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**SEGMENTATION AND INTEREST RATE IN RURAL CREDIT  
MARKETS: SOME EVIDENCE FROM EASTERN  
UTTAR PRADESH, INDIA**

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**ABSTRACT**

This study has investigated into the co-existence of the formal and informal sources of credit and their relative contribution in lending. By using one year primary data from Mirzapur and Varanasi districts in eastern Uttar Pradesh, India, the study revealed that the formal sector accept a wide variety of tangible and intangible collaterals. The informal sector was found to have emphasized land as collateral as compared to the formal sector. The poor borrower rely more on informal lenders due to the difficulty in accessibility to formal sector. The informal lenders exploit the borrowers by charging higher rates of interest.

**1. INTRODUCTION**

One of the important characteristics of rural credit markets in India is the co-existence of two distinct sectors: the formal sector comprising commercial banks, credit cooperatives and regional rural banks; and the informal sector having a wide variety of lenders viz. agricultural money lenders, professional money lenders, landlords, traders and commission agents, shopkeepers, relatives and friends. Traditionally, the informal sector has been the dominant source of rural credit in India, however, with the expansion of institutional banking since the last two decades, the informal sector has been shrinking continuously. According to All India Debt and Investment Survey, the share of informal sector in total debt of rural households declined from 85 percent in 1962 to 77 percent in 1972 and to 31 percent in 1982.

The basic distinction between the formal and informal sectors is that the latter operates outside the rules and regulations imposed on the former. The lenders in the informal sector operate in a circumscribed area with an intimate knowledge on borrower's socio-economic and personal characteristics which substantially reduces the information and transactions costs of the lenders. The informal sector has a low degree of economic specialisation in the sense that the lenders in the informal sector are not exclusively engaged in money lending but a majority of them take up money lending as a side activity (Singh, 1990). This is because the informal lenders operate as individuals for example landlords, agricultural money lenders,

traders, relatives and friends, etc. These basic distinctions give rise to many other differences between the formal and informal sectors notably in scale of lending clientele, type of collateral, interest rate as well as in terms and conditions of loan repayment.

There is a great deal of variation in interest rates charged by informal lenders; the rate of interest ranges from zero percent at one hand to extremely high rates of interest on the other (Bardhan and Rucira, 1978; Sarap, 1987 Singh, 1990). High rates of interest in the informal sector have traditionally been explained in terms of opportunity cost of funds, risk premium, transaction cost and monopoly profit (Bottomley 1963, 1964; Singh 1968; Iqbal 1988). Given the personalized nature of credit transactions and unequal power relations between the borrower and the lender, the credit transactions are more complex and there is a combination of factors responsible for plurality of interest rates. The present study is an attempt to identify the factors underlying the segmentation of rural credit markets and differences in interest rates charged by the formal and informal lenders.

## II. BACKGROUND AND DATA

The observations in this paper are based on primary data from sixteen villages, eight each in Mirzapur and Varanasi districts of eastern Uttar Pradesh. The districts have a common geographical boundary yet, they differ in respect of topography and agro-climatic conditions. Most part of Mirzapur is characterised by uneven topography with rocky soils. From the standpoint of agricultural development, Mirzapur is relatively a backward district. The district does not have good and assured irrigation facilities. The cropping pattern is dominated by wheat and paddy and the average yield of these crops is very low. Also the district is not well-served by transport, marketing and credit facilities.

On the other hand, agriculture in Varanasi represents dynamism. Being situated in the Gangetic plains, most of the cultivated area in Varanasi has access to canal irrigation. Besides, the district has a well-developed tubewell irrigation system which supports the cultivation of high yielding varieties of wheat, paddy and other crops. The average yield of wheat and paddy is approximately 1.5 times higher than in Mirzapur. Similarly the fertilizer consumption per hectare of net sown area is more than three times higher in Varanasi. As compared to Mirzapur, the district is better served by transport, marketing and credit facilities.

Information in respect of sources of credit, amounts borrowed, repaid and outstanding; purpose of borrowing, collateral offered on each transaction and interest rate were collected from 129 and 125 borrower households from Mirzapur and Varanasi districts respectively during 1988. The interest rates reported in this paper refer to explicit nominal interest rates and computed over an annual period. The loans in-kind and interest thereupon have not been considered. Distribution of survey households according to size of owned land holding is shown in Table 1. In both the districts, landless households constituted the single largest category of borrowers followed by medium, small and marginal farmers. Only 4 percent of the borrowers are large farmers in each of the district.

### **III. STRUCTURE AND SEGMENTATION OF RURAL CREDIT MARKETS**

Dualism is an important feature of the credit market in both the districts in which both, the formal and informal sectors existed simultaneously. In Mirzapur, the formal sector provided 39 percent of the total credit disbursed of which 87 percent was disbursed by commercial banks and regional rural banks (Table 2). The share of formal sector in total borrowings in Varanasi was marginally higher (40 percent) than in Mirzapur. Commercial banks and regional rural banks though were dominant suppliers of formal credit in Varanasi, the cooperatives provided 25 percent of the total formal credit disbursed.

The informal credit market in both the districts was dominated by landlords (46 and 50 percent of the total informal credit disbursed in Mirzapur and Varanasi respectively). The village shopkeepers, relatives and friends together accounted for about 10 percent of the total credit disbursed in the informal sector of each district. In Mirzapur money lenders provided 36 percent of total informal credit whereas, in Varanasi their share in informal credit was only 15 percent. The lower share of money lenders in informal credit in Varanasi-an agriculturally progressive district was due to the emergence of traders as an important source of credit, who advanced at relatively lower rates of interest to the farmers against their commitment of selling produce to them. It is to be noted that money lending in the informal sector is not the monopoly of a few because of substitution among the informal lenders. However, each money lender may still retain some monopoly power owing to the limited options available to some borrowers (Swaminathan, 1991). For example a landlord lends only to those who work for him or commit to work for him. Under such interlinked contracts, a borrower is restricted to borrow from others inspite of cheap credit are available to him.

The demand for informal credit comes mainly from landless and small land holders (Table 3). In both the districts, landless, marginal and small farm households accounted for more than 75 percent of the informal sector credit. On the contrary, their share in formal sector credit ranged from 45 percent in Varanasi to 50 percent in Mirzapur. In general, borrowers' dependence on informal sector declined with an increase in the size of land holding and their access to formal credit was directly related to the size of holding. Further, the share of formal sector in total borrowings of different categories of households increased with the farm size with die exception of large farms where the degree of dependence on credit (formal or informal) was very low.

Segmentation of rural credit market into formal and informal sectors results basically from die rules and regulations governing each sector and the prevailing socio-economic and political environment in which each sector operates. Since the two sectors have differential access to information on borrower characteristics and differ in their perception about risk of default, each one has a different set of criteria for credit worthiness of the borrowers. Generally formal credit agencies advance credit against tangible collaterals with good marketability. The type of collaterals as a basis of segmentation has been proposed by Bhaduri (1977) and has been empirically examined by Sarap (1991), Feder et al. (1988), and Swaminathan (1991).

Table 4 shows the share of amount borrowed against different types of collaterals. Land was the only collateral type accepted by the formal lenders because of ease of verification of legal ownership of land. On the other hand, informal lenders accepted a wide range of collaterals including land, gold and silver jewellery, brass utensils, etc. In the formal sector, 58 percent of the credit disbursed in Mirzapur and 41 percent in Varanasi was collateral-free. Similarly, in the informal sector too, 52 and 68 percent of the amount disbursed in Mirzapur and Varanasi respectively was without any tangible collaterals.

The phenomenon of collateral-free loans extended by the informal sector, lenders can be understood in the light of inter relationship between credit and other markets in rural areas. A poor borrower might have a variety of intangible collaterals such as commitment of offering future labour service, promise to sell his produce to creditor, etc. but these are not acceptable to the formal lenders. On the other hand, (i.e.) informal lenders can easily accept such collaterals against loan advances mainly due to their intimate knowledge on borrowers' socioeconomic and personal characteristics. However, the acceptance of particular collateral by a lender depends on his principal occupation. In the selected districts, the landlords often advanced credit in exchange for a commitment of future labour services by the borrowers (Table 5). Approximately, 50 percent of the total transactions from landlords were linked with labour services in each of the district. On the other hand, the traders and shopkeepers generally tied credit with the sale of produce at the time of harvest.

Segmentation of the credit market can also be visualised in terms of the purpose for which loans are taken by the borrowers. The formal lenders emphasize on the purpose worthiness of the loans and generally the loans are advanced for productive purposes only. In the selected districts, none of the borrowers reported to avail formal credit for purposes other than production. However, given the fungibility of credit, a large farmer requiring consumption credit might present a demand for production loan. But such a deception is not possible in (i.e.) case of poor borrowers whose consumption demands outweigh production needs.

Table 6 presents the allocation of informal credit according to the purposes of borrowing. We encountered various purposes for which loans were taken but for convenience, these have been grouped into six broader categories: (i) subsistence consumption, (ii) medical treatment (iii) education and housing (iv) social ceremonies (v) repayment of old debts, and (vi) production.

It is to be noted that about 90 percent of the informal sector credit was taken for purposes other than production. Social ceremonies accounted for maximum share in total informal credit disbursed which ranged from 35 percent in Varanasi to 42 percent in Mirzapur. In Varanasi, education and housing credit (which can be termed as productive consumption credit) comprised 33 percent of the total informal credit disbursed among the borrowers. The share of subsistence consumption credit in total credit was almost equal (15 percent) in both the districts. It is to be noted that the extent of substitution between the two sectors is limited because of the differences in the credit needs they are supposed to satisfy. Production credit

needs were met by the formal sector, while there were a large number of purposes of credit that are met by the informal sector only.

### **Interest Rate**

When there is limited substitution between the formal and informal credit markets it is likely that the interest rate charged by the two sectors would differ. There was plurality in interest rates in the informal sector ranging from zero percent to extremely high rates of interest. The weighted mean nominal rate of interest on informal sector loans was 39 percent in Varanasi and 53 percent in Mirzapur (Table 7). On the other hand, the formal sector loans carried much lower rates of interest (11 percent).

A disaggregated view of the interest rates according to the types of informal lender indicated a great deal of variation in the interest rates. The relatives and friends were the cheapest sources while the moneylenders charged extremely high rates of interest particularly in Mirzapur. The rates of interest charged by other lenders lied somewhere between the two extremes, however, landlords and traders provided credit at relatively cheaper rates. Cheaper credit from landlords and traders can be understood in the light of their ability to enforce debt service discipline by interlinking credit with labour and output markets. Such interlinked contracts minimize the risk of default by the borrowers and thereby reduce the explicit interest rate. As shown in Table 5 an overwhelming majority of loans from these sources were tied loans in which the loans were to be repaid through sale of output and/or labour services to the lenders.

Table 8 shows the rates of interest charged by the lenders according to type of collaterals. Though most of the informal loans were advanced against some form of collateral, tangible or otherwise, however, only the interest rate on loans against tangible collaterals are discussed here. The weighted mean rate of interest was the highest on loans with land as collateral (79 percent in Mirzapur and 54 percent in Varanasi) followed by gold and other movable assets. The loans without collaterals were cheaper mainly because most of these loans were tied loans from landlords and traders. However, when a loan transaction is offered under an interlinked contract, the possibility of underpricing of output and labour services cannot be ruled out and it is likely that the effective rate of interest on unsecured loans from landlords and traders may be as high as charged by moneylenders and shopkeepers.

Theory of agrarian credit markets offers lower rates of interest on loans secured against assets with good marketability (Bhaduri 1977, Swaininathan, 1991). Our results are just contrary to that. The reason might be that we did not include implicit rate of interest on tied loans which were generally advanced without any tangible collateral. Second, though land might be a good marketable asset but its market is constrained with a variety of social, economic and psychological factors. This supports the doubts raised against the usefulness of collaterals in developing countries.

Table 9 shows rates of interest on loans from informal sector taken for different purposes. In Mirranur, the overall average rate of interest varied from 25 percent on production loans to

as high as 71 percent on loans for conspicuous consumption. On the other hand, in Varanasi the overall average rate of interest ranged from 25 percent on production loans to 48 percent on loans taken for repayment of old debts. Interestingly, in both the districts, the loans for subsistence consumption, emergencies and productive consumption (housing and education) were cheaper than the loans for conspicuous consumption. The evidences suggest that the lenders in the informal sector often exploit the inelastic demand schedules for consumption loans particularly those involving large amounts.

Does growth and development in agriculture and expansion of formal banking reduce the interest rates in informal sector? Literature suggests a reduction in informal rates in response to growth and development in agriculture and competition from formal credit agencies (Bottomley 1963, 1964, Ghatak, 1983; Iyhal, 1988). There existed substantial difference in the informal rates between Mirzapur and Varanasi, the weighted mean rate of interest being lower in Varanasi an agriculturally progressive district. This was facilitated mainly by growth and development in agriculture which tends to lower the margin of risk, improves repayment performance and reduces the dependence on informal lenders. The share of formal sector in total credit disbursed was almost the same in both the districts, however, it might have lowered the price of informal credit in Varanasi via the income augmenting effects of its production loans.

### CONCLUSIONS

Although the study is based on one year primary data limited to two districts in eastern Uttar Pradesh, it provides some important insights into the working of rural credit markets. First, the rural credit market could be clearly demarcated into formal and informal sectors on the basis of type of collateral and the purpose of borrowings. The formal sector emphasized land as a collateral against loan advances whereas, the informal lenders accepted a wide range of tangible and intangible collaterals because of their ability to enforce debt service discipline.

Second, the informal sector was quite active and provided about 60 percent of the total credit disbursed. Landlords comprised an important source of credit in the informal sector. The money lenders were still very much in business in backward agriculture, but their role has been marginalised with the emergence of traders as lenders in the agriculturally progressive district.

Third, the demand for consumption credit was met, entirely by the informal sector. The poor borrowers were more dependent on informal sector for their credit needs on account of their difficulty in accessibility to formal credit sector.

Fourth, the interest rate between formal and informal sector loans differed widely. The informal lenders exploited the inelastic demand schedule for consumption credit and charged higher rates of interest in the informal sector. The cheaper credit from landlords and traders in the informal sector was mainly due to linkages between credit and other agrarian markets.

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**Table 1.** Percent distribution of the borrowing households according to size of land holding

Size of holding	Mirzapur	Varanasi
Landless	41.09	44.00
Marginal (<1.0ha)	17.83	15.20
Small (1.0-2.0 ha)	15.50	16.00
Medium (2.0-4.0ha)	21.71	20.50
Large (>4.0 ha)	3.87	4.00
All	100.00 (129)	100.00 (125)

Figures in parentheses indicate the total number of households

**Table 2.** Composition of formal and informal credit markets in Mirzapur and Varanasi districts.

Type of Lender	(percent)			
	Mirzapur		Varanasi	
	Share within the sector	Share in total borrowing	share within the sector	Share in total borrowing
<b>Informal</b>				
Landlords	46.37	28.22	49.58	29.54
Money lenders	35.81	21.79	14.80	8.83
Traders	7.66	4.66	26.35	15.73
Shopkeepers	6.57	4.00	6.45	3.85
Relatives & Friends	3.59	2.19	2.82	1.68
All Informal	100.00	60.86	100.00	59.68
<b>Formal</b>				
Commercial banks & RRBs	87.05	34.07	75.27	30.35
Cooperatives	12.95	5.07	24.73	9.97
All formal	100.00	39.14	100.00	40.00
Total (formal & informal)	-	100.00	-	100.00

Table 3. Percentage Distribution of formal and informal credit according to size of land holding.

Category of holding	Mirzapur			Varanasi		
	Informal	formal	Share of formal	Informal	formal	Share of formal
Lendless	40.84	16.56	20.69	47.61	13.78	16.36
Marginal	28.96	21.22	32.03	17.60	7.77	22.98
Small	11.28	11.49	39.57	10.36	23.32	60.33
Medium	15.26	46.07	66.00	16.79	43.28	63.81
Large	3.66	4.66	45.00	7.64	11.31	50.00
All	100.00	100.00	39.14	100.00	100.00	40.32

Table 4. Percentage allocation of credit according to type of collateral in formal and informal sectors

Type of Collateral	Mirzapur		Varanasi	
	Formal	Informal	Formal	Informal
Land	42.44	22.63	59.36	9.31
Gold	-	21.50	-	20.20
Movable Assets* other than Gold	-	3.69	-	2.86
No collateral	57.56	52.18	40.64	67.54
Total	100.00	100.00	100.00	100.00

\* Movable assets other than gold include silver jewellery, brass utensils, etc.

**Table 5.** Informal credit transactions linked with output and labour

Type of lender	(Percent)			
	Mirzapur		Varanasi	
	Output	labour	Output	labour
Landlords	26.23	49.18	30.36	50.00
Moneylenders	6.25	-	20.00	-
Traders	100.00	-	100.00	-
Shopkeepers	39.47	-	35.56	-
Relative and Friends	-	-	14.29	-
All	37.21	22.06	40.15	20.44

**Table 6.** Allocation of informal credit according to purpose of borrowing

District	(percent)						
	Subsistence consumption	Medical treatment	Social ceremonies	Education and housing	Repayment of old debts	Production	All Purposes
Mirzapur	15.76	9.45	42.27	10.78	10.52	11.22	100
Varanasi	14.21	6.06	34.85	32.56	2.24	10.07	100

**Table 7.** Nominal rates of interest on formal and informal loans

Type of lender	(percent)	
	District	
	Mirzapur	Varanasi
Landlords	38.54	39.21
Moneylenders	79.72	54.58
Traders	39.39	30.48
Shopkeepers	50.18	52.12
Relative and Friends	4.78	15.25
All Informal	52.93	39.34
Formal	11.50	11.33



Table 8. Nominal rates of interest according to type of collateral

Type of collateral	(percent)			
	Mirzapur		Varanasi	
	Formal	Informal	Formal	Informal
Land	11.57	79.06	11.51	53.85
Gold	-	57.10	-	43.48
Movable assets other than gold	-	27.57	-	42.80
No collateral	11.44	41.67	11.07	3.00

Table 9. Average nominal rates of interest on informal credit according to purpose of borrowing

District	(percent/annum)					
	Subsistence consumption	Medical treatment	Social ceremonies	Education and housing	Repayment of old debts	Production
Mirzapur	29.34	38.87	70.87	55.96	55.14	25.32
Varanasi	35.96	42.80	45.53	37.48	47.66	24.80