period is still indicative of a pretty low intensity of overlapping.

Further evidence on the intensity of overlapping can be found by comparing the number of years over which an average overlapper has taken microcredit with the number of years in which she has taken overlapping credit. Table 2 provides this comparison.

Table 2
Experience in Microcredit and Overlapping

Type of borrower	Number of years over which microcredit taken	Number of years in which overlapping occurred
All borrowers	2.9	0.6
Overlapping borrowers	3.8	1.6

A couple of points are worth noting here. First, overlappers on the average tend to have longer experience with microcredit compared to an average microcredit borrower. Thus, over the period 2005-2014, overlappers had an average of 3.8 years of experience with microcredit as compared with 2.9 years for all borrowers. Second, within the 3.8 years of exposure to microcredit, overlappers engaged in overlapping in just 1.6 years on the average. Thus, overlapping occurred in less than half the period over which microcredit was taken. Together, these results indicate that borrowers engage in overlapping only after they have gained some experience in dealing with microcredit and even then they do so only intermittently, suggesting that a certain degree of caution is usually applied while engaging in overlapping.

The point about cautious overlapping is further reinforced by looking at the frequency distribution of the number of overlapped loans as shown in Table 3. Taking the period 2005-2014 as a whole, over half of overlapping borrowers (53 per cent) are found to have taken only one overlapped loan in ten years. About three-fourths of them have taken at best two overlapped loans. The intensity has of course increased over time; for example, the percentage of overlappers taking 3 or more overlapped loans within a five-year period has increased from just 5 per cent during 2005-2009 to 26 per cent during 2010-2014. Still, the fact that nearly three-fourths of overlappers have taken at most two overlapped loans within the most recent five-year period suggests that the overwhelming majority of borrowers are still very cautious in taking overlapping loans. Once they have taken one or two such loans, they hold back from taking any more.

Table 3
Intensity of Overlapping: 2015-14
(Percentage share of all overlapped loans)

Number of Overlaps per overlapping household	2005-2014	2005-2009	2010-2014
One overlap	53.05	77.37	52.76
Two overlaps	20.89	17.52	20.95
Three overlaps	9.89	4.38	9.73
Four or more overlaps	16.17	0.73	16.56
All	100.0	100.0	100.0

All this evidence together implies that the recent spurt in the growth of overlapping credit should not be taken as a *prima facie* indication of irresponsible borrowing. It is just that more and more people are taking the opportunity of overlapping borrowing, but only after gaining some experience with microcredit, and even then in one or two cautious steps at a time.[5] The reasons why they engage in overlapping at all are examined in the next section.

III. The Motives and Uses of Overlapping Loans

Why do so many households engage in overlapping borrowing? *Prima facie*, by engaging in overlapping a household would appear to be taking some new risk - by way of increasing its debt burden. Why would they want to take this risk? In popular discussion, a common tendency is to look for an answer from the supply side of the market. The argument goes that increasing competition among MFIs induces them to tempt borrowers to take overlapping loans often by offering attractive terms and conditions. While such competitive behaviour on the part of MFIs no doubt plays a role, to focus exclusively on the supply side would surely be a mistake - if only because it takes a very dim view of the rationality of poor borrowers. The purely supply-side explanation implies that borrowers do not rationally weigh up the costs and benefits of the loans they take and jump at new loans simply because someone is offering them on attractive terms. While this picture of unscrupulous MFIs taking advantage of unwise borrowers may have some basis in reality, this certainly cannot represent the general picture, considering what we know about the financial decision-making behaviour of poor households. They may face many constraints, of both wealth and knowledge, but within those constraints the majority of them appear to be capable of making quite sophisticated decisions on financial matters (Collins et al.2009.). If such households decide to engage in overlapping, they would usually have a rational basis for doing so.[6] In order to discern this basis, it would be necessary to look at the

[5] It is possible that it is the MFIs who restrain the borrowers from over-indulgence as they may not want to take the risk of too many overlapped loans per borrower. This may be true to some extent but cannot be the whole story. Since in most parts of the country borrowers have the opportunity to take overlapping credit from multiple sources, it is much more likely that borrowers themselves apply the restraint. This is not to deny the existence of either irresponsible borrowing or irresponsible lending associated with overlapping, but merely to argue that caution rather than wanton behaviour is much more the norm when it comes to overlapping.

[6] The possibility that some of them might eventually get into trouble by engaging in overlapping because of unforeseen circumstances does not make the original decision any less rational.

demand side of the market - in particular, by analysing the manner in which overlapping borrowers utilise their loans.[7]

To the extent that popular discussion considers the demand side at all, a common presumption is that the primary motive of overlapping is to repay old loans - the familiar story of borrowing from Peter to pay back Paul. The first systematic study of overlapping in Bangladesh carried out by Khalily and Faridi (2011) found this presumption to have no basis in facts, but popular myths still persist. We propose to investigate the motives for overlapping further in this paper by undertaking a rigorous analysis of the uses of loans.

Although we have data for the ten-year period 2005-2014, our analysis in this and the subsequent sections focuses on the five-year period 2010-2014. This is partly because, as noted earlier, the big upsurge in overlapping occurred in Bangladesh around 2010, but also because we wish to shed light on the recent situation in the microcredit market. For this purpose, we have used data provided by the households themselves on how they used each of the loans they had taken in the period under consideration. These uses relate to 'actual' use as reported by the households - not the intended use mentioned by borrowers in their loan applications. Moreover, in recognition of the possibility that same loan may have been used for multiple purposes, the amount spent on each purpose was recorded for each individual loan (allowing for up to five different uses of the same loan). This has allowed us not only to identify the main purpose for which a loan was taken but also to get a fairly complete picture of uses of loans.[8]

While for the purposes of data collection, uses of loans were identified at a very detailed level, for the purpose of the present analysis we have classified them into five broad categories: (a) enterprise financing, which refers to uses that have a direct income-generating potential, (2) household consumption - of both food and non-food items, (3) housing development - including both construction and repair of dwellings, (4) repayment of loans, and (5) others, which is a catch-all category comprising expenditure on health, education, social ceremonies, and sudden need for responding to unforeseen contingencies, etc.

We begin by comparing the loan use pattern of overlapping and non-overlapping borrowers, taking into account only microcredit borrowing. Table 4 shows that during the five-year period 2010-2014, the loan use patterns of the two groups of borrowers were not in fact vastly different. The only appreciable difference was in enterprise financing; the overlappers spent slightly more on it - almost 50 per cent of total loan amount as against 46 per cent by non-overlappers. As for the much-talked-about motive of repaying old loans, the overlappers actually spent almost the same on this account as non-overlappers – about 13 per cent of total loans.

[7] It is our maintained hypothesis that the decision of whether or not to engage in overlapping is primarily a demand-side phenomenon i.e., an outcome of rational behaviour on the part of borrowers, but the extent to which they would actually be able to do so would also depend on the supply side of the market - in particular, on the degree and nature of competition among MFIs.

[8] To some extent the problem of identification of uses still remains, however, because of the fungibility of loans.

Table 4
Use of Loan by Overlapping Status: 2010-2014
(percentage of loan amount)

Use of loan	Overlappers	Non-overlappers	All borrowers
Enterprise financing	49.1	44.6	46.9
Consumption	13.8	16.5	15.1
Housing development	14.3	15.6	14.9
Loan Repayment	12.7	13.1	12.9
Other uses	10.1	10.2	10.1
Total	**100.0**	**100.0**	**100.0**

The preceding figures relate to all loans taken by the two groups of borrowers; for the overlappers they include both overlapped loans and non-overlapped ones. It would be interesting to know what they do with the overlapped loans alone, as it would begin to provide a clue as to why they engage in overlapping at all. The relevant information is presented in Table 5, which provides three sets of statistics – the distribution of households by the major use of overlapped loans, the proportion of overlapped loans (in terms of number of loans) used mainly for different purposes, and the shares of overlapped loan amount used for different purposes.

Table 5
Extent of Overlapping by Use Category: 2010-2014
(percentage)

Use of loan	Percentage of households who used overlapped loans mainly for a given purpose	Percentage of loans which were used mainly for a given purpose	Percentage of overlapped loan amount used for a given purpose
Enterprise financing	45.4	48.1	49.1
Consumption	14.7	13.7	13.8
Housing development	15.3	14.5	14.3
Loan Repayment	13.1	11.4	12.7
Other uses	11.5	12.2	10.1
Total	**100.0**	**100.0**	**100.0**

The table confirms that enterprise financing is the major objective of taking overlapping loans. Some 45 per cent of households take overlapping loans primarily for the purpose of enterprise financing, which also accounts for 48 per cent of all overlapping loans and 49 per cent of total amount of such loans. A distant second is housing development – accounting for about 15 per cent of overlappers, and about the same percentage of the total number of overlapping loans as well as the amount of overlapping loans taken. This is followed closely by household consumption – about 14 per cent in terms of all three statistics. By contrast, loan repayment happens to be the major use for only 13 per cent of overlappers and 11 per cent of all overlapped loans; and just over 12 per cent of the total amount of overlapped loan is used for this purpose.

Dynamics of loan use by overlapping borrowers

In order to dig deeper into the motives for overlapping, we now examine the pattern of loan use over time. We begin by noting whether loan use behaviour differs as between habitual and occasional overlappers. We do so by looking at the pattern of loan use by the number of overlapped loans taken by a household. It is interesting to observe that even though enterprise financing remains by far the major use regardless of the number of overlaps, its relative importance declines initially as households take overlapping loans again and again but then the importance rises again (Table 6). For example, the share of enterprise financing falls from 51 per cent for those who have overlapped only once to 34 per cent for those who have overlapped three times; however, for those who have overlapped four or more times the share goes up again – to 55 per cent.

Table 6
Loan Use Pattern by Intensity of Overlapping: 2010-2014
(Percentage of loan amount)

Use of loan	**Number of overlaps**			
	1	2	3	4+
Enterprise financing	50.8	42.2	34.0	54.8
Consumption	12.6	13.4	15.1	13.9
Housing development	16.3	18.2	14.6	12.0
Loan Repayment	11.0	15.5	18.6	10.2
Other uses	9.3	10.7	17.7	9.0
Total	**100.0**	**100.0**	**100.0**	**100.0**

The mirror image of this pattern is found in the share of loan used for the purpose of loan repayment. As the importance of enterprise financing declines initially with the number of overlaps, the importance of loan repayment rises *pari passu* – going up from 9 per cent of total loan amount for single overlap to 18 per cent in the case of three overlaps. And then it falls back again to 9 per cent for those who have overlapped four times or more, at the same time that enterprise financing stages a recovery.

The contrasting pattern of change in the relative importance of enterprise financing and loan repayment suggests the following narrative. As households take more and more loans for enterprise financing before repaying the old loans fully, their repayment burden obviously goes up. Initially, enterprise income may not rise enough to meet this increasing debt service requirement; as a result, households are obliged to divert higher proportion of new loans towards loan repayment. However, as time goes by, the earlier investments made into income-earning enterprises begin to bear fruit and the additional income earned from them suffices to service the loans without having to divert higher proportions of new loans to debt servicing. This is probably what explains why the share of enterprise financing rises again and the share of loan repayment eventually falls as households take more and more overlapping loans.

In order to examine further the validity of this interpretation, we construct the categories of what we call consistent overlappers – defined as those who have used their loans for the same major purpose in each of their overlapping loans. Corresponding to the five major uses, there are thus five categories of consistent overlappers. Looking first at the pre-overlap loan – i.e., the loan which a household took just before it started to overlap, we identify the households who used the loan mainly for one of the five purposes, and then enquired how many of them continued to use the subsequent overlapping loan consistently for the same purpose. For example, if a household used its pre-overlap loan mainly for enterprise financing, we enquired whether it continued to use all of its overlapping loans mainly for enterprise financing. If it did, we classify it as a consistent overlapper with regard to enterprise financing; similarly for all other uses of loan. The results of this exercise are presented in Table 7; it shows the proportion of each type of consistent overlappers among those who used the pre-overlap loan mainly for a given purpose.

Table 7
Proportion of Overlappers who Used Loans Consistently for a Given Purpose
By Major Use of Pre-overlapped Loan: 2010-2014
(% of overlappers)

Main use of pre-overlapped loan		Main use of overlapped loans				
	Enterprise	Consumption	Housing	Repayment	Others	Total
Enterprise financing	83.2	5.8	2.8	5.2	3.0	100.0
Consumption	19.3	45.7	11.4	13.6	10.0	100.0
Housing development	16.4	7.7	54.8	13.5	7.7	100.0
Loan Repayment	20.0	14.7	16.0	40.0	9.3	100.0
Other uses	27.3	9.1	5.5	12.7	45.5	100.0

The first thing to note from this table is the pronounced contrast between consistent overlappers of the enterprise financing type and of all other types. Among the households who used the pre-overlap loan mainly for enterprise financing, as many as 83 per cent of them went on to use the overlapped loans for the same major purpose on a consistent basis. By contrast, the other four types of overlappers were far less consistent in their use pattern as a large proportion of them moved away from the original purpose. Thus among those who used the pre-overlap loan mainly for either consumption or loan repayment or 'other uses' less than half of them consistently used the overlapping loans for the same purpose. In the case of housing development, the proportion of consistent overlappers was only slightly higher, at around 56 per cent. It is instructive to note what type of uses these other overlappers moved into as they moved away from the original purpose. Most prominently, they moved into enterprise financing. Thus, among those who used the pre-overlap loan mainly for either consumption or loan repayment or 'other uses', some 20 per cent went on the spend the major part of their overlapping loans to enterprise financing.

This discussion reveals two very distinct types of overlappers. The first group consists of those who borrow, and if necessary borrow in an overlapping manner, with the primary objective of financing their productive enterprises. The other group borrows for a multitude of other reasons; while many of them continue to overlap for the same reasons, a significant proportion of them move away from the original purpose and engage in enterprise financing as their principal use of overlapping loan.

This contrast between the two types of overlappers can be seen much more clearly by looking at the pattern of loan use by the cohort of overlapped loan i.e., by looking separately at the uses of the first overlapped loan, second overlapped loan, and so on. Table 8 presents the results of this cohort analysis, for those households who used their first overlapped loan mainly for the purpose of enterprise financing. This table shows that those who take the first overlapping loan mainly for enterprise financing use almost the entire amount (95 per cent) for this purpose, but when the second overlapped loan is taken the proportion used for enterprise falls sharply to 64 per cent, recovering slightly to about 70 per cent for the subsequent loans.

Table 8
Loan Use in Cohorts of Overlapped Loans
By the Main Use in the First Cohort is Enterprise Financing: 2010-2014
(percentage of loan amount)

Main use of loan in the first cohort	1st cohort	2nd cohort	3+ cohorts
Enterprise financing	95.6	63.9	69.9
Consumption	2.8	8.9	7.0
Housing development	0.2	9.5	8.3
Loan Repayment	1.1	10.7	5.3
Other uses	0.2	7.0	9.5
Total	**100.0**	**100.0**	**100.0**

A couple of points are worth emphasizing here. First, although enterprise financing claims a somewhat reduced share of loan in subsequent cohorts, it still claims by far the major share for all cohorts. Second, the decline in the share of enterprise financing is not explained primarily by the additional burden of loan repayment. The proportion of loan used for debt servicing does of course rise – from a tiny 1 per cent in the first cohort to 10 per cent in the second before falling back to just 5 per cent for subsequent cohorts. But the shares of other uses rise even more – thus, the share of loan amount used for household consumption goes up from 2.8 per cent in the first cohort to 7 per cent in the third cohort and beyond, while the shares of housing development and the 'rest' go up from a negligible amount to 8 per cent and 10 per cent respectively.

Evidently, those who overlap in the first instance mainly for directly productive purposes continue to do so for subsequent cohorts as well. Sustained investment in income-earning enterprises eventually gives them the confidence and the ability to use increasing proportions of loans also for other purposes which they value – such as household consumption, housing development and meeting unforeseen contingencies. In the process, their debt servicing burden also rises, which requires them to spend a somewhat higher share of new loans for repaying old loans, but the proportion of loans used for this purpose still remains only at around

5 per cent for the latest cohorts. As a result, the loan repayment burden remains low and sustainable for the majority of households who overlap in the first instance for directly productive purposes.

That of course begs the question of what happens to the other half of the overlappers - those who overlap in the first instance for purposes that do not directly generate any additional income. Can they continue to take overlapping loans without incurring an unsustainable debt burden?

Table 9 shows the case of those households whose initial overlap is motivated mainly by the need or desire for consumption smoothing. The share of loan amount spent by these households on consumption falls drastically from 83 per cent in the first cohort to only about 32 per cent in the third cohort and beyond. Thus, the extent of decline in the share of the main head of loan use is much more drastic in the case of household consumption than in the case of enterprise financing. Meanwhile, the share of new loans used for the purpose of repaying old loans rises – from slightly less than 5 per cent in the first cohort to just over 12 per cent in the latest cohorts. This increase is higher than in the case of enterprise financing, but still not of a magnitude that would eat up the major share of new loans.

How do these households manage to control the need for diverting new loans towards repaying old loans even though they haven't used most of their loans for productive purposes? The answer almost certainly lies partly in the fact that such households have other sources of income, which help sustain increased debt burden caused by overlapping. But, as Table 8 shows, part of the answer also lies in the way the new cohorts of loans are used by them. In particular, it may be seen that the share of loans used for productive purposes rises from less than 10 per cent in the first overlapped loan to over 25 per cent in the later cohorts. Evidently, households on the whole seem to be aware of the need to retain their capacity to repay, and in recognition of this need they devote a substantial share of later loans towards income-earning activities so that increased debt servicing can be financed at least partly from additional income.

Table 9
Loan Use in Cohorts of Overlapped Loans
By the Main Use in the First Cohort is Consumption: 2010-2014
(percentage of loan amount)

Main use of loan in the first cohort	1st cohort	2nd cohort	3+ cohorts
Enterprise financing	9.1	23.6	25.9
Consumption	82.8	36.4	32.2
Housing development	1.4	18.7	14.9
Loan Repayment	4.7	16.8	12.4
Other uses	1.9	4.5	14.7
Total	**100.0**	**100.0**	**100.0**

What is true of consumption is also largely true of housing and the 'rest', when they happen to be the major use of the first overlapping loan. In both cases, as in the case of consumption, the share of loan used for these purposes declines drastically in the subsequent cohorts and there occurs a corresponding increase in the use of loans for enterprise financing (Tables 10 and 11). On the other hand, the share of loans diverted for repayment of old loans remains within reasonable limits – averaging between 7 and 10 per cent of loans in the latest cohorts.

It is interesting to ask, however, what happens to those households who overlap in the first instance primarily with a view to repaying old loans. Can they also manage to increase their share of enterprise financing in the later cohorts so as to enhance their capacity for repayment, or do they keep taking overlapping loans mainly to repay old loans, thus getting bogged down into a debt trap? As Table 12 shows, like others groups of overlappers, these households too gradually increase the share of loans devoted to productive enterprises, up to almost a quarter of the total loans used. However, unlike other groups, they continue to set aside a considerable share of loans for repaying previous loans – as much as 27 per cent in the latest cohorts as compared to 5-12 per cent in the case of other groups.

Table 10
Loan Use in Cohorts of Overlapped Loans
By the Main Use in the First Cohort is Housing Development: 2010-2014
(percentage of loan amount)

Main use of loan in the first cohort	1st cohort	2nd cohort	3+ cohorts
Enterprise financing	1.2	23.1	21.1
Consumption	3.4	9.0	15.0
Housing development	94.4	53.0	44.3
Loan Repayment	0.7	8.6	9.9
Other uses	0.2	6.2	9.7
Total	**100.0**	**100.0**	**100.0**

Table 11
Loan Use in Cohorts of Overlapped Loans
By the Main Use in the First Cohort is Others: 2010-2014
(percentage of loan amount)

Main use of loan in the first cohort	1st cohort	2nd cohort	3+ cohorts
Enterprise financing	1.3	12.1	24.8
Consumption	5.3	15.4	12.6
Housing development	1.2	13.5	10.0
Loan Repayment	0.6	16.0	6.5
Other uses	91.6	42.9	46.1
Total	**100.0**	**100.0**	**100.0**

Table 12
Loan Use in Cohorts of Overlapped Loans
By the Main Use in the First Cohort is Loan Repayment: 2010-2014
(percentage of loan amount)

Main use of loan in the first cohort	1st cohort	2nd cohort	3+ cohorts
Enterprise financing	2.8	15.3	23.0
Consumption	13.9	15.7	19.2
Housing development	1.6	17.5	12.6
Loan Repayment	80.8	41.3	27.0
Other uses	0.9	10.3	18.2
Total	**100.0**	**100.0**	**100.0**

The preceding discussion confirms that there exist two rather distinct types of overlapping borrowers. One group, consisting of roughly half the overlappers, take overlapping loans primarily for enterprise financing. While the proportion of loan devoted to this use declines somewhat in later cohorts it still remains by far the dominant use of loan for all throughout. In other words, the dynamics of loan use displays a consistent pattern for such overlappers. By contrast, for the other half of overlappers who overlap in the first instance for purposes that do not directly generate any income, the dynamics of loan use displays significant change over time. Whatever the initial purpose, its importance declines drastically in subsequent cohorts. And all of them try to increase the use of loans for productive purposes so that their ability to repay can be enhanced. Most of them – accounting for some 37 per cent of all overlappers (consisting of those who do the first overlap primarily for either consumption, or housing development or others) – succeed very well in this strategy. By increasing their ability to earn additional income, they manage to keep the extent of loan diversion for the purpose of repayment of old loans to manageable proportions (5-12 per cent). There is a question mark, however, about one group, those who overlap in the first instance for repaying old loans. This group, accounting for some 13 per cent of all overlappers, also adopt the strategy of using an increasing proportion of loans for enterprise financing, but they still have to devote a sizeable proportion of new loans (about a quarter) towards servicing old loans.

The question of whether these differential dynamics of loan use result in different levels of indebtedness and other indicators of economic well-being for different groups of overlappers will be examined in the next section. In the remainder of this section, we continue to pursue the question of why do so many borrowers chose to take overlapping loans. The fact that our preceding analysis has identified two distinct groups of overlappers (in terms of the dynamics of loan use) suggests that the underlying motivations of the two groups are likely to be different.

For the first group – those who consistently use overlapping loans mainly for enterprise financing, the relevant question may be posed as follows. Since this group obviously has a need for substantial amount of credit in order to operate and/or expand their productive enterprises, why do they repeatedly take overlapping loans for this purpose instead of taking one big loan and be done with it? A plausible answer – in fact, a standard one – lies in the supply side of the market, namely that MFIs are not willing to offer large loans as they might consider them too risky. While this explanation would have been entirely plausible in the past, it is unlikely to be the sole answer, or even the main answer, in more recent times as MFIs are increasingly becoming prepared to offer larger loans. One way of verifying the strength of this explanation is to compare the loan size of those among the overlappers and non-overlappers who consistently use their loans mainly for enterprise financing. If non-availability of large enough loans were the main reason for overlapping, the average loan size of overlappers should be smaller than that of non-overlappers. But our data show that this is not the case.

An alternative explanation lies in the demand side of the market. It is instructive to compare the amount of loan received with the amount of loan needed by the productive overlappers as reported by themselves. As can be seen from Table 13, there is very little difference between the two amounts – and this is true as much of overlappers as of non-overlappers. Evidently, those who overlap repeatedly and primarily for the purpose of enterprise financing do need a lot of credit but on the whole they do not seem to want large loans at a time. Instead, they seem to prefer to take several loans of relatively small size over a period of time. The reason is not too hard to fathom. After all, these are poor people, who are not used to handling large amount of cash, let alone large amount of loans, at a time. It is entirely understandable that they would be hesitant to take large loans – for fear of messing it up and being saddled with an unmanageable debt burden. They would naturally feel more confident about taking one small loan at a time, repaying a large part it so that the debt burden comes down to a manageable level, and then take another loan – i.e., to overlap – so that their financing needs can be fulfilled without ever being faced with a daunting debt liability. For such people, overlapping is a perfectly rational strategy for increasing the level of finance for productive activities relatively quickly without incurring a suddenly disproportionate burden of loan repayment.

As far as the second group of overlappers is concerned – i.e., those who take overlapping loans mainly for purposes that do not directly generate income – the logic of overlapping is somewhat different. Households need credit not just to finance productive enterprises, but also to meet various other needs – such as repairing a house, meeting a temporary shortfall in the ability to maintain habitual consumption levels (consumption smoothing), meeting other contingencies such as illness and unavoidable costs of social obligations (e.g., wedding and dowry), and repaying an old loan which may have become difficult to service as some regular source of income may have disappeared, and so on. An initial overlapping loan may be taken to meet any of these multifarious needs. In many cases, households may have to take several such loans depending on the magnitude of the need. However, as our preceding discussion has shown, a common reason for subsequent overlapping is that households try to build up their capacity to repay the loans they had incurred in the first overlap, by devoting an increasing proportion of new loans to enterprise financing. Overlapping, for them, is a sequential strategy of first meeting some specific credit need that does not directly generate income, but then to develop their capacity to service the debts quickly by enhancing their ability to earn additional income through productive use of subsequent loans.

IV. Consequences of Overlapping

An immediate consequence of overlapping one would expect to see is an increase in indebtedness at least in the short term. Increased indebtedness would not necessarily be harmful if households are able to make good use of the loans and otherwise manage their finances wisely to ensure longer term viability. Excessive indebtedness, however, might make it difficult to ensure financial viability in the long run. It is, therefore, necessary to examine both the extent of indebtedness that has been caused by overlapping and the longer term consequences. We shall do both in the present section. Indebtedness is measured simply as the ratio of loan outstanding to household income. Consequences for household welfare will be examined by comparing the performance between overlappers and non-overlappers over the period 2010-2014 in terms of criteria such as household income, savings and assets. Both indebtedness and consequences of overlapping will be analysed for the overlappers as a whole as well separately for various categories of overlappers defined by the major use of loans. For example, we ask: did the overlappers who used their loans mainly for enterprise financing do any better than those who used it mainly for other purposes?

We begin by looking at the extent of indebtedness. Table 13 shows that overlappers had a slightly higher loan-to-income ratio to begin with (in 2010) – 16.9 per cent as against 13.8 per cent for non-overlapping borrowers, but the gap between the two widened over time. Over the five-year period 2010-2014, overlappers experienced 47 per cent increase in the debt-to-income ratio as compared to just 28 per cent for non-overlappers. Thus, as expected, overlapping did lead to higher indebtedness.

Table 13
Loan-to-income Ratio by Overlapping Category: 2010-2014
(percentage)

	Overlappers	Non-overlappers	All borrowers
Loan-to-income ratio in 2010	16.9	13.8	14.9
Loan-to-income ratio in 2014	24.8	17.6	20.3
Percentage increase	47.0	27.7	36.0

The extent of indebtedness for sub-categories of overlappers is examined in Table 14 for five different groups – those who used their loans mainly for enterprise financing, consumption, housing development, loan repayment and ‘others’ respectively. A number of interesting findings stand out. First, the greatest increase in indebtedness was experienced by those who used overlapping loans mainly for meeting various contingencies lumped together under the rubric of ‘others’ – as much as 94 per cent as compared with 47 per cent for overlappers as a whole. These households overlapped mainly to deal with shocks of various kinds and were clearly forced by circumstances to borrow out of proportion to their income. Second, the second largest increase was experienced by those who overlapped mainly to finance their productive enterprises. They evidently had a conscious strategy to borrow relatively heavily in order to meet their business needs. Whether this strategy actually succeeded in making their enterprises capable of generating higher income and ensuring greater financial viability is a question we shall examine presently. Third, the smallest rise in indebtedness was experienced by those who took overlapping loans mainly for consumption smoothing. Their indebtedness increased barely at all – by just 1.5 per cent. Fourth, comparison between overlappers and non-overlappers of the same use categories show that among the borrowers who used their loans mainly for either consumption or loan repayment, overlappers actually experienced a smaller increase in indebtedness than non-overlappers, contrary to the general pattern. The reason lies partly in the fact that these two categories took smaller loans on the average than others, and partly in the fact that, as we have seen in the preceding section, such borrowers used an increasing proportion of later cohorts of overlapping loans to boost their enterprise income so as to keep their debts within manageable limits.

Table 14
Loan-to-income Ratio by Overlapping and Main Use Categories: 2010-2014
(percentage)

	Overlappers	Non-overlappers	All borrowers
Enterprise financing			
Loan-to-income ratio in 2010	16.1	13.0	14.2
Loan-to-income ratio in 2014	25.0	15.3	19.1
Percentage increase	56.0	18.1	34.8
Consumption			
Loan-to-income ratio in 2010	15.4	10.2	11.6
Loan-to-income ratio in 2014	15.6	14.3	14.7
Percentage increase	1.5	40.8	27.2
Housing development			
Loan-to-income ratio in 2010	21.1	15.8	17.5
Loan-to-income ratio in 2014	26.9	22.3	23.9
Percentage increase	27.9	41.3	36.4
Loan repayment			
Loan-to-income ratio in 2010	16.7	14.8	15.5
Loan-to-income ratio in 2014	22.3	20.6	21.3
Percentage increase	33.5	39.2	37.5
Others			
Loan-to-income ratio in 2010	18.0	21.3	19.9
Loan-to-income ratio in 2014	35.0	24.6	28.6
Percentage increase	94.0	15.5	43.9

On the question of indebtedness an important issue is the degree of indebtedness – i.e., at what level the degree of indebtedness can be considered to be over-indebtedness. There is no hard and fast criterion in this regard, but it is customary to worry about over-indebtedness when the loan-to-income ratio goes comes close to or goes beyond hundred per cent. A commonly used cut-off point is 75 per cent. By using this criterion, we find that over-indebtedness has actually gone down during the period 2010-2014 – for both overlappers and non-overlappers (Table 15). Furthermore, the extent of over-indebtedness is slightly less among overlappers compared to non-overlappers. Thus, in 2014, the proportion of borrowers whose loan-to-income ratio exceeded 75 per cent was 14 per cent for overlappers as against 15 per cent for non-overlappers. We may thus conclude that while overlapping has increased the level of indebtedness among microcredit borrowers, there is no evidence that it has given rise to the problem of over-indebtedness.

Table 15
Frequency Distribution of Indebtedness as Measured by Loan Outstanding to Income Ratio
(Percentage of overlapping borrowers)

Loan-to income ratio	2014		2010	
	Overlappers	Non-overlappers	Overlappers	Non-overlappers
Less than 0.25	62.4	71.0	60.9	58.8
0.25 – 0.50	17.7	10.1	13.1	11.8
0.50 – 0.75	6.1	3.7	6.4	4.9
0.75 – 1.00	2.2	2.1	2.3	1.8
More than 1.00	11.7	13.1	17.3	22.7
All	**100.0**	**100.0**	**100.0**	**100.0**

We next examine the consequences of overlapping for household welfare – in terms of income, and longer term viability of households – in terms of savings and assets. The methodology used is to compare the performance of overlappers and overlappers over the period 2010-2014. This analysis has been undertaken within a multivariate regression framework, so as to control for differences between overlappers and non-overlappers that have nothing to do with the act of overlapping. The results of this exercise are reported in Table 16. Each column of this table refers to a performance indicator, and each row relates to a specific group of overlappers defined by the major use of loans. In each case, the dependent variable for the year 2014 was regressed on the base year (2010) value of the same variable to control for initial differences and a set of exogenous variables capturing various household characteristics (such as initial values of land and other assets as well as debt liability; education, gender and age of the household head; number of working age members in the household; and some locational dummies). In order to save space, the coefficients of the control variables are not reported, The table gives only the coefficients and t-values for the overlapping dummy, which takes the value 1 for overlappers and 0 for non-overlappers. Thus a positive value of the coefficient would suggest that overlappers have a higher value of the relevant dependent variable as compared with non-overlappers, and conversely for negative values of the coefficient.

The first row of Table 16 compares all overlappers with all non-overlappers regardless of the use of their loans. The first column confirms that indebtedness of overlappers is higher than that of non-overlappers after controlling for other differences among them that can also affect their indebtedness. But higher indebtedness has not worked to the detriment of overlappers, as they are found to have higher income as compared to the non-overlappers after controlling for other factors. Their savings also grew at a faster rate, indicating that they were able to enjoy not only higher level of welfare in the short term but also managed to build up future financial viability. There is, however, no significant difference in the levels of assets and net assets held in the terminal year. The latter result indicates that while enabling the overlappers to enjoy higher income in the short term, higher indebtedness caused by overlapping did not compromise their net worth.

Table 16
Effects of Overlapping by Use Category of Overlapped Loans

Type of overlappers	Loan-income ratio 2014	Income 2014	Savings growth rate 10-14	Liquid assets 2014	All assets 2014	Net liquid asset 2014	Net assets 2014
All overlappers	0.2415*	8854***	5.659***	6444	42545	-3485	34535
	1.85	2.11	2.33	1.49	0.94	-0.71	0.76
Main use enterprise financing	0.0448	16683***	9.667***	24323***	112516*	11900*	101705
	0.36	4.1	2.88	3.96	1.79	1.69	1.62
Main use housing development	0.1532	31878***	2.797	5066	151430	-4090	134217
	0.76	3.27	0.78	0.59	1.48	-0.46	1.31
Main use consumption	-0.0505	-15837***	1.394	-16995**	-104564	-16158**	-103388
	-0.23	-2.47	0.38	-1.92	-1.04	-1.75	-1.03
Main use loan repayment	0.6886***	-8748	-1.553	-14307	-65726	-20077***	-78312
	2.4	-1.36	-0.42	-1.56	-0.62	-2.1	-0.74
Main use others	1.1733***	248	5.944	-16381*	-31448	-33909***	-51461
	3.85	0.04	1.32	-1.66	-0.28	-3.28	-0.45
Note: *** means significant at 1%; ** mean significant at 5%; * mean significant at 10%							

There are, however, some interesting differences among different groups of overlappers defined by the major use of loans. All the performance indicators are uniformly the best for those overlappers who used their loans mainly for enterprise financing. Although their indebtedness was significantly higher than that of non-overlappers, they outperformed the latter in terms of raising income, achieving faster growth of savings, and accumulating assets, especially liquid assets (defined as all assets – both physical and financial – excluding land and housing). In fact, they are the only group, for whom net worth (in terms of liquid assets) was higher relative to non-overlappers after controlling for confounding factors.

The overlappers who used most of their loans for housing development also did reasonably well. Their ability to earn income increased; by contrast, they were not able to improve their asset position relative to non-overlappers, but they did not suffer any deterioration either. Thus, short run welfare gain was achieved without compromising long term viability.

The same cannot be said, however, about the other three categories of overlappers. Their ability to earn income and to maintain net worth was either worse or no better than that of non-overlappers. The ability to earn income was worse for those who used overlapping loans mainly for the purpose consumption smoothing. The other two groups – namely, those who used their loans mainly for either loan repayment or 'other' purposes – did not suffer on account of income, but all three groups failed to maintain their net worth. It is important to mention, however, that overlapping is an ongoing process. As overlapping continues, the net worth position might change, especially if the observed tendency to devote larger parts of later cohorts of loans to enterprise financing is strengthened. This can only be ascertained, however, once further rounds of panel data become available.

V. Summary and Conclusions

Overlapping borrowing, defined as the practice of taking new loan before an earlier loan has been fully repaid, has become an important phenomenon in the microcredit sector in Bangladesh. By 2014, some 41 per cent of all borrowers had indulged in overlapping to some extent. The practice has become particularly pronounced in recent times. Until 2010, the extent of overlapping was low but rising steadily. The proportion of overlapped loans was only 4.6 per cent in 2005 and rose to 15.5 per cent in 2010; but since then it has been rising very rapidly reaching 41.4 per cent by 2014. The recent spurt in the growth of overlapping credit should not be taken, however, as a *prima facie* indication of irresponsible borrowing. Our evidence shows that the spurt has happened as more and more people are taking the opportunity of overlapping borrowing, but only after gaining some experience with microcredit, and even then in one or two cautious steps at a time.

There is a popular perception that borrowers indulge in overlapping mainly with a view to repaying old loans with the help of new loans. But evidence does not support this perception. Only about 12 per cent of overlapped loan amount is used for repaying old loans. By contrast, nearly half the loan amount is used for enterprise financing, which turns out to be by far most important reason for overlapping. A distant second is housing development – accounting for about 15 per cent of loan, followed closely by household consumption which accounts for about 14 per cent.

Our analysis reveals that there exist two rather distinct types of overlapping borrowers. One group, consisting of roughly half the overlappers, take overlapping loans primarily for enterprise financing. The dynamics of loan use displays a consistent pattern for such overlappers in the sense that enterprise financing remains by far the dominant use of loan for them all throughout even though the proportion of loan devoted to this use declines somewhat in later cohorts. By contrast, for the other half of overlappers, who overlap in the first instance for purposes other than income generation, the dynamics of loan use displays significant change over time. Whatever the initial purpose, its importance declines drastically in subsequent cohorts. Significantly, all of them try to increase the proportion of loan used for productive purposes so that their ability to repay can be enhanced over time.

The rationale behind overlapping is naturally different for the two groups of overlappers. The first group – i.e., those who overlap primarily for the purpose of enterprise financing – evidently needs a lot of credit in order to expand their activities but on the whole they do not seem to want to take a large amount of loan at a time. Instead, they seem to prefer to take several loans of relatively small size over a period of time. The reason is not too hard to fathom. After all, these are poor people, who are not used to handling large amount of cash, let alone large amount of loans, at a time. It is entirely understandable that they would be hesitant to take large loans – for fear of messing it up and being saddled with an unmanageable debt burden. They would naturally feel more confident about taking one small loan at a time, repaying a large part it so that the debt burden comes down to a manageable level, and then take another loan – i.e., to overlap – so that their financing needs can be fulfilled without ever being faced with a daunting debt liability. For such people, overlapping is a rational strategy for increasing the level of finance for productive activities relatively quickly without incurring a suddenly disproportionate burden of loan repayment.

As far as the second group of overlappers is concerned – i.e., those who take overlapping loans mainly for purposes other than income generation – the logic of overlapping is somewhat different. Households need credit not just to finance productive enterprises, but also to meet various other needs – such as repairing a house that is about to collapse, meeting a temporary shortfall in the ability to maintain habitual consumption levels (consumption smoothing), meeting other contingencies of life such as illness and unavoidable costs of social obligations (e.g., wedding and dowry), and repaying an old loan which may have become difficult to service as some regular source of income may have disappeared, and so on. An initial overlapping loan may be taken to deal with any of these multifarious shocks. However, instead of taking the resulting rise in debt burden as an unavoidable fate, they try to build up their capacity to repay the loans they had incurred in the first overlap. They do so by overlapping again but by devoting an increasing proportion of new loans to enterprise financing. Overlapping, for them, is a rational sequential strategy of first meeting some specific credit need that does not directly generate income, but then to develop their capacity to service the debts quickly by enhancing their ability to earn additional income through productive use of subsequent loans.

With the rise in overlapping, indebtedness has inevitably increased, but there is no evidence that this has resulted in over-indebtedness. The degree of over-indebtedness, as measured by standard criteria, has in fact declined for both overlappers and non-overlappers. More importantly, higher indebtedness of overlapping borrowers has gone hand in hand with greater ability to earn income and to increase savings, compared to non-borrowers. The effect on long-term economic viability differs, however, depending on the uses of loans made by borrowers. Those who overlapped mainly with the purpose of enterprise financing improved their asset base and net worth relative to non-overlappers. Those who used the loan mainly for housing development also improved their short run welfare without compromising long-term viability. By contrast, those who used their loans mainly for consumption smoothing, loan repayment and to meet various unforeseen contingencies performed worse than non-overlappers in terms of acquisition of net assets.

It should be noted, however, that the latter group of overlappers performed relatively poorly not because of but in spite of overlapping. The contingencies of life compelled them to overlap in the first instance for directly non-productive purposes, but once faced with the aggravated debt burden they did try to build up their repayment capacity by using a substantial proportion of subsequent overlapped loans for productive activities. In other words, they used the strategy of repeated overlapping as a means of safeguarding their long-term viability in the face of shocks that periodically buffet their lives. It’s just that their effort was not strong enough to protect them fully from the long-term consequences of those shocks. What they need is an effective system of social protection that can protect them better from the deleterious effects of shocks. In the absence of such a system, borrowers faced with shocks adopt repeated overlapping as a coping strategy, but it is evidently a poor substitute for a proper system of social protection.

References

Casini, P. (2010). "Competitive Microcredit Markets: Differentiation and Ex-ante Incentives for Multiple Borrowing", Discussion Paper 266/2010, LICOS Discussion Paper Series, LICOS Centre for Institutions and Economic Performance. Katholieke Universiteit Leuven.

Chaudhury, I. and Matin, I. (2002). "Dimensions and Dynamics of Microfinance Membership Overlap – A Micro Study from Bangladesh", *Small Enterprise Development*, 13(2).

Collins, D., Morduch, J., Rutherford, J. and Ruthven, O. (2009). *Portfolios of the Poor: How the World's Poor Live on $2 a Day*. Princeton University Press: Princeton.

Faruqee, R. and Khalily, B. (2011). *Multiple Borrowing by MFI Clients: Current Status and Implications for Future of Microfinance*. Policy Paper, Institute of Microfinance: Dhaka.

Gonzalez, A. (2008). *Microfinance, Incentives to Repay, and Over-indebtedness: Evidence from a Household Survey in Bolivia*. Doctoral Thesis: The Ohio State University.

Hossain, S. (2013). "Is Commercialization of Microfinance Responsible for Over-Indebtedness? The Case of Andhra Pradesh Crisis", *Journal of Economics and Sustainable Development*, 4(17): 142-153.

Khalily, M. A. B. and Faridi, R. (2011). *Multiple Memberships (Overlapping) in Microcredit Markets of Bangladesh*. (Mimeo.) Institute of Microfinance (InM) and Palli Karma-Sahayak Foundation (PKSF): Dhaka.

Krishnaswamy, K. (2007). *Competition and Multiple Borrowing in the Indian Microfinance Sector*, Working Paper, Institute for Financial Management and Research Centre for Micro Finance.

Mukherjee, S. (2010). *Multiple Borrowing and Competition: Impact on Credit Quality*, IFMR Capital.

Venkata, N. A. and Yamini, V. (2010). *Why Do Microfinance Clients Take Multiple Loans?*, MicroSave India Focus Note 33, MicroSave: India.

Vogelgesang, U. (2003). "Microfinance in Times of Crisis: The Effects of Competition, Rising Indebtedness and Economic Crisis on Repayment Behaviour", *World Development* 31(12): 2085-2114.

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