Chapter 8

Conclusions and Policy Implications

8.1 Introduction

Indebtedness has both positive and negative connotations; on the one hand, it connotes having had access to credit, and on the other, a state of outstanding past loans that indicate distress. The present study is mainly an in depth analysis of unit level National Sample Survey Organization data regarding household indebtedness and related aspects in certain selected developed, less developed and middle performing states in India. Specifically it seeks to address the following issues using NSSO data: the nature and extent of indebtedness across households, utilization of loan, and its relation with accessibility to credit, interest rate determination in the informal credit market, and the problems in repayment of loans. While the survey conducted by NSSO in 2002-03 threw light on several aspects, it was not sufficiently informative about the structure of informal credit market and interlinkages between markets. This study therefore has supplemented the secondary data by conducting a primary survey of appropriate size in two villages and one urban area in the state of West Bengal. The major findings of our study and the policy implications of each of the issues identified are addressed in the following section.

8.2 Major Findings and Implications

In order to understand the various problems faced by households regarding indebtedness, an analysis based on descriptive statistics was initially done, which provided a firm background to analyze the issues that are addressed in the dissertation. The descriptive analysis helped us to gain several interesting insights. It is seen that urban households face more constraints while availing loans than their rural counterparts, i.e., they are able to get fewer loans from both formal and informal lending sources. In addition to this, our analysis shows that the extent of inequality in distribution of formal loans is more in urban areas and developed regions compared to

47 All India Debt and Investment Survey and Situation Assessment Survey of farmers, 59th round, 2003
rural and less developed regions. It is our inference that higher demand for credit by households of better economic status tends to crowd out poorer borrower from the formal market in both developed regions and urban areas. Secondly, our comparison of interest rates paid by households in the informal market across the states revealed that compared to poorer households in less developed states such as Chhattisgarh and Madhya Pradesh, poorer households in developed states got loan at lower rates of interest from informal moneylenders. However, for households with more than Rs 1000 MPCE, such a difference did not seem to exist. The study also revealed that interest rate differences mainly existed due to differences in the market structure and not due to differences in cost of providing credit. Regarding the problems of repayment, our analysis revealed that borrowers remained indebted for longer periods and paid larger amounts as interest when they availed credit from informal lenders.

We now proceed to address the issue of accessibility and constraints in availing credit.

Access to credit is generally defined in terms of the amount of credit that a household could avail. Understandably, it is the lender who generally decides the extent of loan a household could avail. Therefore, credit constraint is the difference between the household's demand for loan and the amount it is able to get (supply). Constraints in availing credit have serious implications on consumption and investment decisions of households. Earlier studies on the issue of accessibility/constraint in availing credit have mainly used two approaches to measure access to credit and/or credit constraint. The first is the indirect approach (see Hall 1978; Deaton, 1992), which seeks to detect the existence of credit constraint from observed violations of the assumptions of life cycle (see Modigliani, 1986) and permanent income hypothesis (see Friedman, 1957) i.e., 'current consumption is not a function of current income'. The second approach tries to detect existence of constraints from the information provided by the households in the study area(see Japelli, 1990; Diagne et al., 2000).

Several earlier studies (see for instance, Diagne et al., 2000) have found the indirect approach, i.e., detecting credit constraint from violation of lifecycle and permanent income hypothesis as less suitable to elicit the required information, particularly when the households are cautious and show precautionary behavior. On the other hand, studies that have used the second approach of detecting credit constraint from the response of the households, have taken demand for credit as synonymous to the
amount of credit the household intended to borrow. If demand as reported by the households is taken, it would be difficult to distinguish desire for credit from demand for credit on the part of the households. Therefore, we adopted a different methodology to identify credit constrained households and identify the factors that determined the probability of being constrained. In this method, credit constraint is detected using working capital expenditure data of farmer households cultivating paddy. A household is considered as credit constrained if marginal value product is greater than marginal cost. The number of credit-constrained households estimated through this method is found to be less than the number estimated by previous studies. However, we found that the likelihood of being constrained increases with increase in size of land owned, and it is inversely related to the phase of economic development of a region. Credit constraint is the difference between amount of loan a household demands and the amount of loan a household could avail. The inverse relationship between size of land and credit constraint might be due to the higher demand for credit from larger farmers vis-à-vis the supply they get.

A weakness of the above method of analysis is that it focused mainly on farmer households cultivating paddy. Secondly, by using this method of the analysis, it was hardly possible determine the extent of accessibility or supply of credit that a household would face. Therefore, we have also looked into the issue of extent of accessibility, with particular emphasis on credit for income generating purposes. As far as we know, very few existing studies seem to have addressed the issue of extent of credit accessibility. Studies that have focused accessibility to credit, have considered ‘accessibility’ as independent of the purposes of loan. In this context, it is important to note that in India due to prevalence of scale of financing norms in formal market, size of loan varies according to the purpose of loan. We have therefore addressed the issue of extent of accessibility separately for capital and current expenditure loans. Both descriptive statistics method and regression analysis have been used for the purpose. The regression analysis used for the purpose is a double hurdle model, which is considered as advancement over the conventional Tobit model. We observed that accessibility to credit for both capital and current expenditures is generally governed by supply side constraints, and that household demand is interest rate inelastic. Secondly, it is seen that though there is demand for capital goods, accessibility to credit for capital expenditures is much lower than for
other purposes. Therefore, households tend to incur more expenditure on hiring capital goods. It is observed that educational status of the household plays an important role in improving access to credit; therefore, education could be considered as one of the policy prescriptions by which access to credit can be improved.

One of the main reasons for inadequate accessibility to financial resources is risk of default. Default in any credit market could be due to genuine inability to repay or due to crop failures or other such shocks, or even due to willful refusal by the borrower, especially when the penalty for loan-default is not hefty. In the formal market, owing to pressure from local political bodies, penalty in the form of attachment of property is almost absent (see Besley, 1994). Though, penalty in the form of denial of future credit is often resorted to by formal lenders, existence of well-established network of informal lenders provides an alternative source to the defaulter. Informal lenders, on the contrary, due to their proximity to the borrower and control over the local market, often accept intangible collateral such as promise of future labor, etc., which are not marketable and hence unacceptable in the formal credit market (Bhaduri, 1977, 2006; Basu, 1984, 1997). However, it is observed that, despite unfavorable terms and conditions, repayment rates are higher in the informal sector than in the formal sector (see Basu, 1997). Therefore the question is: does the ready availability of credit from informal sources, such as village moneylenders or traders encourage a borrower to willfully default repayment of formal credit? Our analysis on repayment has mainly tried to answer this question. This study relies on both theoretical and empirical analyses to answer the above question. Apart from looking into the impact of accessibility to credit from informal sources for repayment of formal loans, the chapter has also empirically identified and compared the factors that determine repayment of credit in both formal and informal credit markets in India.

We have been able to establish both theoretically and empirically that more unfavourable the terms of loan from a moneylender compared to formal lending agencies, better are the chances of a borrower making timely repayment. Thus it is our inference that lowering the interest rate in the formal sector (which makes informal sector interest rate comparatively more unfavourable) may induce a borrower to repay the loan. This observation is of critical importance given the policy of the Indian Government, that a prompt repayment earns a benefit of 2 percent interest rate.
subvention from government. Empirical evidence given in this chapter brings out several of the differences that exist in regard to repayment of loans across formal and informal credit markets. A surprising observation is that in the formal sector, higher interest rate reduces repayment, while in the informal sector, it improves repayment. Our theoretical model shows that higher interest rate in informal market exists only in case of monopoly. It is to be noted that existence of monopoly leads to undervaluation of collateral in the informal market, which in turn transfers the risk of default from lender to the borrower, (see Bhaduri, 1977; 2006) and thereby compels the borrower to repay. This is because when undervalued collateral is taken over by the lender due to repayment-default, the actual loss to the borrower would be much higher than loan amount he/she is required to repay.

Another difference between formal and informal lending institutions is regarding repayment of loans availed for working capital needs. Working capital loans are generally thought to be more promptly repaid. But our regression analysis of repayments to formal lending agencies showed that repayment was less for loans availed for working capital needs. This might be due to the moral hazard problem arising out of loan waiver schemes of the government, which mainly exempts working capital loans. The regression also revealed the positive relationship between education and repayment of formal loans.

Our analysis on repayment showed that rate of interest played an important role in improving repayment of loans. We have also examined the factors that determine interest rate as a part of this study. It is important to note that availing loans at unfavourable terms and conditions keeps a borrower indebted for a longer time, which in turn adversely affects his/her economic viability. In India, interest rate in formal sector is low and highly regulated, and therefore, variability in interest rate is limited. On the other hand, interest rate in informal sector is generally high and varies from developed to less developed regions (see Bell and Srinivasan, 1989), and across lenders (see Ray and Sengupta, 1989). Keeping this aspect in mind, we seek to understand the factors involved in the formation and variability of informal sector interest rate. Most of the empirical studies based on India are (Iqbal, 1988; Ghatak, 1975, 77; Sarap, 1991) dated, and therefore not relevant. Recent studies (Gill, 2004; Bhattacharya, 2005) have mainly analyzed data of limited size and are highly
descriptive in nature. Moreover, for empirical research, existing studies have mainly used ordinary least square (OLS) estimates as the regression technique for finding out the determinants of interest rate. It is important to note that even in the informal market, though rate of interest tends to vary, it assumes only certain limited values (see Bhattacharjee et al, 2009). This is one of the reasons for the low goodness of fit obtained while using OLS.

It is possible that the existence of various social obligations or transaction costs prevents moneylenders from charging perfectly differentiated rate of interest (see Basu, 1989; Basu and Bell, 1991). It is assumed that based on certain specific characteristics of the borrower, the lender chooses the rate of interest to be charged if his/her desired interest rate lies within two specific limits. Since the observed rate of interest hovers around specific values, an ordinary least square regression (OLS) (by considering interest rate as the dependent variable) may not be the most appropriate method for identifying the determinants of the interest rate as this may lead to a low value of ‘goodness of fit’. The ordinal regression technique is considered as more appropriate (see Greene, 2003) as it would allow us to estimate the effects of the explanatory variables on the underlying desired rate of interest, which mainly denotes the observed rate of interest. In the present analysis, therefore, rates of interest were ranked in ascending order and the dependent variable was assigned a number between 1 and 5. We have used a generalized ordered regression analysis since the regression failed to satisfy parallel regression assumption.

Our analysis suggests that informal lending market of less developed states consists of fewer lenders having perfect information about borrowers. This in turn gives greater monopoly power to the moneylenders to raise interest rate. However, developed regions are characterized by presence of more moneylenders in the market, who do not possess full information about borrowers, even as the lenders do not possess captive borrowers. The borrower has the option to avail credit from multiple sources, and therefore raising rate of interest by a lender may lead to default.

Analysis on unit level National sample survey organization data has helped us to understand various aspects of the credit market. However, using this data, it was not possible to understand the structure of informal markets, interlinkages between markets etc. Therefore, we had to analyze the data obtained from primary survey to
ascertain how interlinkage and structure of the market determined the distribution of borrowers across different sources of loan in rural and urban credit markets. It was observed that apart from supply of credit, the borrower’s preferences played a major role in explaining the sources of loans. However, household preferences were found to decide source only for borrowers above a certain economic status. Our analysis has thrown up some other interesting results also. It was found that apart from interest rate, output price played a major role in determining the source of the loan. We have seen instances where farmers, in order to get better output price, have avoided interlinked deals and availed loan from moneylenders who charged 10 per cent interest monthly. We have also looked into instances of locked-in lenders (such as paddy traders in rural areas), which previous studies had not considered. Such studies have dealt with only of locked-in borrowers.

Our comparison of the credit needs of in rural and urban areas has brought out the following differences. Our analysis has revealed that the demand for credit for moneylenders is seasonal in nature in urban areas, while in rural areas, moneylenders have definite borrowers. Farmers who lease land for cultivation avail loans exclusively from moneylenders. Differences in rural and urban markets are also observed in terms of credit layering. It is seen that during peak seasons, cost of providing credit in urban areas goes up to due to existence of credit layering.

8.3 Conclusions

Our analysis using NSS data as well as data obtained from the field on various dimensions of indebtedness at the national level has thrown up several interesting results, which pose important challenges to the credit institutions.

If incidence of indebtedness is interpreted as access to credit, then it can be concluded that access to credit is rather low in both urban and rural India, both from formal and informal sources of credit. Also access to credit increases slightly as the borrower moves upward in the expenditure scale, which is suggestive that comparatively richer among these poorer households have slightly better access.

Another finding of our analysis that in both rural and urban regions of India, access to formal credit increases substantially as the borrower moves up the expenditure
ladder. This finding is significant and has several policy implications. However, the position of the weakest categories seems to be slightly better in rural areas, probably due to the existence of various scheme-based loans. In contrast, condition of the urban poor appears to be much worse. Paradoxically, it is poorest who require loans dearly and under favorable terms and conditions, that are deprived of access to credit, and this is a challenge of sorts to the formal lending agencies, in that, ways and means need be found to provide credit access to the abjectly deprived sections on priority. There is not only a need to reach the poor in general, but also the credit needs of the poorest among them like women headed households and scheduled tribes should receive particular attention. Therefore, while addressing the issue of financial inclusion, credit needs of the deprived groups need to be kept in mind, and until such time that credit needs generating of the bottom layer of the society for income generating purposes is not fulfilled, attainment of financial inclusion would not have materialized.

The poor access to credit as seen in developing countries is often due to the risk of default in repayment. Our analysis, both theoretical and empirical of the factors that determine repayment of loans has brought out several flaws in the credit delivery-repayment cycle. For instance, while a fall in interest rate may help repayment of loans and aid a poorer borrower to take advantage of formal sector loan, a loan waiver seldom achieves desired results in the long run. Therefore, the aim should be to enable a small borrower to repay the loans by providing technological know-how, market information etc., rather than waiving off credit.

As regards interest rate determination, we found that spread of education among borrowers and improvement in economic status were the two most important variables that lead to low interest rate in informal credit market.

As regards the source of loan across households, our analysis based on primary survey has revealed that apart from interest rate, output price (particularly for farmers) plays a major role in determining the source of the loan. We have come across instances where farmers, in order to get better output price, avoided interlinked deals and availed loan from moneylenders who charged a monthly interest of 10 per cent. There were also instances interlinked deals wherein farmers were getting lower price in output market but were paying a lower interest rate in the credit market. This finding
underlines the need for interventions by government in both output and credit market in tandem.

In addition, to the above findings and policy prescriptions, the study can rightly claim to have supplemented existing literature on credit by proposing new methodologies in detection of credit constrained households and in determining interest rate in the informal credit market.

**8.4 Limitations**

The present study is mainly based on NSSO data, using which we were unable to consider several aspects of the credit market. Firstly, the study could not consider the village level characteristics that influence interest rate, repayment, and accessibility to credit. Secondly too detect presence of credit constraint; the present study has presumed that expost and exante price that farmers face in the output market does not differ. In practice, however, a farmer may find both these price as different (as in cases of fixed commission interlinked deals and non-interlinked deals). Thirdly, our analysis on extent of accessibility has taken the size of the loan as an indicator of the extent of accessibility, which might prove erroneous. Fourthly, the theoretical model adopted for analyzing repayment has the limitation that while analyzing incidence of repayment, the issue of extent of repayment is not considered. Future studies can address these limitations based on availability of data.