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Farm Household Access to Credit Markets Under the Household
Responsibility System in China

China

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Prior to the implementation of the household responsibility system in the early 1980s, the collective was responsible for production expenses and owned the vast majority of productive assets in China's rural areas. Consequently, the financing of working capital and investment capital was done by the collective. In the post reform era farmers must arrange for the capital necessary to undertake production and investment projects through one of several options. One option is self-financing by accumulating cash at home or savings deposits at the Rural Credit Cooperative. A second option is borrowing. The two major sources of credit for farmers in China today are borrowing from friends or relatives and the Rural Credit Cooperative (RCC). A third source, informal, private interest bearing credit groups, which continued to exist to a limited extent after liberation, has become more common in the 1980s.

The relative role of the formal and informal credit sectors in financing farm household production and consumption needs and household access to formal and informal credit in China are examined in this paper through the use of household credit data and RCC data. One motivation for the study was to see if farmers and credit institutions in China are experiencing many of the problems discussed in the literature as prevalent in other LDCs rural credit markets, such as small farmers being rationed out of the formal market and high default rates (see Adams and Graham; Braverman and Guasch). These concerns became more relevant for China in the mid to late 1980s when the rural economy was growing at a rapid rate and interest rates in the formal sector were quite low in real terms. The allocation of credit and criteria for rationing credit under these circumstances are important from both efficiency and equity perspectives.

First each source of credit and its characteristics (interest rate, term structure, and use of loans) will be discussed. In the second section government and RCC policy regarding the allocation of credit are discussed. In the third section RCC branch and household data are examined for rationing criteria.

I. Sources of Credit

Friends and Relatives The preferred source of loans for farmers is friends and relatives, since such loans carry no interest charges, flexible repayment schedules, and low transaction costs. Loans among friends and relatives appear to be a reciprocal relationship with the scale based on the financial circumstances of each. In China these loans are expected to be repaid although a change in the borrower's circumstances (e.g., the husband dies) could change the loan into a gift. Loans from relatives or friends have a high repayment priority because the borrower's reputation within the family or neighborhood is at stake in case of default (Gersovitz). Relatives and friends lend money for a wide variety of uses including purchasing fertilizer, holding weddings, building houses, and sending children to school.

Rural Credit Cooperative The Rural Credit Cooperative (RCC) is the principal network of credit institutions that reaches into the countryside in China. In the mid 1980s, 77 percent of total formal credit institution loans to rural households came from the RCC (Lu). The RCC is theoretically not part of the state banking system, but rather is a collection of peasant banks organized voluntarily and for the mutual benefit of its members. However, in reality, since their formation in the early 1950s the RCCs have been subject to state control first through the People's Bank of China and since 1979 through the Agriculture Bank of China (ABC). Operational branches of the RCC begin at the township level with 80 percent of China's 71,521 townships having branches (SSB 1987, p. 638; SSB 1988, p. 21). Sub-offices exist in 30,000 villages and nearly 300,000 credit stations penetrate the countryside (SSB 1987, p. 638). RCC representatives periodically visit farmers, especially after harvest or the marketing of livestock, to see if they wish to deposit money. These representatives usually are also authorized to grant loans up to a limit.

The government held interest rates constant for 8 years prior to 1979 but from 1979 to 1988 has raised interest rates more than 6 times. RCC interest rates prevailing nationwide in 1987 and 1988 are shown in Table I. In 1987 interest rates were 2.88, 6.12, 7.20, and 8.28 percent for savings accounts, 6 month, 1 year, and 3 year time deposits, respectively. In response to rapid inflation, the government raised interest rates in September 1988. In addition, inflation indexation was added for time deposits of three years or longer to help stem the flow of funds out of financial institutions. Loan interest rates vary by the stated use of the loan and ranged from 7.92 to 12.6 percent in 1987 and 9.29 to 14.47 percent in 1988. Consumption difficulty loans and agricultural production loans carry lower interest rates relative to household enterprise loans. Since 1985 the RCC were given authority, as were other banks, to decide on loan interest rates within a 20 percent band of the nationally set rates. As inflation rose to nearly 10 percent in 1987 and 20 percent in 1988, the loan rates have been concentrated in the upper end of that range. Production and personal loans to individuals are seldom granted for more than one year.

Agriculture Bank of China In addition to the RCC, the Agriculture Bank of China (ABC) is another credit institution in the rural areas. However, the ABC primarily deals with rural commercial enterprises in areas at or above the township level and a small percentage of farm households have dealings with the ABC. The ABC must finance the government's purchases of agricultural products by loaning funds to the Supply and Marketing Cooperatives and Grain Bureau. The ABC also loans heavily to rural industry and commerce. The interest rates of the ABC are also set by the People's Bank of China and are virtually identical to the RCC interest rates. Since the ABC's clients are largely determined by proclamation from above, there is little competition between the RCC and ABC. The ABC is responsible for the supervision of the RCC.

Private Moneylenders With more relaxed policies in the countryside and GNP growing at an average annual rate of about 10 percent in the 1980s (State Statistical Bureau 1988, p. 4), private moneylending has reappeared in parts of the countryside. In some more developed areas the range of borrowing and amounts involved have approached or surpassed the levels of the local RCC. Fragmentary reports covering the period 1984-87 indicate interest rates ranged between 20 and 50 percent on loans from these sources. In southern Guangdong province private credit groups called *jijinhui* have been started in several counties by local villagers who felt their financing needs were not being met by the RCC. The source of funds for these *jijinhui* is the savings of local villagers and loan recipients are also local villagers. Local government units, when they became apprised of the existence of such groups, generally supported them initially and felt it would help increase the circulation of funds in the rural sector. In fact, in some localities other villages were encouraged to follow suit whether or not there was any demand for such a group. Ultimately these credit groups could affect the viability of the local RCC branch. Higher level government response to free market loans in the 1980s has generally been one of tolerance and acceptance as a necessary supplement to ABC and RCC loans. However, the government does stress that no one should make their living as a moneylender, and feels some regulations may be needed to prevent interest rates from getting too high.

II. Credit Rationing

Interest rates at the RCC have been kept low in nominal terms for the past several decades and as inflation increased in the late 1980s interest rates in real terms were near zero or negative. The RCC interest rates have represented a subsidy for borrowers with the subsidy being higher for borrowers in more developed regions. A relevant question then becomes how does the RCC ration credit among potential borrowers. To address this question, an understanding of the objectives and constraints of RCC branches is required.

As a result of banking reforms begun in 1979, all RCC township branches are to act as independent accounting units and a nonzero interest rate is now charged on interbranch loans. However, the independence of the township RCC in granting loans is questionable given the interference and involvement of several other administrative units. First, the township RCC receives quotas for various categories of loans from the county ABC based on a national credit plan. At the same time the RCC must transfer a percentage of their total deposits as a reserve requirement (*zhunbeijin*) to the county ABC. The reserve requirement was 30 percent of total deposits until 1986 when it was lowered to a 12 percent marginal rate on increases in deposits after 1986. By late 1988 the reserve requirement had increased to 13 percent. In 1987 the RCC received only 4.32 percent annual interest on these reserve requirements while paying 6-7 percent annual interest on the fixed deposits of their customers. By 1989, this situation had improved with required reserves earning 8.04 percent interest and RCCs paying customers 6.5-8.6 percent interest. Second, the RCC must follow policy guidelines issued by the Central government in the form of directives. The directives state the major areas of emphasis in rural lending and in the 1980s this has usually been meeting agricultural production working capital needs to ensure reaching the government grain procurement target and supporting the growth and development of rural enterprises. The latter is a key component in the development strategy of providing employment for surplus agricultural labor and eventually allowing for a consolidation of land. Finally, local government authorities at the township and village level often intervene seriously in the business of RCC branches. The local government has a role in appointing RCC personnel and can seek to influence loan activity that will increase the revenues and prestige of the local government.

Loan use priority quotas and loan repayment capability are two factors that figure prominently when farmers and RCC managers discuss loan approval criteria. If the stated use of

the loan falls into a category for which the RCC has a quota of loans and if that category is high priority from both the central and local governments' perspectives, loan approval is more likely. With credit rationing by use of loan and a strong credit institution oversight capability, borrowers cannot divert significant sums of RCC loans to unapproved uses. The extensive network of the RCC makes supervision of loan use a credible threat. If loaned funds are diverted to other uses, the RCC is to impose a fine of increasing the interest rate by 50 percent. In addition to the past credit history of the applicant and judgement about the applicant's ability to repay the loan, several loan security rules can be used to minimize loan default. Except for small loans, credit applicants can be required to supply 30 percent or more of the necessary capital in cash. Loan agents sometimes require that the individual have a savings account with the RCC to serve as collateral. Other forms of collateral are rare since land is still collectively owned and farmers have few other assets. Another method occasionally used is *danbao*, where a friend vouches for the borrower, and if the borrower does not repay, the friend must. *Danbao* is not a very effective method to insure loan repayment since proceedings are seldom instituted to collect from the guarantor (*danbao*). Agricultural production loans are guaranteed to be repaid because the RCC can deduct the loan directly from the money the government pays the farmer for the grain procurement quota.

III. An Examination of RCC and Household Credit Data

The data examined in this section are drawn from a survey of five township RCC branches and a stratified random sample of farm households in these five townships in Qingyuan county, Guangdong province in southern China. Private interest bearing moneylending was not known to occur in this county in 1987 and 1988. Nationally, about 82 percent of RCC deposits came from rural households while just over 45 and 41 percent of RCC loans outstanding in 1987 and 1988, respectively were to rural households. This understates the importance of RCC loans to

individuals because of the seasonality of agriculture. In 1987 and 1988 for three out of five township RCCs over 98 percent of deposits came from individuals. For the other two township RCCs over 72 percent of deposits came from individuals. Township RCC loans outstanding to agricultural households range from 74 to 96 percent, well above the national average because in Qingyuan county agriculture predominates and rural enterprises are not well developed.

The surveyed households were asked questions regarding their borrowing behavior in 1987 and 1988. Of the 246 households interviewed, 107, or 43 percent, reported borrowing transactions in 1987. Of these 107 households, 55, 5, and 62 percent borrowed from the RCC, ABC, and friends and relatives, respectively. The households borrowed 84 times from friends and relatives averaging 640 yuan each time at a 0 interest rate. Households entered into 78 loans averaging 1035 yuan with the RCC and ABC at an average interest rate of 12 percent. In 1988 39 percent of the interviewed households reported borrowing transactions. Of the households borrowing in 1988, 76 percent borrowed from friends and relatives and 42 percent borrowed from the RCC. The amount borrowed from each of the three sources increased in 1988 over 1987 with the average loan size from friends and relatives increasing 12 percent and from the RCC increasing 43 percent.

Households were asked about their prior borrowing experience and the cost of borrowing from the RCC and ABC. Just over 55 percent of the households responded that they had borrowed from the RCC before. When asked how long they had to wait from the time they first inquired about a loan until receiving the loan from the RCC in 1987, the response ranged from no wait to 1 month. Over 77 percent of the respondents said 1 day or less. When asked how many trips they had to make to the township RCC, the response ranged from 1 to 5 with 90 percent saying 1 or 2 trips. All but two households were within 7 kilometers of a RCC. They were also asked about any additional expenses, such as gifts or hosting RCC officials to a meal,

and only 5 households reported these type of expenses. Two households spent 20 yuan, two households spent 30 yuan, and one household spent 50 yuan.

The near tripling of the inflation rate in 1988 and the slow adjustment of interest rate ceilings could be expected to lead to tighter credit market conditions. The effect of rapid inflation may be responsible for households indicating more delays and hassle in obtaining loans from the RCC in 1988. Households responded that they had to wait up to four months for RCC loan approval, although 76 percent still reported waits of two days or less. The number of trips required to complete the loan in 1988 ranged from one to ten, with 75 percent saying one or two trips were sufficient. However, all households reported no additional, or noninterest, loan expenses in 1988.

By comparing the RCC and household loan data insight can be gained as to what types of loans are being financed by the RCC. Table II shows the distribution of loans by the five township RCCs in 1988 according to use. The RCCs did not tend to make many loans for crops fixed assets (perennials, threshers, plows, etc.), housing construction, weddings, and consumption difficulties. In the case of crops fixed assets this may well be because there was very little demand, but in the case of housing construction, weddings, and consumption difficulties this was not the case. For these categories of loans households relied more on friends and relatives as can be seen in Table III where the distribution of household borrowing by use and source of loan for 1987 and 1988 is summarized. Feder et al found similar results for farm households in two counties in Jiangsu province and one county in Jilin province in 1987/88.

One way to partially identify households being rationed out of the formal credit sector is to compare the characteristics of households across loans obtained from the RCC and from friends and relatives. (This method does not enable us to identify households that are completely rationed out of both the formal and informal credit markets.) The stated loan use appears from

the data in Table III to be an important explanatory variable in discriminating between these two sources of loans. Thus, loan use was divided into three categories. The first category consisted of crop working capital, crop fixed asset, animal husbandry, and fishery loans. The second category included loans for consumption difficulties, weddings, and housing construction, and the third category was all other use loans. Variables included in the analysis that might serve as predictors of the borrower's ability to repay the loan are the age and educational level of the head of the household, area of land managed by the household, and number of laborers in the household. Savings deposits held in the RCC at the beginning of the year that may serve as collateral is another variable. Loans outstanding from the RCC and ABC at the beginning of the year may prevent a household from being able to borrow more in the current year and so is also included. Connections or *guanxi* has always played a role in transactions in China and no doubt may be useful in obtaining loans. A measure of the household's connections is captured by the dummy variable for whether a member of the household had been or currently was a local government worker. Location dummy variables were also included to allow for possible differences in loan priorities or tightness of funds by township. Logit maximum likelihood estimation is used since several of the independent variables are dummy variables and hence the assumption of normality is violated (Maddala p. 27).

The results for 1987 and 1988 are presented in Table IV. The dependent variable is equal to 1 if the loan is from the RCC or ABC and equal to 0 if from friends or relatives. Among this sample of households the significant predictors of source of loan in 1987 are the level of savings (the more savings the more likely the loan is to have come from the RCC); loan use (if the loan was used for a wedding, housing construction, or consumption difficulties, it was more likely to have come from friends and relatives); and the household's location (if the household was located in township 4 (Sankeng) the household was more likely to obtain a loan from the RCC). In 1988

the significant predictors of source of loan are age of the household head (the younger the household head the more likely the loans was from the RCC), educational level of the household head (the less education, the more likely the loan came from the RCC), area of cultivated land (households managing more land were more likely to have their loans from the RCC), savings deposits (high savings is positively correlated with loans from the RCC), loan use (if the loan was used for crops, animal husbandry or fishery activities, it was more likely to have come from the RCC), and the household's location (households in Shantang township were more likely to obtain their loans from friends and relatives). The significance of age and education of the household head is questionable given potential multicollinearity problems (the simple correlation is $-.64$).

In both 1987 and 1988 use of loan is a major discriminator of loan source as well as savings deposits, although possibly to a lesser extent in 1988. It would be interesting to see if the tendency in 1988 for borrowers from the RCC to have more land than those borrowing from friends and relatives continues in the future. Households in Sankeng township in 1987 were more likely to have borrowed from the RCC, but this result does not hold up in 1988. A review of Sankeng RCC data show that total loans declined dramatically from nearly 4.4 million yuan in 1987 to only 2.6 million yuan in 1988. The volume of loans in 1987 may have been unusually large and households were among the recipients of the increase in loans. There does not appear to be any ready explanation for why households in Shantang township were less likely to have borrowed from the RCC in 1988.

Contrary to findings in many LDCs, characteristics of households that would be expected to be predictors of ability to repay do not differ across the two sources of loans. This result can largely be attributed to the structure of the RCC which minimizes the information and monitoring gap between the formal and informal credit markets and the relative homogeneity among farmers with respect to land. Farmers as a whole may face being rationed out of the subsidized formal

sector in areas where rural enterprises are flourishing because of the competing interests of local government officials.

Table I: Rural Credit Cooperative Interest Rates

Type of account or loan	1987 Interest Rate	1988 Interest Rate ¹	1988 Interest Rate ²
Savings account	2.88	2.88	2.88
6 month time deposit	6.12	6.48	6.48
1 year time deposit	7.20	8.64	8.64
3 year time deposit	8.28	9.72	17.04
5 year time deposit	9.36	10.80	18.12
8 year time deposit	10.44	12.42	19.74
Consumption difficulty, illness loan	7.92	9.29	
Agriculture production inputs loan	8.64	10.62	
Household enterprise loans	12.60	14.26	
Weddings loans	9.36	14.47	
Animal husbandry, fishery loans	10.44	10.76	

¹ Deposit interest rates prevailing after September 1, 1988.

² Fourth quarter 1988 deposit interest rates including inflation markup on long term deposits of three years or more.

Sources: 1987 deposit interest rate data obtained from Guangdong Province Agriculture Bank of China interviews; 1988 deposit interest rate data obtained from Shijiao township, Qingyuan county RCC; 1987 and 1988 loan rates represent the average of interest rates reported by the five surveyed rural credit cooperatives in Qingyuan county.

Retail Price Index Increase

	1987	1988	1989
Nationwide	7.3	18.5	17.8
Guangdong province	11.7	30.2	21.0

Sources: A Statistical Survey of China 1988 p. 92; A Statistical Survey of China 1989 p. 90; A Statistical Survey of China 1990 p. 39.

Table II: Township RCC Loan Distribution by Use in 1988

Loan Use	Shantang	Qinhuang	Shijiao	Sankeng	Gaotian
	%	%	%	%	%
Crops working capital	22.1	14.1	52.5	26.8	12.0
Crops fixed assets	1.6	5.0	11.9	4.4	3.6
Animal husbandry	25.2	11.1	5.6	15.3	48.6
Commerce/Industry	8.0	11.0	18.8	22.3	15.4
Transportation	24.4	3.6	3.9	6.3	3.8
Housing Construction	4.3	10.2	1.8	2.2	1.1
Weddings	4.4	0	1.5	2.4	0.7
Illness/difficulties	1.8	7.5	0.3	6.3	0.3
Other	8.2	37.5	3.7	14.0	14.5

Source: Township RCC surveys.

Table III: Surveyed Household Loan Activity by Source and Use

1987			
Loan Use	Total (%)	RCC/ABC (%)	Friends/Relatives (%)
Crops working capital	31	83	17
Crops fixed assets	2	83	17
Animal husbandry/Fishery	7	87	13
Commerce/Industry	14	77	23
Transportation	9	98	2
Housing Construction	18	20	80
Weddings	6	5	95
Consumption difficulties	8	17	83
Education	0.6	38	62
All uses	100	60	40
1988			
Crops working capital	23	80	20
Crops fixed assets	1	100	0
Animal husbandry/Fishery	23	81	19
Commerce/Industry	16	59	41
Transportation	3	100	0
Housing Construction	6.5	14	86
Weddings	9	6	94
Consumption difficulties	13	14	86
Education	0.7	31	69
All uses	100	55	45

Source: Household surveys.

Table IV: Logit Model of Loan Source Characteristics

Variable	1987. Coefficient	1988 Coefficient
Constant	-1.7343 (-1.42)	1.1700 (0.87)
Cadre	-0.4189 (-0.93)	0.2593 (0.54)
# of Laborers	-0.1603 (1.02)	-0.0147 (-0.12)
Education of household head (years)	0.1392 (1.57)	-0.2123** (-2.24)
Age of household head	0.0091 (0.48)	-0.0494** (-2.03)
Area of land managed (mu) ^a	0.0157 (0.49)	0.1503** (2.31)
Loans outstanding (yuan)	0.0001 (0.46)	-0.00003 (-0.12)
Savings deposits (yuan)	0.0005** (2.14)	0.0001*** 1.84
Loan use category 1	0.2851 (0.58)	1.2130** 2.48
Loan use category 2	-2.0227* (-3.86)	-0.1084 (-0.19)
Township 1 (Shantang)	0.3339 (0.53)	-2.2228** (-2.42)
Township 2 (Qinhuang)	0.4315 (0.79)	0.8263 (1.59)
Township 3 (Shijiao)	-0.5515 (-0.82)	-0.9493 (-1.48)
Township 4 (Sankeng)	0.9705*** (1.76)	-0.4490 (-0.73)
	Log likelihood = -90.1224	Log likelihood = -95.7076
Dependent variable	Cases with RCC = 1 78 Cases with RCC = 0 84	Cases with RCC = 1 60 Cases with RCC = 0 119

- * significant at the 1 percent level
** significant at the 5 percent level
*** significant at the 10 percent level

^a 15 mu = 1 hectare

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