

AN ECONOMIC INVESTIGATION ON DEVELOPMENTS IN AGRICULTURAL
CREDIT DURING CHINA'S COLLECTIVE PERIOD: 1950-1984

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ABSTRACT

Developments in the delivery of agricultural credit during the collective era, 1950 to 1978 is poorly understudied and poorly understood. In this thesis, I examine and provide an economic assessment of the political movements and developments in rural finance in China from 1950 to 1978/1984 with the latter date capturing the interim period before modern reforms took place. To examine the influencing factors of provincial agricultural loans, this thesis models agricultural loans from 1950 to 1984 as a function of natural disasters, grain output and 5 historical policy dummies. Interestingly, establishments of the Agricultural Bank of China (ABC) and Rural Credit Cooperatives (RCC), occurrence of the Great Leap Forward and two stages of the Cultural Revolution. My objective is to determine whether, and to what effect, these factors influenced agricultural credit. Using data collected from local gazetteers at the provincial and city levels, this preliminary assessments shows that these events and circumstances had significant impacts on rural credit. I find, for example, that the relationship between loan outstanding and interest rates is downward sloping which indicates what I refer to as a 'demand dominant' dynamic, that is shifts in supply along the credit demand curve has a much stronger impact on loan balances (a quasi-equilibrium) than shifts in demand along the supply/marginal cost curve. But I also show, for example that the change of steel output imposed a negative effect on RCC loans during the Great Leap Forward. Although RCC loans increased during this period this result suggests that the rate of growth in rural credit was dampened by the push for iron. In furtherance to this I show a significant increase in the deposit to loan ratio which suggests a form of red-lining in which rural deposits were not reinvested in rural loans but diverted towards non agricultural uses. Last not least, the documentation of contemporaneous living and economic conditions reported in the

local financial gazetteers provide interesting and valuable stories and insights into agriculture credit in China.

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CHAPTER 1 INTRODUCTION

1.1 Introduction

The 28 years following the end of China's War of Independence – a period I will refer to as the 'collective era' - saw the deconstruction of many traditional credit institutions for agriculture that had developed during the Republican Era, 1912-1949. The collective era brought about policies in land reforms in which all land became the property of the government. With the elimination of land title and property rights, agricultural transformation centered on the amalgamation of farm lands into worker collectives. These collectives dominated the agricultural landscape until 1978 with the introduction of the Rural Household Responsibility System. By 1984 the market-oriented reforms of Deng Xiaoping were affirmed, and with this affirmation came regulatory reforms in agricultural credit. I will refer to the period between 1978 and 1984 as a transitory phase, and the period following 1984 as the Modern Era. While much has been written on agricultural credit in the modern era, less is known about developments in agricultural credit before that. Fu and Turvey (2018) detail the history of agricultural credit during the reconstruction period and war years of the Republican era 1912-1949, as well as developments in agricultural credit in the years and centuries prior to the end of the Qing in the 1911 revolution but structural changes and development of agricultural credit during the collective era is poorly documented and largely unknown. This thesis remedies this by providing some baseline insights into the financial development of agricultural credit during this period and the transitory phase that follows. Although I do present some aspects of rural credit in the modern era (see Chapter 5) this is cursory and provided more as an epilogue to the earlier developments, which constitute the focus of this thesis.

As mentioned, the developments in agricultural credit during the collective era, 1950 to 1978 are poorly understood, and have largely been ignored by present-day scholars. Yet this era is the epitome of a centrally planned economy, and understanding it better can bring into contrast

the market orientation that followed. It oversaw the deconstruction of the financial institutions including credit cooperatives and formal banks such as the Farmers' Bank of China (1935) developed under the Rural Reconstruction (1928- 1937) and the Farm Credit Bureau (1936) (Fu and Turvey 2018), and essentially started over with the only remnants remaining being the need for a policy bank (the Agricultural Bank of China) and the revitalization of rural credit cooperatives.

The developments of agricultural credit institutions during this collective era has not, to my knowledge, been detailed to the extent that this thesis does. In this thesis I examine the evolution of credit supply and demand during the period 1950 to 1984. Relying on obscure notations and data summaries from local gazetteers I describe the role of agricultural credit in China's economic development. In addition to detailing the specifics of agricultural credit in terms of institutions (supply) and agricultural use (demand), I also provide insights into the impact of the Great Leap Forward (1957-1961) and the Cultural Revolution (1966-1971, 1971-1976) on agricultural credit.

One of the difficulties in the empirical investigation of credit is that the observable variable is (as in my case) total credit outstanding. This value is endogenously determined by supply and demand, neither of which is observable. Because changes in marginal utilities in the demand side, marginal costs on the supply side or exogenous shocks to either cannot be observed I assume a 'quasi equilibrium' and develop the economics accordingly. Consequently, little work has been done on understanding the demand for agricultural credit in China. Fu and Turvey (2018¹; Chapter 6, see also Turvey and Fu (2019²) in Hu, Zhong and Turvey (2019, Chapter 11) use John Lossing Buck's primary household data and show that by and large farmers were 'price takers' when it came to credit demand. During the mid-Republican era and

¹ See: Fu, H., & Turvey, C. G. (2018). *The Evolution of Agricultural Credit During China's Republican Era, 1912–1949*. Springer.

² See: Hu, H., Zhong, F., & Turvey, C. G. (2019) *Chinese Agriculture in the 1930s Investigations into John Lossing Buck's Rediscovered 'Land Utilization in China' Microdata*. Springer.

the areas studied by Buck in *Land Utilization in China* (1937)¹ formal credit institutions were virtually non-existent, including credit societies or cooperatives. Turvey and Fu show some downward elasticity in credit demand for production use, but perfectly inelastic demand for special expenditures such as weddings and funerals; the greater the loan demanded, the higher the interest rate charged. In the modern era Turvey et al (2012) and Verteramo-Chiu et al (2014) have shown using experimental and quasi-experimental techniques that the demand for credit is not highly inelastic, and for many farmers elastic. What the nature of demand is for the collective era is, however, unknown. I fill this gap in understanding by showing that in terms of credit demand and supply, the credit market was demand dominant. In other words, the credit demand was downward sloping and demand responses were likely due to shifts in supply along the demand curve, than shifts in demand along the supply curve (as found by Turvey and Fu).

1.2. Historical Background

The history from 1950 to 1984 in China is remarkable and profound. In those 34 years, the People's Republic of China (PRC) established and launched 6 national 5-Year Plans² to transfer China from a traditional agricultural country to an industrial country. The Great Leap Forward movement and the Cultural Revolution deeply shaped politics and economics of China in many aspects. The annual compound growth rate of Primary Industry was 6.2% while that for agricultural loans was 15% from 1952 to 1984. From 1950 to 1984, the Agricultural Bank of China (ABC) encountered 4 establishments and 3 revocations and Rural Credit

¹ Buck, J. L. (1937). *Land Utilization in China: A Study of 16,786 Farms in 168 Localities, and 38,256 Farm Families in Twenty-two Provinces in China, 1929-1933--Statistics* (Vol. 2). Commercial Press, Limited, Agents in the United States, The University of Chicago Press.

² The first 5-Year Plan was launched in 1953 and was concentrated on industrialization accelerate socialist transformation in economic fields. The second 5-Year Plan was launched in 1958 and divided into two stages: the Great Leap Forward movement from 1958 to 1960 and the adjustment period from 1961 to 1962. The third 5-Year Plan was launched in 1966 and concentrated on national defense. The fourth 5-Year Plan was launched in 1971 and was concentered on the Third-line construction and agricultural mechanization. The fifth Five-Year Plan was launched in 1976 and aimed to realize agricultural mechanization by 1980. The sixth Five-Year Plan was launched in 1981 and continued to implement the policy of "Adjustment, Reform, Rectification and Improvement".

Cooperatives (RCC) used to be decentralized to the credit division of People's commune. Agricultural credit development and policies are inevitably affected by historical movements.

Agricultural credit is a tool of resources allocation, which might affect the structure of China Economy (Yang Dong, & Guo Yuqing, 2007). Agricultural credit has also played an important role in helping farmers¹ achieve prosperity. With the support of rural credit, farmers can expand agricultural production and solve difficulties in life. Rural Credit includes agricultural loans, Rural Credit Cooperatives loans, farmer loans and other loans. In the modern era the main supplier of agricultural credit is the Agricultural Bank of China (ABC) and Rural Credit Cooperatives (RCC). Both financial institutions are managed by the People's Bank of China (PBC). RCC was at times a subsidiary of ABC which, as a policy bank before privatization in 1996 specialized in issuing loans to farmers, Town and Village Enterprises (TVE), and rural economic development.

The precursor to modern financial institutions were, as indicated, the ABC and credit cooperatives. Looking back to data recorded in local financial gazetteers, more interesting stories about agricultural credit are revealed. Table 1-1 shows farmer loans per capita in 6 provinces from 1954 to 1984. Farmer loans per capita hovered around 1 or 2 yuan until 1978, which showed stagnation of farmer loans during a long period of time (note: these data also include zero-loan data and are more indicative than absolute). The shortage of funds of formal financial institutions and the imperfect function of rural financial services have become an important factor restricting the development of agriculture and rural areas.

¹ Farmers refer to those who have agricultural household registration (Hukou in Chinese), mainly engaged in rural land cultivation or other rural-related production and operation activities, such as farmers, self-employed households.

Table 1-1 Farmer Loans per capita in 6 provinces from 1954 to 1984

Year	Hubei	Henan	Jiangsu	Liaoning	Sichuan	Yunnan	Heilongjiang
1954					0.07	0.24	
1955					0.23	0.68	
1956			1.26		0.65	1.02	
1957	1.25		0.97		0.56	1.12	
1958	2.19		1.44		0.77	1.33	0.73
1959	2.14		0.98	1.75	0.88	1.13	1.09
1960	1.69		1.38	1.80	0.82	1.74	1.16
1961	1.45		1.13	1.78	0.60	1.42	0.85
1962	1.55		1.11	1.43	0.64	1.15	0.76
1963	2.13	1.59	1.01	1.47	0.87	1.19	0.41
1964	2.22	1.11	1.02	1.70	1.13	1.67	1.95
1965	2.15	1.13	1.21	2.09	1.20	1.69	1.43
1966	2.55	1.12	1.26	2.25	1.53	1.75	2.04
1967	2.35	1.24	1.26	2.38	1.75	1.63	1.99
1968	2.37	1.26	1.16	2.39	1.71	1.96	1.96
1969	2.37	1.33	1.13	2.49	1.71	1.99	2.31
1970	2.32	1.31	1.19	2.37	1.60	2.04	2.12
1971	2.06	1.23	0.93	2.10	1.60	2.04	2.17
1972	2.03	1.21	0.89	2.14	1.56	2.41	2.17
1973	2.01	1.14	0.73	1.91	1.43	2.20	1.90
1974	2.09	1.11	0.81	1.78	1.39	2.28	1.85
1975	2.23	1.06	0.74	1.62	1.48	2.27	1.65
1976	2.18	1.04	0.70	1.70	1.83	2.25	1.75
1977	2.23	1.04	0.68	1.54	1.59	2.23	1.70
1978	2.11	1.53	0.66	1.42	1.55	2.23	1.52
1979	2.32	3.50	0.56	1.35	1.44	2.35	1.37
1980	2.84	5.94	0.60	1.59	2.57	3.20	1.35
1981	4.04	8.79	0.45	2.21	3.01	4.87	1.83
1982	7.15	22.99	0.85	3.76	5.90	8.61	3.20
1983	19.84	25.03	2.84	9.11	11.96	15.95	5.00
1984	19.85	34.87	10.93	30.41	21.97	31.60	18.98

Source: A compilation of local financial gazetteers.

In this thesis I collect and analyze formal and informal finance data from local gazetteers at provincial and city levels, The overall objective of this thesis is to examine and document the development of credit institutions during the collective era 1950 to 1978 from a macro and historical perspective, and to provide a better understanding of the economics of agricultural finance to China's economic development. More specifically the objectives of this thesis are to:

1. To sort out the historical development of Agricultural Bank of China(ABC) and Rural Credit Cooperatives(RCC) from 1950 to 1984 and introduce the effect of policies on formal rural finance during that period of time.
2. To carry out agricultural credit analysis both on provincial level and city level by using financial gazetteers data collected from Wan Fang Database¹.
3. To carry out a quantitative demand/supply analysis on formal and informal loans based on the National Rural fixed observation survey data.
4. To analyze features of farmer loans from 1979 to 1989 based on China Rural Finance Yearbook².

With these objectives in place, the outcome of this thesis is a balance between economic history, applied economics and agricultural finance. As previously mentioned this thesis contributes to the academic literature by providing an original assessment of agricultural credit during the collective era, and with greater depth than has previously been found in the literature. Much of what is presented here is derived from local gazetteers that recorded contemporaneous events and circumstances in local China (Chapter 2). Data summaries were also found in gazetteers. These data were summarized and analyzed. I am unaware of any previous research using this data. To capture major events such as the Great Leap Forward and the Cultural Revolution I used a variety of econometric techniques, taking care to identify exogenous factors such as drought or floods (Chapters 3 and 4). Credit demand and supply is investigated using records of interest rates throughout the collective era. The conflict between agricultural and industrial development is captured by separate regressions that relate the effects of iron demand on agricultural credit. Interestingly, we find an inverse relationship between iron demand and agricultural credit. Since agricultural credit was generally increasing

¹ Wanfang Data is a large-scale online database covering journals, conference summaries, papers, academic achievements and academic conference papers. See: <http://www.wanfangdata.com.cn/index.html>.

² China Rural Finance Yearbook was Published by China Statistical Publishing House, 1992.

throughout the collective era, this result suggests that the demand for industrial iron, may have actually dampened the supply of credit, which in turn suggests that agricultural output may have been lower than its economic potential had it been able to develop without the resource misallocation observed during the Great Leap Forward. Chapter 5 explores data obtained for the modern era and provides an account of changes in the growth and distribution of rural credit between 1985 and 2009 as a point of comparison. Chapter 6 concludes the thesis.

CHAPTER 2 LITERATURE REVIEW

2.1 Introduction

In this chapter I review recent developments in the theory and study of agricultural credit markets. The first part is the review of credit supply theory and credit supply in rural China. The second part is about the credit demand from various aspects.

2.2 Conceptual Framework

In this paper, the measure is the amount of agricultural debt outstanding which is the quasi-equilibrium balance of demand and supply. Here, I assume supply is equal to demand and the supply curve and demand curve are as follows:

$$\text{Supply Curve: } i = a + \alpha * L \quad (\text{equation 2.1})$$

$$\text{Demand Curve: } L = b + \beta * i \quad (\text{equation 2.2})$$

$$L^* = \frac{b - a\beta}{1 + \alpha\beta} \quad (\text{equation 2.3})$$

Where i indexes nominal interest rate and L indexes loan amount.

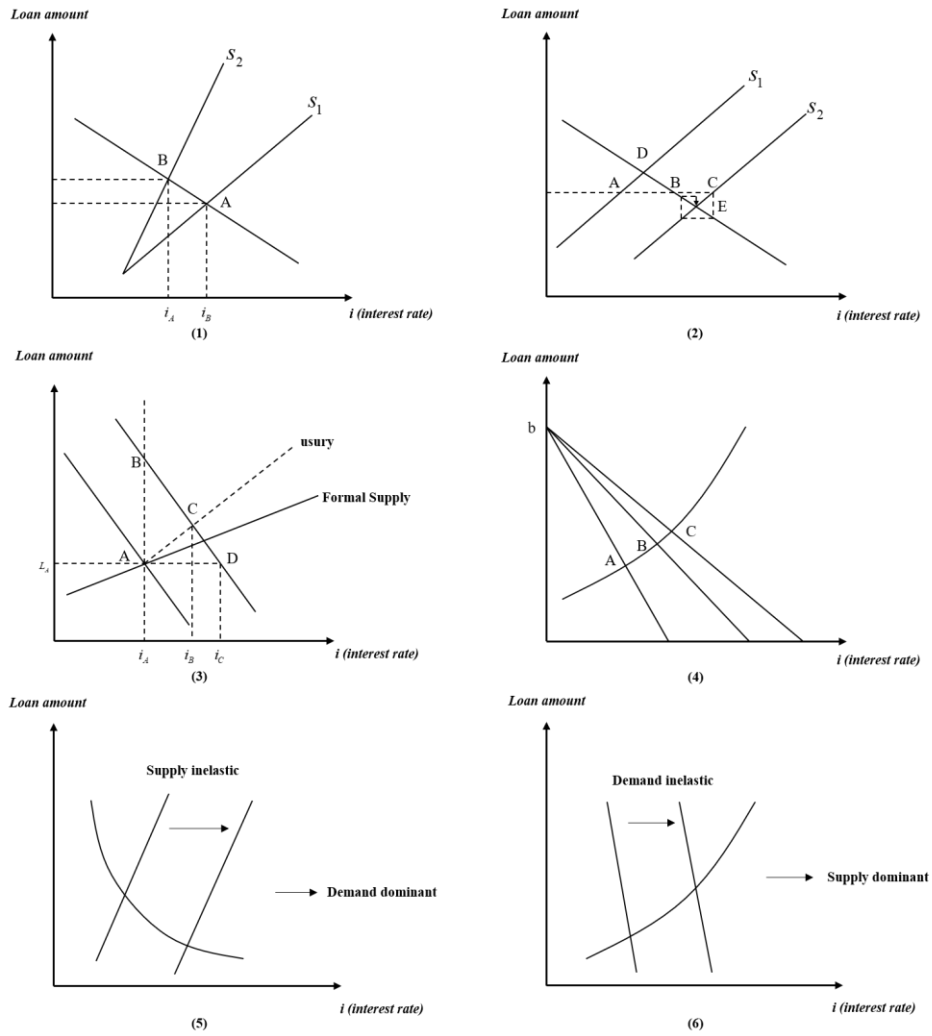


Figure 2-1 Conceptual Framework

For equation 2.3, I take first partial derivatives for α , a , b and β respectively to get the following four equations:

- 1) $\frac{dL}{d\alpha} = -\frac{(b-a\beta)}{(1+\alpha\beta)^2} < 0$ (equation 2.4, figure 2-(1))
- 2) $\frac{dL}{da} = -\frac{\beta}{(1+\alpha\beta)} < 0$ (equation 2.5, figure 2-(2))
- 3) $\frac{dL}{db} = \frac{1}{(1+\alpha\beta)} > 0$ (equation 2.6, figure 2-(3))
- 4) $\frac{dL}{d\beta} = -\frac{a}{(1+\alpha\beta)} - a\frac{(b-a\beta)}{(1+\alpha\beta)^2}$ (equation 2.7, figure 2-(4))

Shown in figure(2), figure(2-(1))-2-(4)) represents four first partial derivatives. Shown in figure (2-(1)), shift in “ α ” to leftwards, means marginal cost of credit increases, then supply curve becomes steeper. For instance, governments take actions (i.e. subsidy, expand deposits) to reduce marginal cost of credit. Shown in figure (2-(2)), shift in “a” to rightwards, leads to an increase in supply. For instance, formal financial institutions like ABC and RCC increase supply, causing a downward shift in supply curve and reducing the average cost of loans and consequently leading to increase demand at a lower interest rate. Shown in figure (2-(3)), shift in “b”, means demand curve shifts to rightwards. For instance, famine might increase demands of farmers and usury might enter the credit market and increase loans at a higher interest rate. Shown in figure (2-(4)), shift in “ β ”, demand curve becomes more steeper and more inelastic. For instance, consumption goods are more elastic than production goods for farmers and urgent and special occasions (i.e. Funerals and wedding) have a more inelastic curve.

Figure (2-(5)) and figure (2-(6)) demonstrate the “demand dominant” and “supply dominant”. In our context we define ‘demand dominant’ as an economic outcome in which the statistical measure between ‘loan balance’ and interest rates is negative. This would be the usual case and arises more from shifts in supply along the demand curve rather than shifts in demand along the supply curve. This latter case we refer to as ‘supply dominant’. It is rare and might arise when the suppliers of credit have market power against shifts in demand. These demand shifts are likely to be with highly inelastic demands for which liquidity is binding. Famine would be one example. Other examples would be in the cases of special expenditures such as weddings and funerals which have associated cultural attachments In this paper, I find, for example, that the relationship between loan outstanding and interest rates is downward sloping which indicates what I refer to as a ‘demand dominant’ dynamic (Chapter 4). Furthermore, an example of “supply dominant” was found by Turvey and Fu for weddings and funerals (2019; see also Fu and Turvey 2018).

The ideas presented in this simplified conceptual framework are found throughout this thesis. The outstanding loan balances from which I make empirical assessments represent a quasi-equilibrium, but at any moment in time it is not precisely clear whether loan balances are due to supply or demand shifts or changes in elasticity. An observed increase in demand is likely due to a multitude of factors of which the net outcome is an increase or decrease, but shifts and twists in supply and demand might be occurring simultaneously. One of the tasks of this thesis is to separate out these effects. This is presented in Chapters 3 and 4. For the remainder of this chapter I provide in greater detail a general discussion of credit supply and demand in China during the collective era.

2.3 Credit Supply

2.3.1 Credit Supply Theory

Before 1980s, subsidized rural credit theory was seen as one answer to low productivity and poverty in the agricultural sectors of developing countries (Avishay Braverman and J. Luis Guasch, 1986). According to this theory, agriculture cannot be a financing target for profit-oriented commercial banks due to the particularity of industry, the uncertainty of income, the long-term of investment and low profit of agriculture. In the absence of rational economic incentives to promote financial sector development in agriculture it has historically been necessary for governments to intervene with low-interest credit in rural areas. However, it is then argued that the existence of low interest rates makes specialized agricultural credit institutions and formal lenders unable to mobilize rural deposits to build their own sources of funding. It is a paradox that in the absence of free-market incentives (i.e. high return, low risk), financial development and deepening in rural credit markets has failed to materialize; as a

result of this failure, governments intervene with targeted credit policies, which are then used as an excuse by formal lenders to not invest in rural areas.

The theory of rural financial market theory is just the opposite of rural credit subsidy policy. According to the theory, firstly, rural residents and even poor farmers have the ability to save, and then there is no need to import funds into the rural areas from the outside. Secondly, the low interest policies prevent people from saving in formal financial institutions and inhibiting financial development. Thirdly, the high dependence of external capitals on the operation of financial institutions leads to the decrease of loan recovery rate. Finally, it is reasonable to require a high interest rate for informal finance for the rural capitals have more opportunity costs.

Karal Hoff and Joseph E. Stiglitz pointed out the “Imperfect Information” Paradigm in credit markets. They mentioned that a dual rural credit market exists in developing countries and the financial market in developing countries is not a perfectly competitive market. This is particularly true when lenders are unable to fully grasp the (asymmetric) information of borrowers including their risk profiles and credit-worthy status. Consequently, rural credit demand cannot completely rely on market mechanisms, and it is necessary to adapt appropriate government interventions in financial markets to build a complete financial market. The most successful government interventions in the formal credit markets are those that draw on the ability of the informal sector to solve the selection, monitoring, and enforcement problems of lending (Karal Hoff and Joseph E. Stiglitz, 1990).

2.3.2 Credit supply in China rural market

Rural Finance sectors in China encountered several financial reforms. Most of scholars focus on rural finance reform after 1990 and Rural Credit Cooperatives (RCC) is the main provider of rural formal finance after 1996. Xie Ping provided an overview of RCC reforms in middle 1990s and demonstrated that central government should clarify the ownership structure and

improve corporate governance of RCCs (Xie Ping 2003). Based on a 1998 survey of financial institutions and government officials in southern China, Shen Minggao demonstrated the role of financial reforms in the development of China's rural economy with the rise and fall of joint liability lending and rural financial sector has not functioned too badly (Shen Minggao, Huang Jikun and Zhang Linxiu,2010). Micro credit companies has been around since 1994. In December 2011, the PBC issued guidelines for microfinance at RCC to provide credit services for middle and low income level households lacking collateral and guarantees (Turvey and Kong, 2010). Kong et al (2007) built a small credit market model in china by the reference of Grameen Bank of Bangladesh. They found out low administrative interest rates of RCC could not cover the operation cost and risk of loans .

2.4 Credit Rationing

Credit rationing can be divided into two different types, one is the number of rationing, that is, the number of loans provided by banks to farmers can not meet the needs of farmers; the other is the service rationing, that bank refused to issue loans for farmers to provide credit services. Verteramo et al. (2014) pointed out there are three types of rationing: risk rationed, price rationed and quantity rationed based on survey of 30 farm households in the Shaanxi province of China and from 372 farmers in northeastern Mexico (Verteramo, Khantachavanna & Turvey, 2014).

Credit rationing is typical in developing countries and reasons for credit rationing varies. Fixed or low interest rate, loan quantity control, and transaction cost might cause credit rationing. Based on the All-India Debt and Investment Survey from 1981 to 1982, Kochar conducted 2 models of sectoral choice. Kochar found out that a fixed and relatively low interest rate policy in Indian has resulted in the considerable rationing of formal credit. Lower reservation cost of informal credit also reduced the effective formal sector rationing (Anjini Kochar, 1997). Verteramo et al. found the incidence of risk rationing in farmers to be 6.5, 14 percent for quantity rationed and 80 percent for price rationed in China. It supports the hypothesis that

poor farmers in China are more likely to be quantity rationed or level of education in Mexico affected quantity rationed. Risk aversion and prudence are significantly correlated with risk rationing in China, while only risk aversion is significant in Mexico.

In China, several scholars conducted researches on credit rationing. Chen Enjiang argues that the change in the structure and real rates of interest is one of the most important forces to cause the shortage of rural credit (Chen Enjiang, & Zhong Xu, 2004). Based on the survey in Western region, Wang Shujuan found out that lack of collaterals excluded farmers from formal credit (Wang Shujuan, 2005). Complex procedures and long approval duration also affected farmers to obtain loans from formal channels (Chen Liquan, 2011).

2.5 Credit Demand

2.5.1 Credit Demand Theory

Various studies were conducted about features of credit demand and several scholars apply Logit and Probit regression models to analyze influencing factors of credit demand (Dong & Izumida, 2002).

2.5.2 Rural Credit Demand Features in China

The rural lending market in China is fragmented. The coexistence of informal lending markets and formal lending markets is a feature of rural credit markets in China. Researches on rural credit demand features are mainly focused on the scale, usage and the preference of loans.

Surveys and researches has shown that informal finance in rural China is extremely common. Turvey et al. (2010) found that 53.7% percent of farmers only relied on informal sources and 24.4% used a combination of formal and informal loans based on a survey of 730 farm households (Calum Turvey, Kong Rong, & Huo Xuexi, 2010). He Guangwen (1999) found that farmers' loans from informal lending accounted for more than 75% of total rural

household loans. Wen Tiejun conducted a survey of 15 provinces in the Eastern, Middle and Western China, he found that the incidence of informal lending was as high as 95% (Wen Tiejun, 1999). The study of IFAD's 2001 also points out that Chinese farmers' credit demand depends mainly on informal finance, which is about four times the size of loans from formal financial institutions. Farmer loans provided by National banks and RCCs accounted for 20% to 25% in total farm loans from 1995 to 1999 while informal lending accounted for around 70% (Chen Liqun, 2000). Based on the survey of 217 households in Haozhou and Fuyang in Anhui province, Zhu found out that the interest-free informal lending accounted for 90% (Zhu Shouyin, 2003). It is widely believed that interest rates of informal lending don't reflect the true cost of informal lending for informal lending always occurs between friends and relatives which might carry a "Debt of Gratitude".

In terms of the usage of loans, the proportion of production loans has exceeded 50% in 1999 (He Guangwen, 1999). Based on the survey, 45.4% of loans were mainly used to meet consumption needs of farmers, 13.4% of the loans were for agricultural production and 32.7% were for non-agricultural production (Zhu shouyin, 2003). Han Jun(2007) and He Guangwen (2008) pointed out that the usage of farmer loan is not only for production and living purposes, but also for emergent events which includes natural disasters, illness, marriage, funeral and etc. Those events always happen suddenly and don't have a certain scale and time tolerance. The demand of those abnormal purpose is expanding in recent years.

In terms of the interest rate of informal lending in China, different scholars hold different opinions. Wen Tiejun pointed out that usury (*Gaolidai* in Chinese) widely exists in rural areas. Based on the survey of 41 villages in 24 cities in China, Wen Tiejun calculated that the occurrence of informal lending is over 95% and the occurrence rate of usury is over 85% (Wen Tiejun 1999). Shi Qinghua pointed out that the low-interest or zero-interest rate is more common in rural areas due to lending behaviors happen among close friends and relatives (Shi Qinghua, 2002). Results appear to vary based on the selection of samples across China, but the

vast majority of research points to zero-interest loans amongst friends and relatives satisfying as much as 65% of credit demand, with formal credit making up a small amount of credit, about 35%. Usury is quite rare and typically required as a last resort for informal borrowers who are known to gamble or drink too much.

2.4.3 Influencing factors of Credit Demand

Researches on the influencing factors of credit demand are various and the research framework are relatively complete. Research is generally based on farm surveys of certain areas or region during a certain period of time. Influencing factors are more related to the characteristic of farmers. By running GLM regression of 1565 farm households in Shanni and Gansu province, Turvey and Kong (2010) found out that a strong sense of community trust drove farmers simply preferred to informal lending. And the evidence suggests that informal borrowing is not a result of spillover effect from credit rationing (Calum Turvey, Kong Rong, 2010). Lu Yajuan and Zhang Jingjing applied logistic model to study farmers' borrowing behaviors in Jiangsu province. They found that age, level of education, level of income were significantly positively correlated with farmers' credit demand (Lu Yajuan and Zhang Jingjing, 2016).

2.5 Elasticity of Credit Demand

The high inelasticity of credit demand in developing countries is a conventional wisdom (Bell, Srinivasan and Udry 1997). As a result, interest rate subsidies policies might be ineffective. Based on the survey of 897 farmers in Shannxi and Gansu province in 2009, Turvey et al (2012) used experimental techniques to extracted individual household credit demand functions. It proved the traditional idea that when interest rate falls, demand for credit will increase and found that demand elasticity is not everywhere highly inelastic. Nearly 20% of farm households have nearly perfect inelastic for credit but also nearly 20% have elasticity over -0.75 and 15% even are full of elasticity. Elasticities of credit demand were affected by factors like farm profits and risks, demographic and individual features (Turvey and He

Guangwen, 2012). Likewise, Bogan et al. (2015) extracted loan demand elasticities of MFI (Microfinance institution) in the Dominican Republic by conducting a unique survey. They found out that micro entrepreneur have close to unit elastic demand for microcredit (Vicki Bogan, Calum Turvey and Gabriela Salazar, 2015).

Studies of credit demand prior to these are rare, particularly for China. By using OLS and 3LSL regression, Turvey and Fu (2019; and Fu and Turvey 2018) conducted demand, supply and productivity equations on agricultural credit in 1930s China using John Lossing Buck's original survey data (Buck 1937; Hu, Zhong Turvey 2019). Several interesting results are revealed. They found out that more productive farms borrow more and that households with special expenditures for weddings and funerals borrow more. The interest rate is positively determined by loan amount in both OLS and 3LSL regressions, which implied that farmers are interest-rate takers. To conclude, the demand facing farmer is highly inelastic so that a high interest rate does not affect the borrowing decision and what interest rate to charge on lenders' side is quantity dependent (Turvey and Hu, 2019).

2.6 Summary

In summary, the above studies provide scientific information on rural credits and lay a good foundation for further study. However, the study of influencing factors of agriculture credit is mainly focused on the demand side, but seldom focused on the supply side like ABC and RCC. Few scholars focus on the development of agricultural credit policies before 1990s and few focus on the relationship between historical events and agricultural credits. By going back to the local financial gazetteers and the historical events from 1950 to 1984, I will analyze agricultural credit from a historical view. This investigation begins in the following Chapters.

CHAPTER 3 AGRICULTURAL CREDIT FROM 1950 TO 1984

From 1950 to 1984, China encountered initial foundation, development and several transforms. The Central government carried out 6 5-Year Plans¹ starting from 1953 to 1985 and was aimed to transform China from an agricultural country to an industrial country. Over those 34 years, China launched the Great Leap Forward movement and the Cultural Revolution. Following the death of Chairman Mao in 1976, Premiere Deng Xiaoping initiated reforms under the Rural Household Responsibility System in 1978. The period between 1978 and 1984 is often considered a transitional period between the market experiment of allocating land use rights to farmers as a first step towards a more market-oriented - rather than government procurement based - agricultural economy. Between the years 1950 and 1984 China also witnessed changes in rural credit development. In this chapter (as well as Chapter 4) I explore these developments illustrate how credit reforms were simultaneously influenced by these historical movements and central policies. This chapter provides an overview of credit market developments. The development of credit markets throughout the collective period was, to a large extent, part of the centrally planned economy of Chairman Mao. Credit, as will be shown, was used as a policy tool over much of the period expanding and contracting depending on whether the focus was on industrialization or agricultural development. In Chapter 4 I present provincial and city-level econometric results that explore various aspects of this development including the effects of the Great Leap Forward, including the push for iron, the Cultural Revolution, floods and droughts.

3.1 Introduction of Local Financial Gazetteers (1950-1984)

As previously discussed, the economics of agriculture (and credit) throughout collectives era has been understudied by modern scholars. Part of the reason is that related agricultural data published by the Chinese government stops at about 1979 or 1980, and much of the

¹ The first 5-Year Plan was conducted in 1953.

documentation in the modern era excludes the collective era. The reasoning is straight forward. The reforms implemented in 1978 and then 1983/1984 constitute a significant structural break in economic thinking and practice. Indeed there have been so many discontinuities in China's pattern of agricultural growth in the past 100 years that to examine it as this would be incorrect.

In the absence of publicly available data for the 1950-1978/1984 period I relied on the contemporaneous accounts of economic and political conditions as reported in the local gazetteers. Local financial gazetteers are book-length volumes of local financial history, and contain a wealth of information about finance (e.g currency, deposit, credit, exchanges and so on), and also record economics policies during different historical movements (e.g the land reform, the Great Leap Forward movement and the Cultural Revolution). Most of the local financial gazetteers record abundant information starting from 1949 and some even record financial history back to Republican China. The quality and content of gazetteers varies across regions, most provide meaningful and valuable resources. As a result, scholars not only in China but scholars fond of Chinese history start to use these publications for different research projects (Liang Bai, 2014).

The agricultural loans recorded in these city-level gazetteers are mainly starting from 1950 to the end of 1990s. Some not only provide statistics of data, but also devote tens of pages to describe the development of formal credit in China which covers ABC, RCCs and other formal financial institutions. Generally, the data about informal finance in those gazetteers is rare and not continuous but some still provide documentation about the evolution of informal finance. In this paper, I collected over 200 city-level financial gazetteers and selected 70 cities with relatively complete datasets. Furthermore, I summarize these data by different loan categories (e.g Agricultural loans, RCC loans and farmers loans) to study about formal credits.

For the local gazetteers data, local government devotes resources to write these gazetteers. Compared with other historical documentation, local financial gazetteers are detailed and

reflecting the history of that time. It is not a summary of past history but accompanying with history. Consequently, the data is relatively objective and valuable.

3.2 Brief Review of Historical Movements from 1950 to 1980

3.2.1 The Great Leap Forward movement (1958-1961)

In May 1958, at the Second Session of the 8th National Congress, the Communist Party of China (CPC) adopted the general line of “going all out, aiming high and achieving greater, faster, better, and more economical results in building Socialism”. The Party initiated the Great Leap Forward movement and the People’s commune movement. The Great Leap Forward movement revolves around two themes: modernization and urbanization. Modernization means transferring China from an agricultural country to an industrial country, while urbanization means the expansion of urban population. During the Great Leap Forward, some central leaders realized the mistake and tried to rectify the mistake.

3.2.1.1 Modernization

In consistent with the Great Leap Forward movement, the excessive leftist tendency and winds of exaggeration were spread in China. As a result, the “Left-leaning” errors marked by “high indicators, blind command, wind of exaggeration and communist style” began to proliferate. High economic targets were imposed in agriculture, industrial, culture and other aspects. For instance, at the National People's Congress in February 1958, congress endorsed a plan to push up agricultural, industrial, steel production, and investment growth for the year by 6.1%, 14.6%, 19.2%, and 17.8%, respectively¹.

Mentioned in Bo’s book², 30000 furnaces were set up in towns and villages in July 1958. The number rocketed from 170000 to 600000 in September. More than 100000 small coal mines

¹ See: Angang Hu, Guangyu, Hu, Vivian C.W. Hui, & Griffith Glenn(2014), The political and economic history of China(1949- 1976) , page 92. Pang and Jin, A Biography of Mao Zedong, 1949-1976, 2:783.

² See: Bo Yibo, Memories of Important Decisions and events, 2:322, CPC Party History Publishing House.

were built. There were 1.22 million small-scale factories that relied on the manual labors of 24.89 million workers in 1958, mostly farmers; and 75000 machine-run factories employing 8.4 million workers. Together, they made up a total of 1.29 million industrial businesses with 33.3 million employees. Rural labor forces in the industrial sector once ran as high as over 60 million employees¹.

Meanwhile, the grain output, pig iron output and the steel output all reached a peak during the Great Leap Forward movement. Shown in figure 3-1 and figure 3-2, the grain output reached a peak around 1958 and then collapsed after 1958. The pig iron and steel reached a peak in 1960 and then collapsed and regrew to a second peak in 1966. Along with the pig iron and steel production reached the peak, the urban population also expanded simultaneously.

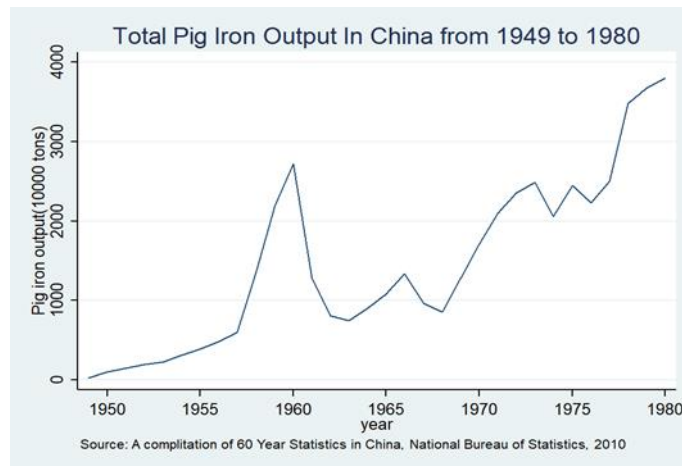


Figure 3-1 Total Pig Iron Output in China from 1949-1980

¹ See: Angang Hu, Guangyu, Hu, Vivian C.W. Hui, & Griffith Glenn (2014), The political and economic history of China(1949- 1976) , Chapter 8, page 94.

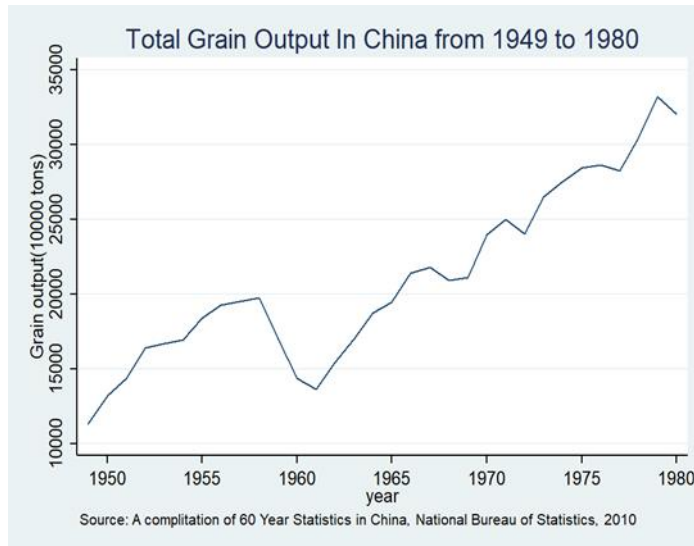


Figure 3-2 Total Grain Output in China from 1949-1980

The industrial output value transcended agriculture output in 1956 and reached a first peak during the Great Leap Forward movement (Shown in figure 3-3). In 1960, the proportion ratio of agriculture to industry was only 27.92%, which means the agriculture output value was less than one third of industrial output value. Starting from 1961, agricultural output maintained a slow growth trend during the Cultural Revolution, while industrial output rocketed in 1960s and reached a second peak in 1966, it firstly collapsed from 1966 to 1968 but rebounded to grow during the Cultural Revolution. The gap between agricultural output value and industrial output value had been widen. The annual growth rate of agriculture output during the Great Leap Forward movement was only -0.4%, while the growth of industry output value was -0.7%, which was mainly due to the big drop in 1961. The annual growth rate of agriculture during the early stage of the Cultural Revolution was 3.3% and rate of the late stage of the Cultural Revolution was 4.0%, which showed a slight rebound sign for Central government started to realize the mistake of the Cultural Revolution.

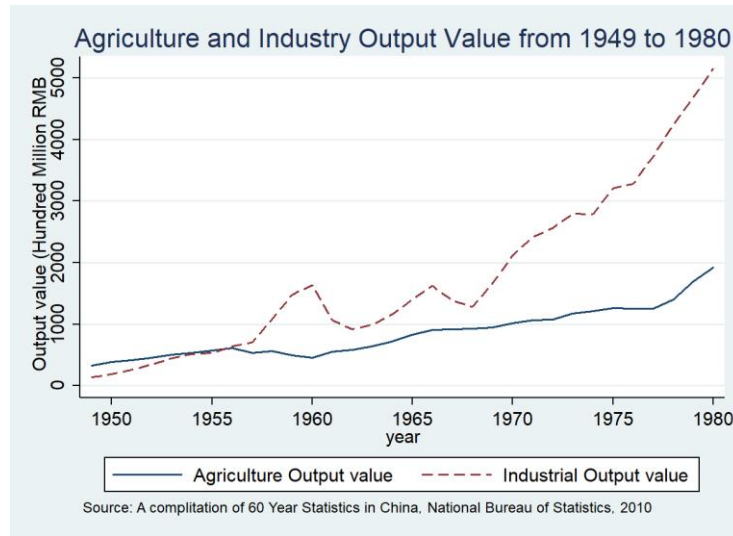


Figure 3-3 Agricultural and Industry Output Value from 1949 to 1980



Figure 3-4 Total Steel Output In China from 1949 to 1980

3.2.1.2 Urbanization

In terms of urbanization, labor forces grew by 67.5% from 1957 to 1958. State-owned enterprises employed 20 million more people, 84.9% higher than a year earlier¹. Employees increased by another 2 million in 1959. Simultaneously, the urban population expanded by 7.72 million in 1958 and by 31.24 million in 1960. But the expansion of urban population was

¹ See: National Bureau of Statistics, China Statistical Yearbook 1991, 95. Angang Hu, Guangyu, Hu, Vivian C.W. Hui, & Griffith Glenn(2014), The Political and Economic History of China(1949- 1976) , Chapter 8, page 96.

pushed by Industrialization Movement and Central government policy. Mentioned in Hu's book¹, after People's communes campaign was launched, rural labors migration to cities had been forbidden. The ban of the free flow of rural labors ruined rural labors motivation and the transfer of labors under the Industrialization Movement for steel and pig iron production made farmers away from the agricultural production and strengthen the famine in rural areas.

To sum up, the process of modernization and urbanization during this period was at the sacrifice of agriculture and agricultural credit development. Firstly, the labor resource mobilization from rural areas to urban areas made several cadres be away from their positions. According to Gansu financial gazetteers², in 1962, the number of employees in RCCs decreased from 4,627 to 2,526 with a decrease of 45.4%. On average, only 1.17 cadres were on duty in each RCC. Secondly, People's communes emphasized egalitarianism and carried out Daguofan³ (Big bowl) in communal dining, resulting in ruining farmers' incentives to produce.

3.2.2 Three-year Economic Hardship from 1959 to 1961

As a result of the Great Leap Forward movement and nationwide natural disasters, China encountered three-year economic hardship from 1959 to 1961. Grain output declined from nearly 170 million tons in 1959 to 137 million tons in 1961 and famine was spread in China, especially in rural areas.

3.2.2.1 Natural Disaster in China

The main types of natural disasters in China are drought and flood. To clarify, "areas covered" means around 10% of the total sown areas were covered by natural disasters and "areas affected" means around 30% of the total sown areas were affected by natural disasters. In this paper, I use "areas affected" to better describe the serious extent of natural disasters.

¹ Angang Hu, Guangyu, Hu, Vivian C.W. Hui, & Griffith Glenn(2014), The Political and Economic History of China(1949- 1976), Chapter 8, page 1.

² Recorded in Gansu financial gazetteers, Chapter 12, page 395.

³ Daguofan refers to the system of paying workers in state-owned factories a fixed salary regardless of ability or ambition.

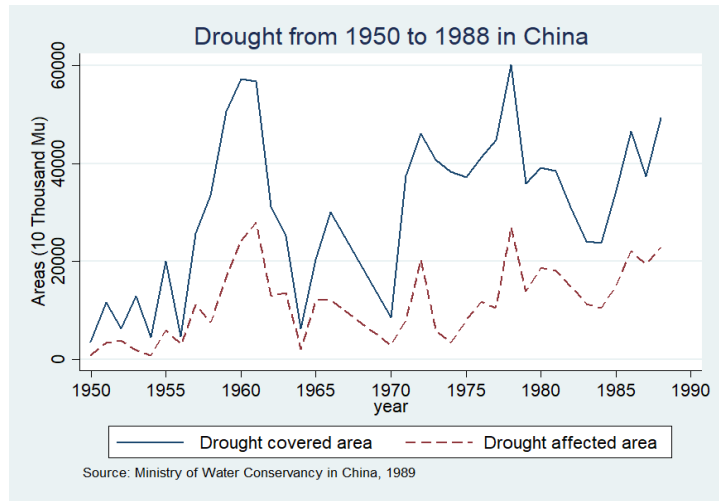


Figure 3-5 Drought in China from 1950 to 1988

According to the data from Ministry of Water Conservancy, there were three peak periods of drought happening in PRC from 1949 to 1988¹. The first peak was from 1958 to 1962 with 30 million mu of sown area were affected by drought in each year. Year 1959, 1960 and 1961 are those years when drought covered area were over 40 million mu. Shown in figure 3-5, the drought affected areas was closely related with the drought covered areas and showed contemporaneous trend. Starting from 1959, the Middle agricultural zones and lower reaches of the Yellow river and Yangtze river suffered from low precipitation. Henan, Shandong, Anhui, middle parts of Jiangsu, Hubei, northern parts of Hunan, middle and southern parts of Shannxi, eastern part of Sichuan and northern part of Shanxi province encountered drought in the summer of 1959. Over 10 million tons of grain were reduced due to the drought and more than 47 million people suffered from the drought.

The drought affected areas continued to expand in 1960 and Hebei, Henan, Shandong and Shanxi these four provinces were seriously affected by drought. Drought covered areas in these four provinces reached 270 million mu, which accounted for 47% of the nationwide drought covered areas and affected 60% of the total sown areas in these four provinces. The

¹ According the Ministry of Water Conservancy, the three peak periods of drought are 1959 to 1962, 1972 and 1978 to 1982.

drought affected areas reached the first peak in 1961, 243 million mu was affected by drought. According to the report from Ministry of water conservancy, droughts in 1961 were mainly located in large parts of northern part of China and Yangtze river and Huai river. Over 1367 million tons of grain was reduced due to the drought and more than 64 million people suffered from the drought.

In terms of flood, flood was not as serious as drought from 1959 to 1961. Even though the flood affected ratio was larger than drought affected ratio but the absolute affected areas were much smaller than drought affected areas. The flood affected areas were 27.3, 74.6 and 80.3 million mu respectively. Guangdong, Hebei and Shandong province had the largest flood affected areas from 1959 to 1961. According to the record in Ministry of Water Conservancy¹, the largest flood since 1939 occurred in the lower reaches of the Songhua River in 1960, more than 570,000 people and 930 square kilometers in Jiamusi city were affected.

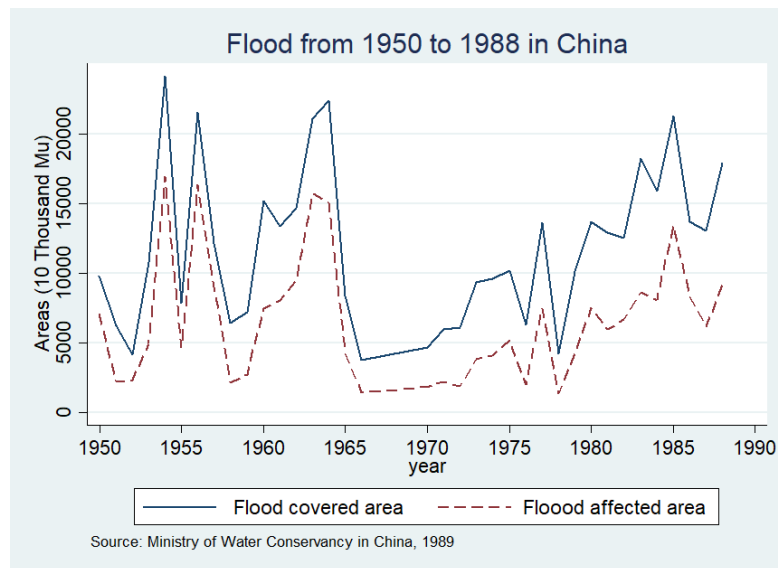


Figure 3-6 Flood in China from 1950 to 1988

¹ Recorded in Forty years of water conservancy construction achievements- Statistics of water conservancy published by the Department of Planning in Ministry of Water Conservancy in 1989, page 315.

3.2.2.2 The Great Famine

Both urban and rural consumption of grain per capita reached a peak in 1957, and hit the bottom in 1961. The famine started in 1959 and started to spread across Hebei, Shanxi, Inner Mongolia, Shaanxi, Gansu, Ningxia, Qinghai, Shandong, Jiangsu, Anhui, Fujian, Henan, Hubei, Hunan, and Jiangxi province, leaving tremendous devastation particularly in Hebei and Shandong province. Mentioned by Justin Lin, priority for food supplies was given to cities with populations representing at least 10% of the total national data. The rural population, especially those living in extreme poverty, suffered much more from causality during the Great Famine (Kai-sing Kung & Justin Lin, 2003). To make situations worse, in that year, there was a net export of grain of 4.16 million tons from China¹. In 1960, the net export volume was recorded at 2.65 million tons². Suffering from the Great Leap Forward, natural disasters and the Great Famine, the total number of population decreased by 15 million according to the data from Ministry of Water Conservancy.

3.2.3 Trials to rectify the mistake

During the Great Leap Forward movement, central leaders like Deng Xiaoping, Chen Yun and General Peng Dehuai tried to rectify the mistakes, but were neglected. And Chairman Mao Zedong started to realize his mistake. In May 1959, Mao Zedong proposed at the Politburo meeting to reduce China's steel production target for 1959 to 13 million tons, and steel product target from 11.5 million to 9 million tons³. The idea was received the support from Liu Shaoqi, Zhou Enlai, and Deng Xiaoping⁴. This reflected that central leaders started to realize to undertake adjustments to the Great Leap Forward movement. But mistakes were not fully

¹ See: Planning Department of the Ministry of Agriculture, *Agricultural Statistics, 1949-1983*, 443. & Justin Y. Lin, Fang Cai and Zhouli, *China's Miracle: Development Strategy and Economic Reform* (Beijing: Beijing University Press, 2000), 290.

² See: Angang Hu, Guangyu, Hu, Vivian C.W. Hui, & Griffith Glenn (2014), *The Political and Economic History of China (1949- 1976)*, Chapter 8, page 97.

³ See: Angang Hu, Guangyu, Hu, Vivian C.W. Hui, & Griffith Glenn (2014), *The Political and Economic History of China (1949- 1976)*, Chapter 8, page 101.

⁴ See: He Peng, *China during Mao Zedong's Era: 1949-1976*, Chapter 2, page 123.

realized. The 8th Plenary Session of the Eighth CPC Central Committee was held in August 1959, during this conference General Peng Dehuai and other cadres were seriously criticized and condemned as “anti-party clique”. The anti-rightist campaign was spread in China until spring of 1960.

From January to February 1962, the Central government held the Seven-Thousand Cadres Conference and 7,188 cadres from the Central, provincial, municipal and county governments attended this conference. Chairman Mao Zedong admitted his mistakes at this conference but he simply attributed the problems to inner party conflicts. Mentioned in Hu’s book¹, Deng Xiaoping realized that the Seven-Thousand Cadres Conference had sowed the political seeds into the Cultural Revolution.

3.2.4 Rural Household Responsibility System

Mentioned in Hu’s book², the Rural Household Responsibility system (RHS) appeared after the Lushan conference in 1959. The idea of contracting production quotas to each household was first suggested by Minister of Agriculture Deng Zihui at a working conference of the Central Committee in May³. Later, Chen Yun suggested a de-collectivized system (fen tian dao hu⁴ in Chinese) of contracting with individual households in June. At that time, about 20% of the communes across the country were practicing the Rural Household Responsibility system. In Anhui province, as many as 80% of the households were contracted. In the poorest Guizhou province, 40% of the households were contracted⁵ (Hu Angang, 2014).

¹ See: Angang Hu, Guangyu, Hu, Vivian C.W. Hui, & Griffith Glenn(2014), *The Political and Economic History of China(1949- 1976)*, Chapter 8, page 146-147.

² See: Angang Hu, Guangyu, Hu, Vivian C.W. Hui, & Griffith Glenn(2014), *The Political and Economic History of China(1949- 1976)*, Chapter 8, page 158.

³ See: Pang Xianzhi. “Mao Zedong and His Secretary Tian Jiaying,” in Dong Bian, Tan Deshan, and Zeng Zi, eds., *Mao Zedong and His Secretary Tian Jiaying* (Beijing: China Archival Press, 1996), 90.

⁴ Fen tian dao hu refers to land is allocated to each household for cultivation, and each household is responsible for a part of the land.

⁵ See: Angang Hu, Guangyu, Hu, Vivian C.W. Hui, & Griffith Glenn(2014), *The Political and Economic History of China(1949- 1976)*, Chapter 8, page 161.

Mao was the only one against the rural household-based contract farming systems, denouncing the Rural Household Responsibility system as a form of Capitalism in nature, and the decollectivized system as a threat to rural collectivism. At the Tenth Plenary Session of the 8th CPC Central Committee in September, Mao Zedong criticized Deng Zihui and later on Deng Zihui was dismissed from Vice-Premier of the State Council. However, no one could go against Chairman Mao Zedong at that time, consequently, the Rural Household Responsibility system was shut down all across China; this critical agricultural reform was thus strangled.

3.2.5 The Cultural Revolution

The “Great Proletarian Cultural Revolution” was a complex social upheaval that began as a struggle between Mao Zedong and other senior party leaders for influence within the Chinese Communist Party of China (CPC) and went on to affect all of China with its call for continuing revolution (Spence, 1990). It lasted for 10 years and reshaped Central government policies in China.

One of the main features during the Cultural Revolution is the loss of human capital. Teenagers in China were called to become the next generation of revolutionaries-“Red Guard”. Red Guards didn’t attend classes but were keen on class struggle. Many cultural treasure and intellectual scholars were attacked under this movement. Furthermore, a large-scale rural rustification program was initiated in part to discharge the Red Guards (Bernstein, 1977). Mao pointed out that youth should be re-educated by farmers in rural areas. From 1967 until 1978, an estimated 17 million urban youths were sent down to rural areas (Liang Bai, 2014).

During the Cultural Revolution, China put forward the third and the fourth Five-Year Plans. The third Five-Year Plan was essentially a preparation plan centered on national defense and the Third-Line construction¹. The fourth Five-Year plan took class conflict as guiding

¹ The third-line construction refers to the large-scale development of national defense, science and technology, industry and transportation infrastructure in 13 provinces and autonomous regions in Middle and Western China since 1964 as a preparation for war.

principles. Furthermore, there were two main activities in rural China. The first one is focus on agricultural mechanization and another is to learn from Dazhai¹ mode.

3.3 The history of rural formal finance system before 1978

Summarize the changes in agricultural credit from 1950 to 1978, the first change occurred in credit institutions. After four times of establishments and withdrawals of the Agricultural Bank of China (ABC), ABC became the main supplier for rural finance in China. RCC experienced initial establishment in 1950s and rapid development before 1958 and encountered huge change during the Great Leap Forward movement and the Cultural Revolution.

3.3.1 ABC History

3.3.1.1 The initial development of rural credit system (1950-1957)

During this period, ABC experienced twice establishments and cancellation. The first Five-Year Plan² was successfully carried out and both industrial and agricultural production targets had been exceeded. In June 1951, the Agricultural Cooperative Bank was formally established³. Three months after its establishment, the Agricultural Cooperative Bank started to formulate loan scheme and to set interest rates for agricultural loans by category. Due to the initial establishment, agricultural loans increased by 200% in 1952 compared with 1951 (Shown in Table 3-1).

¹ Dazhai is a brigade of Dazhai Commune in Xiyang County, Shanxi Province. It was originally a poor small village. After the agricultural cooperatives movement, commune members cut into mountains and built terraces, which increased the grain output per mu by seven times.

² The first Five-Year Plan was issued in 1952, proposing to establish a preliminary foundation for China's socialist industrialization.

³ Relevant document: "Report on the Preparation of Agricultural Cooperative Bank to China Finance Committee", the People's Bank of China, 1951.

Table 3-1 Agricultural Loan from 1950 to 1952

Year	Loans Issued	Growth Rate(%)	Loans Paid back	Pay Back ratio(%)
1950	2.0868		1.3218	63.30
1951	3.5489	70.06	2.2681	68.91
1952	10.7550	203.05	8.0292	79.60

Source: The history of ABC, Economic Science Press, 2000.
note: The unit of loans is 100 Million Yuan.

In July 1952, the head office of the People's Bank of China abolished the Agricultural Cooperative Bank. In March 1955, ABC was formally established and approved by the State Council. During the second establishment, ABC started to issue loans for extremely poor households, irrigation and water conservancy and to build up poverty cooperative fund.

3.3.1.2 Tortuous development of ABC from 1958 to 1976

In October 1963, the State Council decided to establish ABC for the third time. However, due to the duplication of work and numerous procedures in the grass-roots institutions of ABC and the People's Bank of China, there were also contradictions between the two banks. Considering the above situation, in November 1965, the State Council decided to merge ABC into the People's Bank of China again.

The turmoil of the Cultural Revolution has also had a great impact on agricultural credit work. Rural credit operation emphasizes that "taking class struggle as the key point" to support Dazhai¹ mode in rural areas and agricultural mechanization. In October 1975, the Central Committee of China convened the National Agricultural Conference to call for learning from Dazhai mode and required more than one third of the counties to build into Dazhai mode and realize agricultural mechanization by 1980. As a result, loan management became loose and equipment loans for agricultural production increased at an extraordinary rate.

¹ Dazhai is a brigade of Dazhai Commune in Xiyang County, Shanxi Province. It was originally a poor small village. After the agricultural cooperatives movement, commune members cut into mountains and built terraces, which increased the grain output per mu by seven times.

3.3.1.3 Reform and development from 1976

In December 1978, the CPC Central Committee convened 3rd Plenary Session of the 11th Central Committee, which opened the prelude of reform and open policy. The Rural Household Responsibility system was established after that and gradually spread in China. In April 1979, the central working conference decided to implement the policy of “adjustment, reform, reorganization and improvement”. Since 1979, the rural economic system had undergone tremendous changes, and the management system based on household contract management had been established. The main body of rural economy has changed from a single production team to a contractor-based, a professional household and various economic associations. The focus of agricultural loan changed from agriculture collectives to individual farmers, changed from small-scale for poor farmer to bigger-scale for production.

3.3.2 RCC history

After the land reform¹ in 1950, helping farmers to organize rural production was put forward at the financial conference held by the head office of the People's Bank of China. On December 16th 1953, the CPC Central Committee made the Resolution on the Development of Agricultural Production Cooperatives, which promoted the development of RCCs. By the end of 1955, 159,363 RCCs² had been set up with 320,000 employees and 205 million yuan in stock capital. RCC had become an important supplier of rural finance.

It is worth noting that from 1955 to 1956, agricultural cooperatives movement reached its climax under the wind of criticizing “right-wing” conservative ideas. Primary agricultural cooperatives were generally established in 1955, and advanced agricultural cooperation were organized in a short period of time. According to Sichuan financial gazetteers³, there were 173,000 primary agricultural cooperatives and 633 advanced cooperatives in 1955. But within

¹ According to the Land Reform Law of the People's Republic of China, there were about 300 million landless and landless farmers in the country who shared the land.

² See: Book: The History of ABC, Economic Science Press,2000.

³ Recorded in Sichuan Financial gazetteer, Chapter 4, page 90.

a year, 126,000 advanced cooperatives were established and remained 60,000 primary cooperatives. The rapid transformation of cooperatives has forced banks to increase their agricultural loans rapidly. The balance of agricultural loans in 1956 increased by 202% in 1955. The focus of rural financial work had also been shifted to support agricultural cooperatives and expand the scale of infrastructure construction.

Under this transformation, many cadres and farmers took bank loans as free financial support and competed for loan indicators regardless of whether loans were really needed or not and whether they have the ability to repay. In 1956, the People's Bank of China announced an increase of 1.12 billion yuan¹ in agricultural loans at the beginning of the year, but actual annual increase was 2.02 billion yuan. In addition, loans from RCCs increased by 680 million yuan in 1956, consequently it imposed an important effect on credit imbalance.

Table 3-2 Changes in National Agricultural Loans from 1953 to 1957

Year	Year-end balance (100 million yuan)	Increase over the previous year	Increase or Decrease (%)	% of total Bank loans
1953	6.6	2.4	57.0	4.9
1954	7.6	1.0	15.2	4.1
1955	10.0	2.4	31.6	4.9
1956	30.2	20.2	202.0	13.0
1957	27.7	-2.5	-8.3	10.0

Source: Forty Years of Endeavour compiled by the National Bureau of Statistics and published by China Statistics Press.

During the Great Leap Forward movement, rural financial institutions including RCCs were decentralized to People's communes. The State Council issued *On Several Issues in the Work of the Credit Department of People's Communes and on the Liquidity of State-owned Enterprises* in 1958. Following this document, rural offices of the People's Bank of China were merged with RCCs to form the credit division of the People's commune. RCCs were

¹ See: Book: The History of ABC, Economic Science Press, 2000.

transferred to the People's commune and production brigade for management. Consequently, RCCs had become a financial tool of the basic commune teams.

During the Great Leap Forward movement, there were several problems occurring in RCCs. Firstly, there were too many loans issued by commune teams and could not be collected back. RCCs did not have sufficient funds to guarantee the payment of deposits, nor to issue loans. Secondly, a lot of cadres from rural areas were transferred to urban areas for steel production. As a result, the absent of RCC cadres also affected the daily operation of RCCs. RCCs were not restored until the People's Bank of China decided to retrieve its power in March 1963.

From January to February 1962, Central government held a "seven-thousand cadres conference" and the State Council approved the *Regulations on Several Issues of Rural Credit Cooperatives* made by the People's Bank of China, which clearly pointed out that RCCs were the mutual-aid organizations of farmers and should operate independently, account independently and be responsible for their own profits and losses, and should be under the leadership of the People's Bank of China.

In 1969, the People's communes and Production Brigade established the "Management Committee for the poor, the lower and the middle income level farmers". The human rights and financial rights of RCCs were all handed over to the management committee.

3.3.3 Interest Rate of Rural Formal Finance from 1950 to 1984

Interest rates of rural formal finance is exogenous and set by Central government, which is closely related with policies. Interest rate of agricultural loans and farmer loans had gone through a trend from high to low and then from low to high. From 1950 to 1952, production interest rate was dropped by the guidance of Central government. In terms of interest rate of RCCs, during the three years of national economic recovery after the founding of the PRC, RCCs had not been generally established. During this period, national banks allowed them to

determine their own interest rates. Take Yunnan province as an example, the interest rate of RCCs was referred to informal lending of local rural credit market. The monthly interest rate was 16 ‰ in 30 counties which was 6% points higher than national banks.

From 1953 to 1957, the types of interest rates were simplified and interest rates kept to be lowered due to the dominant position of state-owned economy. During the second Five-Year Plan and the national economic adjustment period (1958-1965), the interest rate was affected by the wind of left-leaning. In order to expand the grain output and solve the slow turnover of agriculture fund, the People’s Bank of China submitted the *Report on Reducing Agricultural Loan Interest Rate* to the Fiscal Finance and Trade Office of the State Council. The Report stated that the monthly interest rate of agricultural loans would be reduced by 4.8% from 6%. Secondly, Central government continued to provide low interest rates and even interest-free loans for agricultural collectives. The monthly interest rate of equipment loans for collective production was reduced from 6‰ to 4.8‰ in 1961 and kept to be lowered to 2.16‰ in 1965.

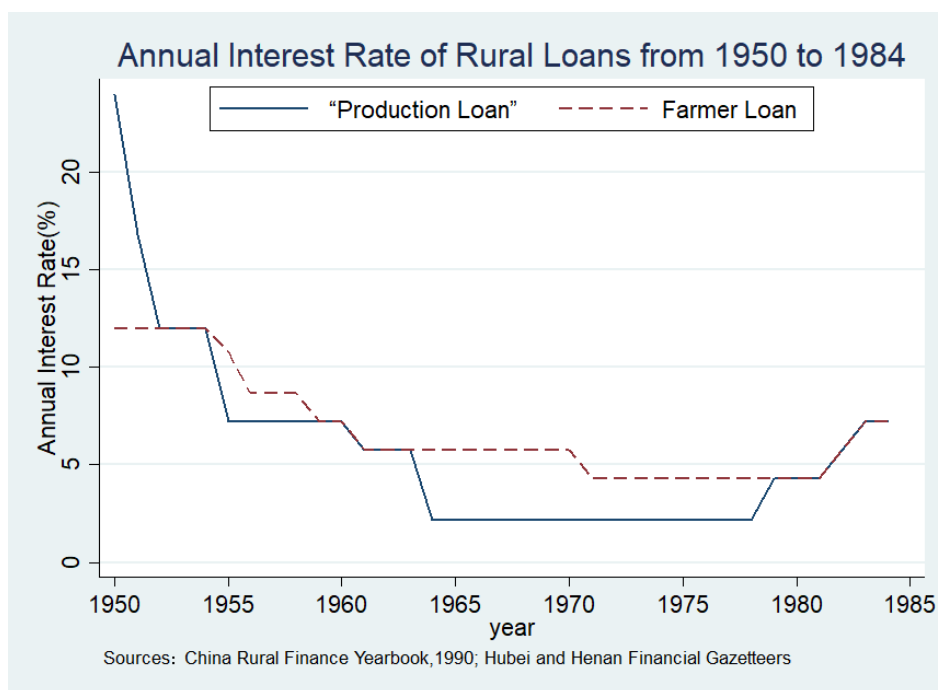


Figure 3-7 Annual Interest Rate of Agricultural Loans from 1950 to 1984

During the period of the Cultural Revolution, the interest rate of agricultural loans was greatly reduced. In October 1971, the monthly interest rate fell to 3.6‰. Furthermore, as shown in the figure 3-7, interests rate of farmer loans were higher than agricultural production loans. At the Third Plenary Session of the Eleventh Central Committee of China, Central government started to increase interest rates. Monthly interest rate of agriculture loans was raised to 6‰ in 1981 and to 6.6‰ in 1983. RCCs were allowed to float interest rate on bench interest rate of national banks in the middle of 1980s.

3.4 Agricultural Loan and Farmer Loan from 1950 to 1984

3.4.1 Agricultural Loans from 1950 to 1984

In 1950, national banks started to issue in-kind loans during the rural land reform period. According to the records of Gansu rural financial gazetteers¹, the total grain issued reached more than 360,000 shidan (75kg per dan) in 1950, and expanded to more than 434,000 shidan in the first half of 1951, which played a positive role in helping farmers resume production and fighting against disasters and famine. At the same time, Guangxi province began to issue agricultural loans to individual farmers. At the beginning of 1950, Central South Branch of the People's Bank of China allocated 2.1 million kilograms of rice (including 1.53 million kilograms of rice in kind) as agricultural loans to Guangxi province, in the hope of helping resume agricultural production and supporting rural production in Guangxi². In kind agricultural loans were mainly rice and needed to be repaid in kind. In April 1950, 1.16 million kilograms of agricultural loans were issued to poor farmers, mainly for building up small water-conservancy projects, supplementing farm tools and buying seeds and fertilizers. By the end of 1953, 19.95 million yuan of agricultural loans have been granted in Guangxi province,

¹ Recorded in Gansu rural financial gazetteers, Chapter 12, page 385.

² Recorded in Guangxi financial gazetteers, Chapter 12, page 417.

including 17.37 million yuan in cash, 7.52 million kilograms of in kind loans and 70,000 dan of fertilizers.

During the Great Leap Forward movement, rural areas launched “Four Constructions¹” campaign and “Three rural plants²” campaign. RCCs issued as many loans as possible and tried to meet the demand of farmers in that period of time.

In 1962, Central government put forward the Eight-Character³ Adjustment Policy. As it can be seen from Table A-1, the total loans declined from 1961 to 1962, but agricultural loans increased due to the adjustment policy. But agriculture loans kept stagnated and even became negative during the Cultural Revolution. The scale of agricultural loans grew by 120 million yuan per year in ten years, with negative growth rates in three years, 1966, 1968 and 1971 respectively.

3.4.2 RCC loans and Farmer loans from 1950 to 1984

Farmer loans change along with rural economic system and form of production organization. From 1950 to 1957, it was called farmer loans and later it was called commune loans from 1958 to 1980. After 1981, it was called leaseholding farmer loans.

Shown in figure 3-8, RCC loans grew relatively slower compared with RCC deposits from 1953 to 1979. The gap between RCC deposits and RCC loans kept to increase after 1962. RCC loans reached a peak during the Great Leap Forward movement and kept stagnated until 1979. Furthermore, it can be found out that the deposit to loan ratio of RCC declined from 1956 to 1957 and then began to rise during the Great Leap Forward movement and the Cultural Revolution. Deposit to loan ratio reached a peak in 1974 and then began to decline until 1978.

¹ Four constructions campaign refers to car construction, commune dining construction, hogs farms construction and steel construction.

² Three rural plants refers to fertilizer plants, farm tools plants and pesticide plants.

³ Eight Character policy refers to Adjustment, consolidation, enrichment and improvement.

After 1979, the deposit to loan ratio of credit cooperatives declined rapidly and recovered to around 2 in 1984.

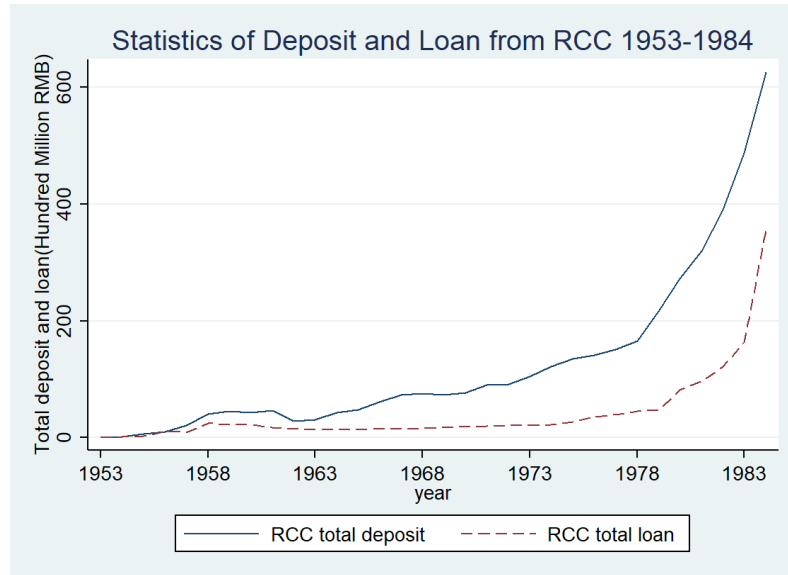


Figure 3-8 Statistics of Deposit and Loan from RCC from 1953 to 1984

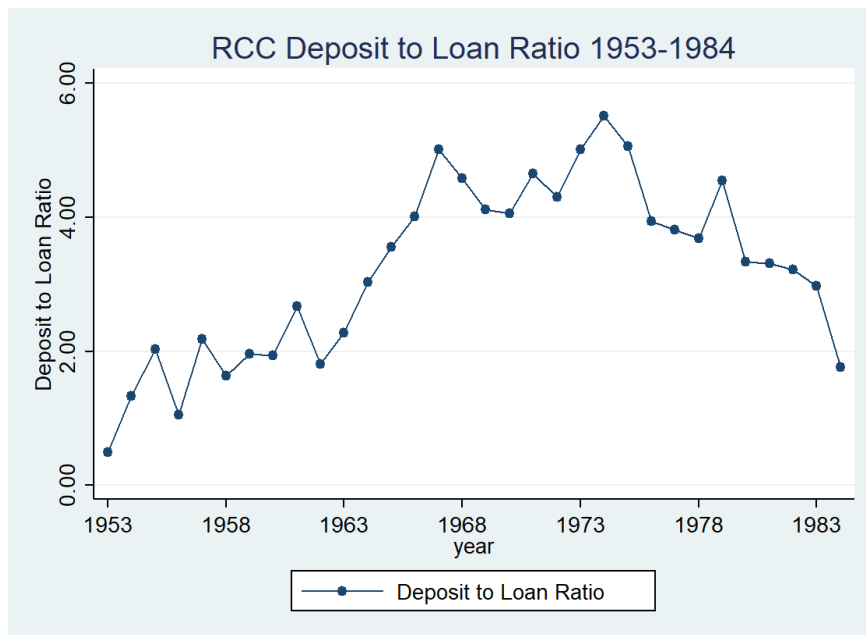


Figure 3-9 Deposit to Loan Ratio of RCC from 1953 to 1984

In terms of farmer loans, farmer loans were mainly issued by RCCs but farmer loans decreased during the Great Leap Forward movement because the credit division of the People's communes stopped issuing loans to commune members. On the other hand, collective agricultural loans developed quickly in this period. Farmer loans decreased year by year from 1971 to 1975 which was mainly due to the stagnation of rural credit development during the Cultural Revolution. After 1979, farmer loans started to increase rapidly as the Rural Household Responsibility system made farmer loans a new focus of bank loans. The annual growth rate of farmer loans from 1979 to 1988 was 48% (Shown in Table A-2). In summary, both RCC loans and farmer loans showed decline during the Great Leap Forward movement. The boost of agricultural loans and decline of farmer loans during the Great Leap Forward movement might reflect that farmers didn't benefit from the increase of agricultural loans and some other institutions occupied the resource. This might be explained by Redlining¹ and rural formal financial institutions kept withdrawing money from farmers and invested in urban areas and industrial field.

¹ Redlining is an unethical practice that puts services (financial and otherwise) out of reach for residents of certain areas based on race or ethnicity. It can be seen in the systematic denial of mortgages, insurance, loans and other financial services based on location rather than an individual's qualifications and creditworthiness.

3.5 Informal Lending in rural China from 1950 to 1978

In this part, I try to analyze the features of informal lending based on the documentation of financial gazetteers.

At the first National Finance Conference¹ after the PRC was founded, it was pointed out that informal lending should be encouraged in both old and new liberated rural areas. In December 1950, at the Second National Finance Conference, it was pointed out that informal lending was better than nonexistence of lending channels², although the interest rate was higher in informal market.

Besides, usury was quite rampant and typical in rural areas. According to a survey of 4,175 farmers in Dingxi, Yuzhong, Gaolan, Gangu, Tongwei, Huixian and Minle counties in Gansu province, more than 2,600 farmers bore high-interest debts. The monthly interest rate was usually 1% to 3% and some was as high as 10%³.

In July 1953, the State Council affirmed the rightful status of rural informal lending by releasing report "Instructions on Issuing Agricultural Loans". The State Council pointed out that "At present, national banks cannot fully meet the credit needs of farmers and RCCs were not generally developed, rural informal lending is still needed by farmers and should be allowed to exist and develop⁴."

According to the statistics in Zhenwu village of Santai county from 1950 to 1952 and in Minzhu village and Huopen village of Jianyang county in 1953, there were 375 lending cases among farmers, with 7.314 million yuan, 28 silver dollars, 102 kilograms of cotton, 22 feet of nankeen, 30 kilograms of hand yarn, 252 taels of raw silk, 2 dou⁵ of peanut seeds, 848 dou of grains and 3,634 kilograms of sweet potatoes. It played an important role in solving the

¹ National Finance Conference was convened and organized by the PBC in March 1950.

² Recorded in Sichuan financial gazetteers, Chapter 10, page 231.

³ Recorded in Gansu financial gazetteers, Chapter 12, page 385.

⁴ Recorded in Sichuan financial gazetteers, Chapter 10, page 231.

⁵ Dou is a unit of measurement in China. 1 Dou is equal to 12.5 kilograms.

production and living difficulties of poor farmers at that time. For example, during the spring ploughing period, 27 farmers had difficulties in their daily life in Huopen village and 20 households solved the problem through borrowing from friends and relatives¹.

Survey conducted in Northern Sichuan rural areas in 1952 recorded several changes of rural informal lending in Suining, Santai, Shehong, Guangyuan and Daxian counties compared with informal lending before the liberation of the PRC. Firstly, since the reduction of rent and withdrawal of mortgage in autumn 1950, the economy situation of farmers has improved. As a result, the majority of lenders have changed from landlords or rich farmers to normal farmers. Secondly, in-kind lending was still the majority form and cash lending cases were few, and each lending amount was small. Thirdly, almost all loans were interest-free. According to the survey of Dayu county², 98% of the loans bore no interest rate and only 2% bore interest rate. Fourthly, all loans had very short maturities, usually took three or six days to pay back. Fifthly, loans were used for in-kind agricultural tax (Gong Liang³ in Chinese), food, seed fertilizers and business. Among them, loans were used for self-consumption accounted for the largest proportion. For instance, it was 68% for consumption, 15% for in-kind agricultural tax, 8% for seed fertilizers purchase, and 9% for business and others in 1950. While in 1951, it was 57% for consumption, 10% for grain consumption and seed fertilizer purchase, and 33% for business and others⁴.

By the end of 1955, national banks and RCCs became the main supplier of rural credit, and then informal lending dropped to a subordinate position. To sum up, informal lending played an important role in restoring and developing the rural economy from 1950 to 1957.

From 1958 to 1962, rural economy suffered serious setbacks and national banks and RCCs were seriously affected due to the influence of “blind command, exaggeration and

¹ Recorded in Sichuan financial gazetteers, Chapter 10, page 232.

² Recorded in Sichuan financial gazetteers, Chapter 10, page 233.

³ After the founding of the PRC, in order to release the burden farmers, agricultural taxes were still levied in kind. Gong Liang is another term for agricultural tax.

⁴ Recorded in Sichuan financial gazetteers, Chapter 10, page 233.

Communism” during the Great Leap Forward movement. According to the statistics of Ya’an, Fuling, Neijiang and Wanxian city at the end of December 1962¹, 10% of RCCs were unable to issue loans, 31% were unable to pay back deposits of farmers, and later closed frequently. As the main channel of rural credit was severely weakened, poor farmers had difficulty in borrowing money. Consequently, market demand exceeded supply, interest rates of rural informal lending had generally risen. During the three-year economic hardship, usury began to develop again. There were two main types of usury in the market: in-kind usury and cash usury. According to the survey of 78 production teams in three counties of Daxian, Deyang and Dayi in 1963, there were 32 households issued usury which accounted for 7.2% of total households, and the size decreased to 13 households in 1964 which accounted for 2.9% of total household. On February 25 in 1964, the Central Committee approved “*Report on Usury Activities in Urban and Rural Areas and Measures to Ban Usury*” conducted by Deng Zihui, it requested all localities to resolutely crack down and ban usury activities². However, against usury activities in rural areas were later regarded as “class enemies”, consequently, it made usury activities covert to underground, but also made normal informal lending difficult to develop.

In May 1981, the head office of ABC handed in “*The Report About Rural Lending*” to the State Council, which pointed out “When dealing with the credit relationship in the countryside, under the condition that national banks and RCCs are dominant, it is beneficial to allow the existence of legitimate loans between the collective and members, and between members and members, as a supplement to ABC and RCC.”³.

¹ Recorded in Sichuan financial gazetteers, Chapter 10, page 234.

² Recorded in Sichuan financial gazetteers, Chapter 10, page 234.

³ Recorded in Sichuan financial gazetteers, Chapter 10, page 236.

CHAPTER 4 ECONOMETRIC ANALYSIS OF AGRICULTURAL CREDIT

4.1 Analysis of Provincial Agricultural Loan from 1950 to 1984

In Chapter 3 I provided an overview of credit conditions during the 1950-1979/1984 period. I identified several key factors that affected the agricultural loan balances (demand and supply) including the Great Leap Forward movement, the Cultural Revolution, various floods and droughts, and credit reforms with the multiple establishments of the Agricultural Bank of China and Rural Credit Cooperatives. In this chapter I econometrically investigate the relationships between these exogenous policy effects on agricultural credit. My base measure is the amount of agricultural debt outstanding which is the quasi-equilibrium balance of demand and supply.

4.1.1 Data Resources

I collected data of 16 provinces from *A compilation of 60 year statistics in China* and from local financial gazetteers which provide continuous and complete agricultural loans data from 1950 to 1984. Data of Hubei and Anhui province come from local financial gazetteers while data of Guangxi, Heilongjiang, Liaoning, Sichuan, Yunnan, Gansu, Shandong, Shanxi, Shannxi, Zhejiang, Guizhou, Henan, Jilin and Jiangxi province come from *A compilation of 60 year statistics in China* published by National Bureau of Statistics in 2010. Among 16 provinces, 4 provinces belong to the Middle region, 6 provinces belong to the Eastern region and 6 provinces belong to the Western region. In the regression, I take the natural logarithms of nominal agricultural loans as dependent variable.

Table 4-1 Annual growth rate of Agricultural Loans in 16 provinces from 1950 to 1984

Province	1951-1952	1955-1956	1958-1961	1966-1971	1972-1976
Hubei	140%	122%	11%	2%	18%
Guangxi	1572%	59%	1%	-2%	23%
Heilongjiang		292%	21%	-15%	16%
Liaoning	144%	143%	20%	-2%	8%
Sichuan	118%	155%	26%	-9%	20%
Anhui	346%	161%	14%	-11%	6%
Yunnan	230%	142%	-2%	-4%	15%
Gansu	90%	132%	8%	-10%	35%
Shandong		188%	11%	-9%	14%
Shanxi	172%	203%	-4%	-11%	17%
Shannxi	61%	147%	-16%	2%	21%
Zhejiang	408%	116%	24%	8%	10%
Guizhou	120%	190%	25%	-3%	7%
Henan	54%	244%	26%	-14%	12%
Jilin	199%	290%	25%	-2%	8%
Jiangxi	-17%	238%	8%	-7%	12%
Mean	260%	176%	13%	-5%	15%
Min	-17%	59%	-16%	-15%	6%
Max	1572%	292%	26%	8%	35%

Source: A compilation of local financial gazetteers.

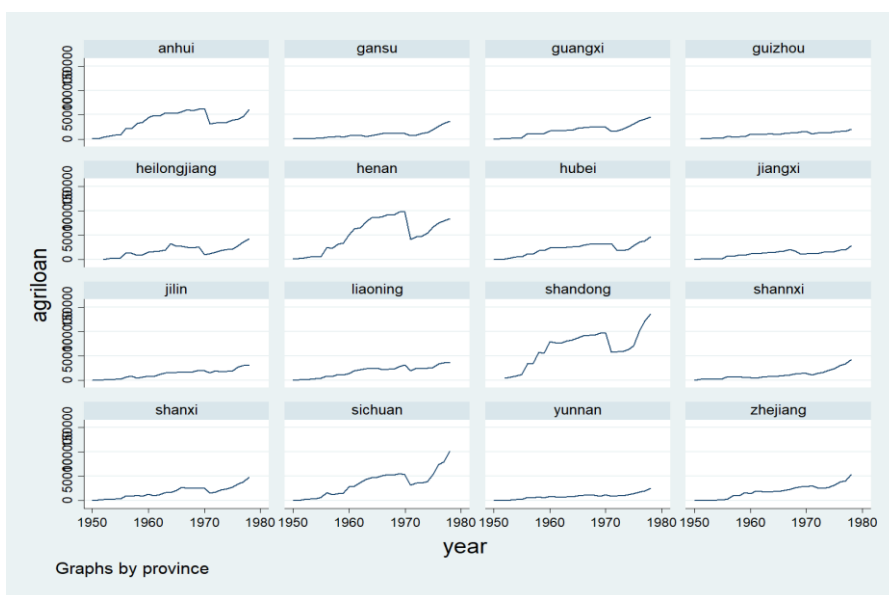


Figure 4-1 Agricultural Loans of 16 Provinces from 1950 to 1984

In order to study the influencing factors of formal credit, Firstly, I sorted out the grain output for 16 provinces. The unit for grain output is 10 thousand tons. The data of grain output comes from the book *A compilation of 60 year statistics in China*. Secondly, natural disasters play an important factor on formal credit supply. Drought and Flood are two main disasters which significantly affect crop production in China. According to local gazetteers, Central government always expanded credit supply to reduce potential losses from natural disasters. For instance, serious floods occurred in some counties of Liaoxi Province¹ in September 1952. The branch of Liaoxi Province decided to issue loans for vegetable seeds in the disaster area to solve the financial difficulties of purchasing vegetable seeds for farmers. Another example is recorded in Guangxi province², Guangxi was hit by a severe drought in 1963 and in order to against drought, the PBC of Guangxi province arranged loans for four times with a total amount of 54.8 million yuan. In this paper, I use “areas covered” and “area affected” to describe different extents of damage in crop production.³ I create drought affected index and flood affected index to reflect the weather damage in grain production. The drought and flood data come from *Forty years of water conservancy construction achievements-Statistics of water conservancy* published by the Department of Planning in Ministry of Water Conservancy in 1989.

The index formula is as follows:

$$\text{Drought affected index} = \text{Drought Affected Area} / \text{Total Sown Area} \quad (4.1)$$

$$\text{Flood affected index} = \text{Flood Affected Area} / \text{Total Sown Area} \quad (4.2)$$

¹ In June 1954, Liaoxi province and Liaodong province merged into Liaoning province. And the flood information was recorded in Liaoning financial gazetteers, Chapter 3, page 104.

² Recorded in Guangxi financial gazetteers, Chapter 12, page 420.

³ The main types of natural disasters in China are drought and flood. To clarify, areas covered means around 10% of the total sown areas were covered by natural disaster and areas affected means around 30% of the total sown areas were affected by natural disasters.

4.1.2 Econometrics analysis of agricultural Loans from 1950 to 1984

In this part, I apply OLS regression to study influencing factors of formal credit. I take year and province as dummy variables and create 5 policy dummy variables to reflect the policy effects on credit. Furthermore, I add drought and flood affected index and lag one phase of grain output per capita as three continuous variables in this regression. I tried the rural population ratio and sown area per capita as continuous variables in this regression but neither were significant so I decided to remove these two variables in the regression.

Table 4-2 Descriptive statistics of Agricultural loans used in analysis

Variable Names	Observation Number (N)	Mean	Std.dev.	Min .	Max.
Agricultural loan (10 thousand yuan)	590	32642.18	43729.44	1	531849
Grain output per capita(ton)	595	0.37	0.15	0	2
Drought affected area (%)	593	0.05	0.07	0	0.47
Flood affected area (%)	593	0.02	0.04	0	0.40
The first establishment of ABC (0/1)	51	0.09	0.28	0	1
The second establishment of ABC (0/1)	51	0.09	0.28	0	1
The Great Leap Forward (0/1)	68	0.11	0.32	0	1
The early stage of Cultural Revolution (0/1)	102	0.17	0.38	0	1
The late stage of Cultural Revolution (0/1)	85	0.14	0.35	0	1

In terms of 5 policy dummy variables, I create *abcs*, *abct*, *glf*, *culre* and *culrelate*. Variables *abcs* and *abct* represent for the establishment and existence of the Agricultural Bank of China. I set the dummy variable equal to 1 if ABC was established or existed in certain years. *Abcs* stands for ABC was established 1955 and lasted until 1957 when Central Committee decided to abolish it. *Abct* stands for ABC was re-established in 1963 and lasted until 1965. In order to study the effect of the Great Leap Forward movement, I create *glf* as a policy dummy variable. The Great Leap Forward started in 1958 and officially ended in 1960, but considering the lagged effect of this historical movement, I set 1958, 1959, 1960 and 1961 equal to 1 as if the

Great Leap Forward movement happened. What needs to be mentioned is that three-year economic hardship started in 1959 and ended in 1961, in order to avoid collinearity problem, I only keep *glf* in this model. As for the 10-year Cultural Revolution, I divided 10 year into 2 stages by taking *913 accident*¹ as a watershed moment. One is *culre* which stands for the early stage of the Cultural Revolution which started from 1966 to 1971, while *culrelate* stands for the late stage of the Cultural Revolution. The end of Lin Biao group marked the bankruptcy of the Cultural Revolution and Central government started to slightly adjust errors. To summary, all 5 policy dummy variables are time-invariant.

My estimation consists of three equations, all of which include the three continuous variables to study the importance of grain production and natural disasters. In the first estimation, no policy dummy is included and in the second and third estimation all policy dummies are included.

The full regression function (equation 4.3) is the following:

$$\ln(agri_{it}) = \alpha_0 + \beta_1 graincp_{i,t-1} + \beta_2 drind_{it} + \beta_3 flind_{it} + \beta_4 abcs + \beta_5 abct + \beta_6 glf + \beta_7 culre + \beta_8 culrelate + \beta_9 year_t + \beta_{10} procode_i + u_{it} \quad (4.3)$$

Where *i* indexes a province and *t* indexes a year, and *agri_{it}* stands for nominal agricultural loans, respectively. The expression *graincp_{i,t-1}* refers to lag one phase of grain output per capita. I lag the grain output per capita by 1 year because the grain output per capita in a given year does not affect credit until the subsequent year. Furthermore, both *drind_{it}* and *flind_{it}* are weather variables. According to gazetteers, Central government always issued and expanded credit supply when natural disasters happen. The reaction to disasters are quick and contemporaneous, then I maintain the current disaster index into this regression. *Abcs*, *abct*, *glf*, *culre* and *culrelate* stand for political variables and all of which are time-invariant, and *year_t*,

¹ 913 Accident:13 September in 1971, vice chairman of the PRC Lin Biao fled to Mongolia with his followers. The airplane crashed in Windur Khan. This event marked the collapse of Lin Biao's counter-revolutionary group and objectively declared the bankruptcy of the "Cultural Revolution" both in theory and practice.

stands for the year dummies and $procode_i$ stands for the province dummies. Finally, u_{it} is the error term.

In terms of the endogenous problems between grain output value and agricultural loan amount, I use lag of grain output per capita to avoid endogenous problem. Last year of grain output value might affect loan supply of current year, while last year grain output value will not be affected by current year loan supply. Then the endogenous problem can be avoided.

In terms of the collinearity problem, I conducted variation inflation factor (VIF) to check the severity of multicollinearity. It showed a slight collinearity problem between $culre$ and $culrelate$ (value is bigger than 10). But putting important dummy variables are essential in historical problem analysis, so I chose to keep these two variables into this regression.

Table 4-3 Estimation of agricultural loan supply from 1950 to 1984

Dependent Variable= Agricultural Loan(Natural Logarithm)			
Independent Variables	(1) No policy dummy	(2) OLS	(3) OLS Robust
Constant	7.298*** (0.132)	7.298*** (0.132)	7.298*** (0.214)
Graincp(lag)	-0.672** (0.264)	-0.672** (0.264)	-0.672** (0.300)
drind	0.313 (0.270)	0.313 (0.270)	0.313 (0.224)
flind	0.912** (0.426)	0.912** (0.426)	0.912** (0.411)
abcs	....	2.677*** (0.122)	2.677*** (0.202)
abct	...	3.529*** (0.120)	3.529*** (0.201)
glf	...	3.178*** (0.123)	3.178*** (0.213)
culre	...	3.334*** (0.121)	3.334*** (0.203)
culrelate	...	4.008*** (0.122)	4.008*** (0.203)
year = 1952	0.595*** (0.121)	0.595*** (0.121)	0.595** (0.247)
year = 1953	1.278*** (0.120)	1.278*** (0.120)	1.278*** (0.215)
year = 1954	1.418*** (0.121)	1.418*** (0.121)	1.418*** (0.207)
year = 1955	1.698*** (0.120)	-0.979*** (0.111)	-0.979*** (0.0856)
year = 1956	2.723*** (0.122)	0.0467 (0.111)	0.0467 (0.0993)
year = 1957	2.677*** (0.122)	....	...
year = 1958	2.897*** (0.120)	-0.281** (0.114)	-0.281** (0.122)
year = 1959	2.867*** (0.122)	-0.311*** (0.114)	-0.311*** (0.119)
year = 1960	3.212*** (0.123)	0.0337 (0.112)	0.0337 (0.112)
year = 1961	3.178*** (0.123)	...	...
year = 1962	3.245*** (0.121)	3.245*** (0.121)	3.245*** (0.203)
year = 1963	3.326***	-0.203*	-0.203**

	(0.122)	(0.112)	(0.100)
year = 1964	3.430***	-0.0996	-0.0996
	(0.120)	(0.111)	(0.0969)
year = 1965	3.529***	...	...
	(0.120)		
year = 1966	3.638***	0.305***	0.305***
	(0.120)	(0.110)	(0.0784)
year = 1967	3.714***	0.381***	0.381***
	(0.120)	(0.111)	(0.0761)
year = 1968	3.713***	0.379***	0.379***
	(0.120)	(0.111)	(0.0725)
year = 1969	3.719***	0.385***	0.385***
	(0.120)	(0.111)	(0.0835)
year = 1970	3.664***	0.330***	0.330***
	(0.119)	(0.112)	(0.0980)
year = 1971	3.334***	...	...
	(0.121)		
year = 1972	3.409***	-0.599***	-0.599***
	(0.123)	(0.112)	(0.0696)
year = 1973	3.480***	-0.528***	-0.528***
	(0.120)	(0.112)	(0.0658)
year = 1974	3.608***	-0.400***	-0.400***
	(0.121)	(0.111)	(0.0673)
year = 1975	3.756***	-0.252**	-0.252***
	(0.121)	(0.111)	(0.0689)
year = 1976	4.008***	...	...
	(0.122)		
year = 1977	4.084***	4.084***	4.084***
	(0.121)	(0.121)	(0.203)
year = 1978	4.247***	4.247***	4.247***
	(0.124)	(0.124)	(0.202)
year = 1979	4.412***	4.412***	4.412***
	(0.123)	(0.123)	(0.205)
year = 1980	4.568***	4.568***	4.568***
	(0.125)	(0.125)	(0.217)
year = 1981	4.639***	4.639***	4.639***
	(0.124)	(0.124)	(0.215)
year = 1982	4.784***	4.784***	4.784***
	(0.123)	(0.123)	(0.217)
year = 1983	4.914***	4.914***	4.914***
	(0.125)	(0.125)	(0.226)
year = 1984	5.350***	5.350***	5.350***
	(0.129)	(0.129)	(0.239)
province = 2, gansu	-1.336***	-1.336***	-1.336***
	(0.0801)	(0.0801)	(0.0824)
province = 3, guangxi	-0.680***	-0.680***	-0.680***
	(0.0787)	(0.0787)	(0.0694)

province = 4, guizhou	-1.345*** (0.0803)	-1.345*** (0.0803)	-1.345*** (0.0703)
province = 5, heilongjiang	-0.423*** (0.127)	-0.423*** (0.127)	-0.423*** (0.140)
province = 6, henan	0.226*** (0.0798)	0.226*** (0.0798)	0.226*** (0.101)
province = 7, hubei	-0.420*** (0.0780)	-0.420*** (0.0780)	-0.420*** (0.0707)
province = 8, jiangxi	-0.992*** (0.0803)	-0.992*** (0.0803)	-0.992*** (0.0763)
province = 9, jilin	-0.859*** (0.104)	-0.859*** (0.104)	-0.859*** (0.105)
province = 10, liaoning	-0.602*** (0.0791)	-0.602*** (0.0791)	-0.602*** (0.0678)
province = 11, shandong	0.437*** (0.0801)	0.437*** (0.0801)	0.437*** (0.0807)
province = 12, shannxi	-1.079*** (0.0781)	-1.079*** (0.0781)	-1.079*** (0.105)
province = 13, shanxi	-0.657*** (0.0804)	-0.657*** (0.0804)	-0.657*** (0.0764)
province = 14, sichuan	-0.0101 (0.0835)	-0.0101 (0.0835)	-0.0101 (0.0852)
province = 15, yunnan	-1.269*** (0.0793)	-1.269*** (0.0793)	-1.269*** (0.0759)
province = 16, zhejiang	-0.561*** (0.0801)	-0.561*** (0.0801)	-0.561*** (0.109)
Observations	539	539	539
Adjusted R-squared	0.942	0.942	0.948

note- Figures in parenthesis are standard errors.

Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

4.1.3 Estimation Results

Table 4-3 reports the estimation results. According to the estimation 1-2 of equation (4.3), the proxy for grain output per capita is consistently significant at a 1% confidence level. Flood index is significant at a 5% confidence level whereas drought index is not significant. The signs of these continuous variables are all consistent with the direction hypothesized. For

instance, the negative coefficient of grain output per capita means that the increase in one ton of grain output per capita in last year will decrease the agricultural loan by 67%. This supports the notion that the increase of grain output value will increase income of farmers, consequently, it might reduce farmers' dependence on formal credit. Both signs of weather disasters are positive which also support the hypothesis. One percent increase in flood affected ratio over total sown areas will increase the agricultural loan by 91% and 1% increase in drought affected ratio will increase the agricultural loan by 31%.

In terms of 5 policy dummies variables, all policy dummies show positive effect on agricultural loans. The establishment of ABC in 1955 and 1957 imposed a positive effect on agricultural loans and the coefficient of second establishment of ABC is slightly larger than the first establishment which might due to the relatively mature development of ABC. For the Great Leap Forward movement and the Cultural Revolution, all signs of variables are positive. During the Great Leap Forward movement, credit data in provinces was boosted under the atmosphere of exaggeration even if agriculture development fell behind. While interestingly, agricultural loans increased during the Cultural Revolution was mainly due to the slow development of agriculture. The coefficient of late stage of Cultural Revolution is slightly larger than the early stage of the Cultural Revolution which might affect Central government started to adjust mistakes after Lin Biao group collapsed.

In order to better analyze the estimation with local financial gazetteers, I create the coefficient table for 16 provinces from 1950 to 1984. Considering the recorded data has affected the historical and political impacts on formal credit, I delete the policy effect from the second estimation of equation (4.3) to study the condition if those policies haven't been carried out.

Compared with two coefficient tables, all five policy dummies impose positive impact on agricultural loans among all provinces. The first coefficient table implies if ABC was established, the Great Leap Forward movement and the Cultural Revolution happened, while

the second table implies the perfect condition if all policy and historical movements didn't happen. The comparison shows that policy dummies absorb the year effects to these 5 policy dummies.

The coefficients of 16 provinces don't vary a lot among different provinces. Shandong, Henan, Sichuan and Anhui provinces have significantly higher agricultural loans than the rest 12 provinces. Furthermore, the coefficient in Sichuan province is not significant while the coefficients of 15 provinces are all significant at a 1% confidence level. The sign of Sichuan province is negative in late stage of the Cultural Revolution which is also consistent with local gazetteer records. According to Sichuan financial gazetteers¹, RCCs had been paralyzed and loan issued every year was less than 100 million yuan, as a result, credit per mu was less than 1 yuan.

¹ Recorded in Sichuan financial gazetteers, Chapter 9, page 217.

Table 4-4 Statistics of Coefficients under policy effects

Year	An hui	Gan su	Guan g xi	Gui zhou	Heilo ng jiang	He nan	Hu bei	Jiang xi	Ji lin	Liao ning	Shan dong	Shan nxi	Shan xi	Si chuan	Yun nan	Zhe jiang
1951	7.30	5.96	6.62	5.95	6.88	7.52	6.88	6.31	6.44	6.70	7.74	6.22	6.64	7.29	6.03	6.74
1952	7.89	6.56	7.21	6.55	7.47	8.12	7.47	6.90	7.03	7.29	8.33	6.81	7.24	7.88	6.62	7.33
1953	8.58	7.24	7.90	7.23	8.15	8.80	8.16	7.58	7.72	7.97	9.01	7.50	7.92	8.57	7.31	8.02
1954	8.72	7.38	8.04	7.37	8.29	8.94	8.30	7.72	7.86	8.11	9.15	7.64	8.06	8.71	7.45	8.16
1955	9.00	7.66	8.32	7.65	8.57	9.22	8.58	8.00	8.14	8.39	9.43	7.92	8.34	8.99	7.73	8.44
1956	10.02	8.69	9.34	8.68	9.60	10.25	9.60	9.03	9.16	9.42	10.46	8.94	9.36	10.01	8.75	9.46
1957	9.98	8.64	9.30	8.63	9.55	10.20	9.56	8.98	9.12	9.37	10.41	8.90	9.32	9.96	8.71	9.41
1958	10.20	8.86	9.52	8.85	9.77	10.42	9.78	9.20	9.34	9.59	10.63	9.12	9.54	10.18	8.93	9.63
1959	10.17	8.83	9.49	8.82	9.74	10.39	9.75	9.17	9.31	9.56	10.60	9.09	9.51	10.15	8.90	9.60
1960	10.51	9.17	9.83	9.17	10.09	10.74	10.09	9.52	9.65	9.91	10.95	9.43	9.85	10.50	9.24	9.95
1961	10.48	9.14	9.80	9.13	10.05	10.70	10.06	9.48	9.62	9.87	10.91	9.40	9.82	10.47	9.21	9.92
1962	10.54	9.21	9.86	9.20	10.12	10.77	10.12	9.55	9.68	9.94	10.98	9.46	9.89	10.53	9.27	9.98
1963	10.62	9.29	9.94	9.28	10.20	10.85	10.20	9.63	9.77	10.02	11.06	9.55	9.97	10.61	9.36	10.06
1964	10.73	9.39	10.05	9.38	10.31	10.95	10.31	9.74	9.87	10.13	11.17	9.65	10.07	10.72	9.46	10.17
1965	10.83	9.49	10.15	9.48	10.40	11.05	10.41	9.84	9.97	10.23	11.26	9.75	10.17	10.82	9.56	10.27
1966	10.94	9.60	10.26	9.59	10.51	11.16	10.52	9.94	10.08	10.33	11.37	9.86	10.28	10.93	9.67	10.38
1967	11.01	9.68	10.33	9.67	10.59	11.24	10.59	10.02	10.15	10.41	11.45	9.93	10.36	11.00	9.74	10.45
1968	11.01	9.68	10.33	9.67	10.59	11.24	10.59	10.02	10.15	10.41	11.45	9.93	10.35	11.00	9.74	10.45
1969	11.02	9.68	10.34	9.67	10.59	11.24	10.60	10.03	10.16	10.42	11.45	9.94	10.36	11.01	9.75	10.46
1970	10.96	9.63	10.28	9.62	10.54	11.19	10.54	9.97	10.10	10.36	11.40	9.88	10.31	10.95	9.69	10.40
1971	10.63	9.30	9.95	9.29	10.21	10.86	10.21	9.64	9.77	10.03	11.07	9.55	9.98	10.62	9.36	10.07
1972	10.71	9.37	10.03	9.36	10.28	10.93	10.29	9.72	9.85	10.11	11.14	9.63	10.05	10.70	9.44	10.15
1973	10.78	9.44	10.10	9.43	10.36	11.00	10.36	9.79	9.92	10.18	11.22	9.70	10.12	10.77	9.51	10.22
1974	10.91	9.57	10.23	9.56	10.48	11.13	10.49	9.91	10.05	10.30	11.34	9.83	10.25	10.90	9.64	10.35
1975	11.05	9.72	10.37	9.71	10.63	11.28	10.63	10.06	10.20	10.45	11.49	9.98	10.40	11.04	9.79	10.49
1976	11.31	9.97	10.63	9.96	10.88	11.53	10.89	10.31	10.45	10.70	11.74	10.23	10.65	11.30	10.04	10.75
1977	11.38	10.05	10.70	10.04	10.96	11.61	10.96	10.39	10.52	10.78	11.82	10.30	10.73	11.37	10.11	10.82
1978	11.55	10.21	10.87	10.20	11.12	11.77	11.13	10.55	10.69	10.94	11.98	10.47	10.89	11.53	10.28	10.98
1979	11.71	10.37	11.03	10.37	11.29	11.94	11.29	10.72	10.85	11.11	12.15	10.63	11.05	11.70	10.44	11.15

1980	11.87	10.53	11.19	10.52	11.44	12.09	11.45	10.87	11.01	11.26	12.30	10.79	11.21	11.86	10.60	11.31
1981	11.94	10.60	11.26	10.59	11.51	12.16	11.52	10.95	11.08	11.34	12.37	10.86	11.28	11.93	10.67	11.38
1982	12.08	10.75	11.40	10.74	11.66	12.31	11.66	11.09	11.22	11.48	12.52	11.00	11.43	12.07	10.81	11.52
1983	12.21	10.88	11.53	10.87	11.79	12.44	11.79	11.22	11.35	11.61	12.65	11.13	11.56	12.20	10.94	11.65
1984	12.65	11.31	11.97	11.30	12.23	12.87	12.23	11.66	11.79	12.05	13.09	11.57	11.99	12.64	11.38	12.09

Table 4-5 Statistics of Coefficients without policy effects

Year	An hui	Gan su	Guan g xi	Gui zhou	Heilo ng jiang	He nan	Hu bei	Jiang xi	jilin	Liao ning	Shan dong	Shan nxi	Shan xi	Si chuan	Yun nan	Zhe jiang
1951	7.30	5.96	6.62	5.95	6.88	7.52	6.88	6.31	6.44	6.70	7.74	6.22	6.64	7.29	6.03	6.74
1952	7.89	6.56	7.21	6.55	7.47	8.12	7.47	6.90	7.03	7.29	8.33	6.81	7.24	7.88	6.62	7.33
1953	8.58	7.24	7.90	7.23	8.15	8.80	8.16	7.58	7.72	7.97	9.01	7.50	7.92	8.57	7.31	8.02
1954	8.72	7.38	8.04	7.37	8.29	8.94	8.30	7.72	7.86	8.11	9.15	7.64	8.06	8.71	7.45	8.16
1955	6.32	4.98	5.64	4.97	5.90	6.55	5.90	5.33	5.46	5.72	6.76	5.24	5.66	6.31	5.05	5.76
1956	7.34	6.01	6.66	6.00	6.92	7.57	6.92	6.35	6.49	6.74	7.78	6.27	6.69	7.33	6.08	6.78
1957	7.30	5.96	6.62	5.95	6.88	7.52	6.88	6.31	6.44	6.70	7.74	6.22	6.64	7.29	6.03	6.74
1958	7.02	5.68	6.34	5.67	6.59	7.24	6.60	6.03	6.16	6.42	7.45	5.94	6.36	7.01	5.75	6.46
1959	6.99	5.65	6.31	5.64	6.56	7.21	6.57	6.00	6.13	6.39	7.42	5.91	6.33	6.98	5.72	6.43
1960	7.33	6.00	6.65	5.99	6.91	7.56	6.91	6.34	6.47	6.73	7.77	6.25	6.67	7.32	6.06	6.77
1961	7.30	5.96	6.62	5.95	6.88	7.52	6.88	6.31	6.44	6.70	7.74	6.22	6.64	7.29	6.03	6.74
1962	10.54	9.21	9.86	9.20	10.12	10.77	10.12	9.55	9.68	9.94	10.98	9.46	9.89	10.53	9.27	9.98
1963	7.10	5.76	6.42	5.75	6.67	7.32	6.68	6.10	6.24	6.49	7.53	6.02	6.44	7.08	5.83	6.53
1964	7.20	5.86	6.52	5.85	6.78	7.42	6.78	6.21	6.34	6.60	7.64	6.12	6.54	7.19	5.93	6.64
1965	7.30	5.96	6.62	5.95	6.88	7.52	6.88	6.31	6.44	6.70	7.74	6.22	6.64	7.29	6.03	6.74
1966	7.60	6.27	6.92	6.26	7.18	7.83	7.18	6.61	6.74	7.00	8.04	6.52	6.95	7.59	6.33	7.04
1967	7.68	6.34	7.00	6.33	7.26	7.91	7.26	6.69	6.82	7.08	8.12	6.60	7.02	7.67	6.41	7.12
1968	7.68	6.34	7.00	6.33	7.25	7.90	7.26	6.69	6.82	7.08	8.11	6.60	7.02	7.67	6.41	7.12
1969	7.68	6.35	7.00	6.34	7.26	7.91	7.26	6.69	6.82	7.08	8.12	6.60	7.03	7.67	6.41	7.12
1970	7.63	6.29	6.95	6.28	7.21	7.85	7.21	6.64	6.77	7.03	8.07	6.55	6.97	7.62	6.36	7.07
1971	7.30	5.96	6.62	5.95	6.88	7.52	6.88	6.31	6.44	6.70	7.74	6.22	6.64	7.29	6.03	6.74
1972	6.70	5.36	6.02	5.35	6.28	6.93	6.28	5.71	5.84	6.10	7.14	5.62	6.04	6.69	5.43	6.14
1973	6.77	5.43	6.09	5.43	6.35	7.00	6.35	5.78	5.91	6.17	7.21	5.69	6.11	6.76	5.50	6.21

1974	6.90	5.56	6.22	5.55	6.48	7.12	6.48	5.91	6.04	6.30	7.34	5.82	6.24	6.89	5.63	6.34
1975	7.05	5.71	6.37	5.70	6.62	7.27	6.63	6.05	6.19	6.44	7.48	5.97	6.39	7.04	5.78	6.49
1976	7.30	5.96	6.62	5.95	6.88	7.52	6.88	6.31	6.44	6.70	7.74	6.22	6.64	7.29	6.03	6.74
1977	11.38	10.05	10.70	10.04	10.96	11.61	10.96	10.39	10.52	10.78	11.82	10.30	10.73	11.37	10.11	10.82
1978	11.55	10.21	10.87	10.20	11.12	11.77	11.13	10.55	10.69	10.94	11.98	10.47	10.89	11.53	10.28	10.98
1979	11.71	10.37	11.03	10.37	11.29	11.94	11.29	10.72	10.85	11.11	12.15	10.63	11.05	11.70	10.44	11.15
1980	11.87	10.53	11.19	10.52	11.44	12.09	11.45	10.87	11.01	11.26	12.30	10.79	11.21	11.86	10.60	11.31
1981	11.94	10.60	11.26	10.59	11.51	12.16	11.52	10.95	11.08	11.34	12.37	10.86	11.28	11.93	10.67	11.38
1982	12.08	10.75	11.40	10.74	11.66	12.31	11.66	11.09	11.22	11.48	12.52	11.00	11.43	12.07	10.81	11.52
1983	12.21	10.88	11.53	10.87	11.79	12.44	11.79	11.22	11.35	11.61	12.65	11.13	11.56	12.20	10.94	11.65
1984	12.65	11.31	11.97	11.30	12.23	12.87	12.23	11.66	11.79	12.05	13.09	11.57	11.99	12.64	11.38	12.09

4.1.4 Stories from provincial financial gazetteers

Combining with 9 provincial financial gazetteers I collected (Henan, Yunnan, Sichuan, Hubei, Guangxi, Zhejiang, Gansu, Liaoning and Heilongjiang province), more interesting stories are revealed.

During the Great Leap Forward movement, most of the provinces increased credit supply and some provinces even increased credit in kind. According to Gansu financial gazetteers¹, communes and production brigades mandatorily collected farm tools, bricks and tiles and discounted them as deposits and then handed over to production brigades as credit. The balance of saving in kind has reached 120 million yuan in Gansu province. Why credit supply increased, one reason is under the wind of exaggeration and another is the credit management was transferred to lower level of administration². For instance, Liaoning province issued 43.35 million yuan of agricultural loans, with a loan balance of 99.7 million yuan at the end of the year, an increase of 31.41 million yuan over 1957.

Furthermore, usage of loans varies among different provinces. In Zhejiang Province, agricultural loans were mainly used in agricultural infrastructure to improve irrigation, water conservancy and fisheries. For instance, over 37.52 billion yuan was issued in Zhejiang province from 1958 to 1960, consequently, 690 new fishing vessels were created³. While loans were mainly used for communal dining, hogs farms and chicken farms in Liaoning province⁴.

But on the other side, some provinces encountered imbalance of credit supply and demand and massive credit losses. 70.6% of RCCs encountered loss in Zhejiang province and 44% of RCCs were unable to undertake loans to poor members due to insufficient fund. Another problem occurred during this period of time was some provinces reclaimed too many loans.

¹ Recorded in Gansu| Province financial gazetteers, Chapter 12, page 396.

² Recorded in Zhejiang Province financial gazetteers, Chapter 4, page 203.

³ Recorded in Zhejiang Province financial gazetteers, Chapter 4, page 244.

⁴ Recorded in Liaoning Province financial gazetteers, Chapter 3, page 112.

For instance, Heilongjiang province issued 77.6 million yuan of agricultural loans and reclaimed 117.03 million yuan in 1958. The recovery rate of loans was 150.8%, 41% higher than that in 1957¹.

Another interesting aspect is about the change of structure of agricultural loans. Agricultural loan consists of collective loan, commune loans, township enterprise loan and special purpose loans. The proportion of collective loans has increased during this period of time, while the proportion of farmer loans decreased. Take Yunnan as an example, collective loans in 1960 has increased by 66.7% compared with 1957. Sichuan province also started to increase collective loans after 1955. Mentioned in Henan rural financial gazetteers², banks seldom issued loans to farmers after People's Commune Movement. After 1961, collective loans in Yunnan province started to decline year by year until 1970.

Year 1962 was a turning point. In 1962, Central government started to collect unpaid loans and put 90% of agricultural loans into production. Central government collected loans more than issuing loans and as a result, loan difference reached 0.33 billion yuan, consequently, the amount of currency in circulation decreased by 40 million yuan.

During the Cultural Revolution, some provinces issued more collective loans to support agriculture mechanism. In 1975, Heilongjiang province issued a total of 79.24 million yuan in equipment loans for agriculture production, accounting for 49.6% of the total agricultural loans issued in that year, an increase of 14.7% over 1974³. According to Liaoning financial gazetteers⁴, Liaoning province issued 87.60 million yuan of commune loans in the first half of 1972 and agricultural equipment loans accounted for 29.49% of the total loans.

¹ Recorded in Heilongjiang financial gazetteers, Chapter 3, page 127.

² Recorded in Henan rural financial gazetteers, Chapter 4, page 146.

³ Recorded in Heilongjiang financial gazetteers, Chapter 3, page 130.

⁴ Recorded in Liaoning financial gazetteers, Chapter 3, page 272.

Furthermore, the turnover rate of agricultural loans was low and some provinces had difficulty in reclaiming loans. According to Yunnan financial gazetteers¹, banks and communes were unable to issue and use loans, consequently, a large amount of agricultural loans were used to support “cutting into mountains, transferring the land, and building into Dazhai mode”. During the Cultural Revolution, a total of 486.35 million yuan of agricultural loans were issued in Yunnan province and 39.73 million yuan was uncollectible due to mistakes.

After 1978 reform, the People’s Bank of China in Zhejiang Province started to carry out a policy which emphasizes economic benefits and commodity development in rural areas. The target of rural credit policy was mainly focused on transferring traditional rural economy to professional, commercial and modern rural economy. For instance, over 1.2 billion yuan of loans was issued to individual farmers in 1984 which helped 0.93 million professional rural households. And village enterprise loans accounted for 75% of the total balance of agricultural loans.

4.2 Analysis of Interest Rate of Agricultural Loan from 1950 to 1984

4.2.1 Theoretical framework

In this paper, I assume a downward sloping demand curve for credit (Shown in Figure 4-2 and Chapter 2). In China, interest rates of formal finance were set by Central government. Interest rates might vary with change in types of loans but not with the loan amount. Interest rates data for agricultural production in the following section come from three local gazetteers and China Rural Finance Yearbook. Furthermore, the nominal agricultural loan is a year-end outstanding balance figure and the formula is the cumulative loans granted during the year minus the cumulative repayment of loans during the year. The outstanding balance represents the demand

¹ Recorded in Yunnan financial gazetteers, Chapter 3, page 48.

of agriculture-related activities and is an effect of supply and demand in agricultural credit market.

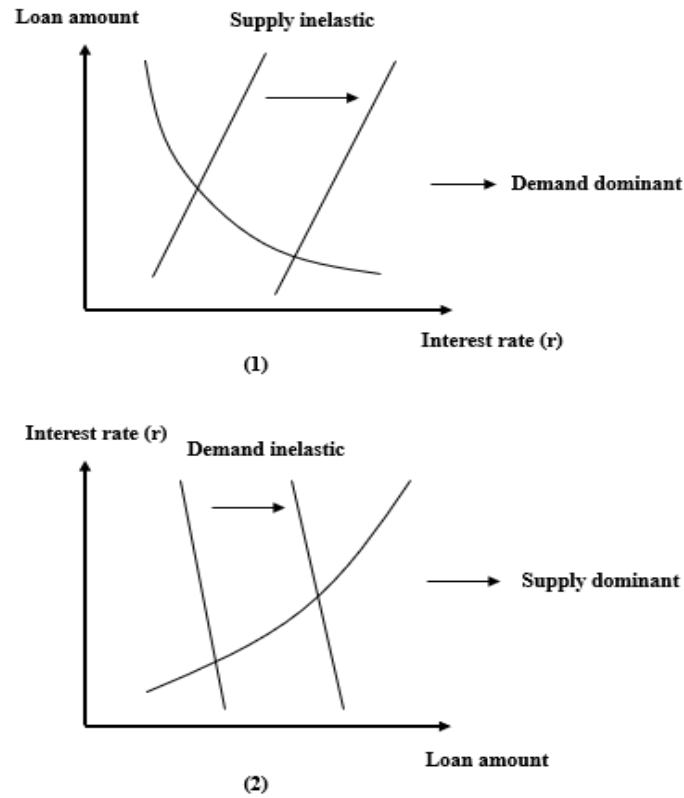


Figure 4-2 Elasticity of Credit

4.2.2 Estimation Results

In this part, I analyze the relationship between the interest rate and agricultural loan on province base. The equation is as follows:

$$\ln(agri_{it}) = \alpha_0 + \beta_1 graincp_{i,t-1} + \beta_2 \ln(ir_t) + \beta_3 drint_{it} + \beta_4 flind_{it} + u_{it} \quad (4.4)$$

Where i indexes a province and t indexes a year, and $agri_{it}$ stands for nominal agricultural loans, respectively. The expression $graincp_{i,t-1}$ refers to lag one phase of grain output per

capita. And I take natural log of the interest rate to analyze the elasticity of loan demand. Given the difficulty of data collection, interest rate was set the same for each province but varied in different years. Furthermore, both $drind_{it}$ and $flind_{it}$ are weather variables. Finally, u_{it} is the error term.

Table 4-6 Estimation of Demand Elasticity from 1950 to 1984

Dependent Variable: Agricultural Loans (Natural Logarithm)								
Independent Variables	Hubei	Guangxi	Heilongjiang	Liaoning	Sichuan	Anhui	Yunnan	Gansu
Graincp(Lag)	10.59*** (2.068)	12.73*** (3.164)	-2.434* (1.398)	5.861*** (1.51)	20.28*** (3.97)	2.71 (1.921)	14.46** (5.758)	5.392* (3.025)
lnir	-0.640*** (0.202)	-1.080*** (0.224)	-0.672* (0.332)	-1.117*** (0.211)	-1.217*** (0.201)	-0.454** (0.22)	-0.900*** (0.231)	-1.043*** (0.185)
drind	3.667** (1.716)	6.077** (2.806)	2.186 (5.413)	3.503* (1.957)	5.044** (1.93)	1.284 (2.06)	10.10*** (3.611)	3.149** (1.52)
flind	0.249 (2.648)	23.4 (16.9)	10.05** (3.974)	1.493 (4.198)	18.92 (11.14)	1.22 (2.365)	61.10** (24.76)	43.04*** (7.691)
Constant	6.805*** (0.913)	6.829*** (1.111)	12.23*** (0.871)	8.830*** (0.631)	7.218*** (0.971)	10.24*** (0.76)	5.449*** (1.798)	8.555*** (0.94)
Observations	34	34	33	34	34	32	34	34
R-squared	0.668	0.663	0.406	0.635	0.755	0.224	0.613	0.735
Independent Variables	Shandong	Shanxi	Shannxi	Zhejiang	Guizhou	Henan	Jilin	Jiangxi
Graincp(Lag)	5.572** (2.211)	11.74*** (3.124)	13.22*** (3.364)	15.48*** (2.425)	4.321 (3.513)	0.691 (1.999)	5.766*** (1.59)	13.73*** (2.043)
lnir	-0.872*** (0.182)	-0.826*** (0.192)	-0.964*** (0.206)	-1.326*** (0.236)	-0.940*** (0.187)	-1.291*** (0.181)	-1.562*** (0.289)	-0.719*** (0.167)
drind	5.319*** (1.702)	0.185 (1.246)	0.0454 (2.197)	9.081 (9.28)	6.133** (2.381)	12.05*** (3.754)	9.722*** (3.317)	6.050* (2.998)
flind	4.493* (2.221)	-0.568 (9.992)	9.720** (4.305)	16.28** (7.35)	67.67*** (15.46)	14.32 (9.419)	2.705 (2.507)	2.465 (3.855)
Constant	10.16*** (0.709)	7.208*** (0.994)	6.390*** (1.02)	5.377*** (0.99)	8.676*** (1)	11.87*** (0.639)	7.562*** (0.932)	4.556*** (0.928)
Observations	33	34	34	33	34	34	34	34
R-squared	0.599	0.596	0.586	0.735	0.668	0.68	0.609	0.762

note- Figures in parenthesis are standard errors.

Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

The regression results are shown in Table 4-6. All signs of interest rate coefficients are negative which indicate when interest rate decreases, agricultural loans will increase. The negative sign implies rural credit market is demand-dominant. Interest rates of 14 province are significant at a 1% confidence level and interest rates of Heilongjiang and Anhui province are significant at a 10% confidence level at least. Interestingly, coefficients of interest rate in 7 provinces are bigger than 1, which suggests that the quasi-equilibrium interest rate is highly elastic. For instance, 1% increase in interest rate in Henan province will cause 1.29% decrease in agricultural loans in Henan. Reviewing the interest rate policy from 1950 to 1984, interest rate continues to be lowered to encourage agricultural mechanism and support agricultural collectives while at the same time, agricultural loans were unrealistically issued without a scientific credit management system. Due to nominal data of agricultural loans and interest rates, the elasticity might not reflect the real elasticity of the agricultural credit market at that time, but it provides us with some thoughts on interest rate elasticity of credit demand during that period of time.

In terms of natural disasters impact, the sign of drought coefficient are positive in each provincial regression which is consistent with economic theory, implying a positive relationship between drought and credit. While for flood coefficients, all provinces except Shanxi province have positive signs and the coefficient of Shanxi is small and not significant. It can still imply a positive relationship between flood and credit supply.

Furthermore, lag one phrase of grain output seems to have a positive effect on agricultural loans in each province which shows an opposite trend with the provincial panel data. One reason for this is the provincial margin effect might be different from the panel effect.

4.3 Analysis of Provincial RCC Loans from 1950 to 1984

4.3.1 Data Review

In terms of RCC loans, I collect RCC loans for eight provinces from local financial gazetteers. RCC loans refers to total outstanding loans provided by RCCs in a year and are mainly issued for farmers. The data of eight provinces is continuous from 1954 to 1984.

Table 4-7 Annual growth rate of RCC Loans among 8 provinces from 1954 to 1984

Province	1955-1956	1958-1961	1966-1971	1971-1976	1978-1984
Hubei	169.0%	-6.4%	2.3%	14.5%	35.6%
Henan	136.4%	9.5%	11.6%	22.7%	33.6%
Jiangsu	549.5%	-17.7%	2.0%	23.6%	49.5%
Liaoning	148.1%	-3.9%	3.5%	13.5%	51.8%
Sichuan	266.8%	14.4%	7.4%	10.7%	36.9%
Gansu	379.7%	-9.1%	10.8%	19.3%	29.7%
Yunnan	150.4%	-0.5%	7.7%	4.0%	44.3%
Heilongjiang	288.9%	6.0%	12.0%	13.5%	34.8%
Mean	261.1%	-0.9%	7.2%	15.2%	39.5%
Min	136.4%	-17.7%	2.0%	4.0%	29.7%
Max	549.5%	14.4%	12.0%	23.6%	51.8%

Source: A compilation of local financial gazetteers.

Shown in Table 4-7, RCC loans of all provinces skyrocketed from 1955 to 1956 and loans in Jiangsu province even increased 5 times. While during the Great Leap Forward movement, RCC loans of 5 province had negative annual growth rates which indicate that RCC operation was negatively affected in that period of time. Furthermore, RCC loans during the Cultural Revolution have recovered and RCC loans of 7 provinces grew at a higher rate in the late stage. After establishing the Rural Household Responsibility system in 1978, RCC operation gradually returned to a normal level and RCC loans grew rapidly.

In terms of farmer loans, I collect farmer loans of 6 provinces from local financial gazetteers and divide farmer loans by rural population to get farmer loans per capita. The table 4-8 presents farmer loans per capita in Hubei, Henan, Jiangsu, Sichuan, Yunnan and Heilongjiang

from 1954 to 1984. Farmer loans per capita grew slowly until 1979. Most of farmer loans from 1954 to 1978 were around 1 yuan or 2 yuan per capita. After 1978, farmer loans per capita increased quickly and for instance, farmer loans per capita in Henan province even doubled within a year.

Table 4-8 Farmer Loans per capita in 6 provinces from 1954 to 1984

Year	Hubei	Henan	Jiangsu	Liaoning	Sichuan	Yunnan	Heilongjiang
1954					0.07	0.24	
1955					0.23	0.68	
1956			1.26		0.65	1.02	
1957	1.25		0.97		0.56	1.12	
1958	2.19		1.44		0.77	1.33	0.73
1959	2.14		0.98	1.75	0.88	1.13	1.09
1960	1.69		1.38	1.80	0.82	1.74	1.16
1961	1.45		1.13	1.78	0.60	1.42	0.85
1962	1.55		1.11	1.43	0.64	1.15	0.76
1963	2.13	1.59	1.01	1.47	0.87	1.19	0.41
1964	2.22	1.11	1.02	1.70	1.13	1.67	1.95
1965	2.15	1.13	1.21	2.09	1.20	1.69	1.43
1966	2.55	1.12	1.26	2.25	1.53	1.75	2.04
1967	2.35	1.24	1.26	2.38	1.75	1.63	1.99
1968	2.37	1.26	1.16	2.39	1.71	1.96	1.96
1969	2.37	1.33	1.13	2.49	1.71	1.99	2.31
1970	2.32	1.31	1.19	2.37	1.60	2.04	2.12
1971	2.06	1.23	0.93	2.10	1.60	2.04	2.17
1972	2.03	1.21	0.89	2.14	1.56	2.41	2.17
1973	2.01	1.14	0.73	1.91	1.43	2.20	1.90
1974	2.09	1.11	0.81	1.78	1.39	2.28	1.85
1975	2.23	1.06	0.74	1.62	1.48	2.27	1.65
1976	2.18	1.04	0.70	1.70	1.83	2.25	1.75
1977	2.23	1.04	0.68	1.54	1.59	2.23	1.70
1978	2.11	1.53	0.66	1.42	1.55	2.23	1.52
1979	2.32	3.50	0.56	1.35	1.44	2.35	1.37
1980	2.84	5.94	0.60	1.59	2.57	3.20	1.35
1981	4.04	8.79	0.45	2.21	3.01	4.87	1.83
1982	7.15	22.99	0.85	3.76	5.90	8.61	3.20
1983	19.84	25.03	2.84	9.11	11.96	15.95	5.00
1984	19.85	34.87	10.93	30.41	21.97	31.60	18.98

Source: A compilation of local financial gazetteers.

4.3.2 Econometrics analysis of RCC loans from 1958 to 1961

Shown in Table A-2, annual growth rate of RCC loans is negative during the Great Leap Forward in eight provinces. In this part, I try to analyze influencing factors of RCC loans during the Great Leap Forward movement. Steel construction is one of the most important features of that period. I collected steel output value for Hubei, Liaoning, Gansu, Yunnan and Heilongjiang province from the book *A compilation of 60 year statistics in China*. As a measurement for the extent of Great Leap Forward, I use year over year steel output growth rate in six provinces in the regression. Furthermore, I lag the growth rate of grain output per capita as another independent variable. The increase of grain output per capita of last year might affect the demand of rural credit.

Then equation is as follows:

$$\Delta Rccloan_{it} = \alpha_0 + \beta_1 \Delta Steel_{it} + \beta_2 \Delta Grainpc_{i,t-1} + Year_i + \mu_{it} \quad (4.5)$$

Where i indexes a province and t indexes a year, and $\Delta Rccloan_{it}$ stands for growth rate of RCC loans. The expression $\Delta Steel_{it}$ refers to growth rate of steel output value and $\Delta grainpc_{i,t-1}$ refers to growth rate of grain output per capita (lag one phrase). And $year_i$ stands for the year dummies and μ_{it} is the error term.

4.3.3 Estimation Results

Table 4-9 Estimation of RCC Loans from 1954 to 1961

Dependent Variable: RCC loans Growth Rate		
VARIABLES	(1) OLS	(2) Robust
Grain per capita (Lag)	1.010 (0.588)	1.010* (0.526)
Steel output growth rate (%)	-0.265** (0.0994)	-0.265** (0.0940)
Year 1959	-0.954*** (0.226)	-0.954*** (0.244)
Year 1960	-0.821*** (0.230)	-0.821*** (0.236)
Year 1961	-1.472*** (0.307)	-1.472*** (0.251)
Constant	1.240*** (0.204)	1.240*** (0.177)
Observations	24	24
R-squared	0.671	0.671

Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

$$\Delta Rccloan_{it} = 1.240 - 0.265*\Delta Steel_{it} + 1.01*\Delta Grainpc_{i,t-1} - 0.954*Year1959 - 0.821*Year1960 - 1.472*Year1960 \quad (4.6)$$

Table 4-9 represents the estimation results. The coefficient of steel output growth rate is significant at a 5% confidence level and negative sign implies steel construction negatively affected the RCC loans during the Great Leap Forward movement. 1 unit increase in steel output growth rate will decrease RCC loans growth rate by 0.27 unit. The increase of steel output value implies provinces mobilize their rural labor force and RCC cadres in pursuing the Leap's goals and ruin the RCC loans operation. Furthermore, the change of grain output per capita of last phrase imposes a positive effect on RCC loans change in the current phrase. Year 1959, 1960 and 1961 are all significant at a 1% confidence level, suggesting that those years might capture some common effects, such as RCCs operation were negatively affected.

Furthermore, lag one year of grain per capita is significant at a 10% confidence level and the positive sign implies when grain per capita last year increases, RCC loans of current year will also increase. In the provincial agricultural analysis, lag one year of grain per capita implies a negative relationship between grain output and agricultural loans. Based on that regression, increase of grain output means the increase of farmers' income to some extent, consequently, formal channel of agricultural loans will be affected. But the positive sign here implies RCC loans might face more serious credit constraint in rural areas.

4.3.4 More stories from local financial gazetteers

RCC loans include farmer loan, collective agricultural loan, town enterprise loan and other rural industrial and commercial loans. Among them, farmer loan is the main part of RCC loans. Take Yunnan province for an example¹, farmer loans usually account for 70%-80% of the total RCC loans from 1953 to 1984. From 1955 to 1984, farmer loans encountered a rapid development from 1955 to 1956 and stayed stagnated during the Great Leap Forward movement and the Cultural Revolution and restarted to grow after 1978.

During the advanced agricultural cooperatives movement, farmer loans increase rapidly. According to Liaoning financial gazetteers², the balance of farmer loans reached 32 million yuan by the end of 1956, increasing by 115% compared to 1955. Banks and RCCs issued 55.3 million yuan within a year. For the usage of loans, 13 counties brought 6,743 water wagons, 5 counties bought 180 water distributors, 6 counties built 39 small reservoirs and bought 2,365,000 kilos seeds, and 9 counties bought 557 rubber wagons.

After 1956, farmer loans began to slow down due to different reasons. With the development of rural cooperatives, RCCs started to have sufficient funds to support the living or production difficulties of farmers, consequently, banks reduced the issuance of farmer loans year by year.

¹ Recorded in Yunnan financial gazetteers, Chapter 3, page 53.

² Recorded in Liaoning financial gazetteers, Chapter 3, page 108.

Taking Liaoning province¹ for an example, issuance of farmer loans decreased from 32.1 million yuan at the end of 1956 to 8.93 million yuan at the end of 1960, with an average annual decrease of 27.35%. Though there was an increase of 8.8% in 1961, farmer loans continued to drop by 15.5% by the end of 1962. Another reason is that the farmer loans is negatively affected by the Great Leap Forward movement. According to Sichuan financial gazetteers², from 1959 to 1961, 1.2 billion yuan of collective agricultural loans were issued to support steel construction and farmer loans stagnated.

The situation got worse after 1961. Large amounts of RCCs' fund were occupied by production teams, other rural units and leaders themselves. In 1963, 88.4 million yuan of farmer loans were issued in Sichuan province to farmers with 70% for hogs breeding and 20% for food and illness. In 1965, rural areas launched "Four Clean-up" campaign and then Central government issued special interest-free loans to support poor farmers. The maturity of loan term is 1 to 3 years. From 1971 to 1979, RCCs in Liaoning province issued 9.95 million yuan farmer loans each year on average, which accounted for only 5.3% of the total loans.

4.4 Analysis of City-level Agricultural Loans from 1950 to 1980

4.4.1 Data Review

Agricultural cooperative banks were established in 1951, consequently, agricultural loans increased in 1952. Based on the local financial gazetteers from 71 cities (Also shown in Table 4-10), the agricultural loans from 41 cities increased and only 2 cities (Huaiyi and Wuhu city) showed a decline. 27 cities doubled agricultural loans in 1952. With the rapid development of advanced agricultural cooperatives from 1955 to 1956, agricultural loans from banks increased a lot. According to local financial gazetteers, 56 out of 58 cities increased their agricultural loans only 2 cities (Dan dong and Ezhou city) showed declines. During the Great Leap

¹ Recorded in Liaoning financial gazetteers, Chapter 3, page 105.

² Recorded in Sichuan financial gazetteers, Chapter 4, page 91.

Forward movement, 47 of 60 cities increased their agricultural loans while only 13 cities (Abazhou, Baoji, Danyang, Hanzhong, Jiaying, Nanning, Putian, Qingyang, Qiqihar, Urumchi, Yichang, Yuhang and Zhaotong cities) showed declines. The boost of agricultural loans reflected the anti-conservatives political atmosphere. During the Cultural Revolution, nationwide agricultural loans showed stagnation while growth trends varied among different cities. According to gazetteers, 47 out of 66 cities showed growth in agricultural loans and 5 cities (Dandong, Ezhou, Lian yungang, Binzhou and Nningbo) stagnated and 14 cities (Wenshan, Guiyang, Yiyang, Putian, Yuxi, Neijiang, Liuan, Hengyang, Changsha, Loudi, Shijiazhuang, Luoyang, Xiangtan and Urumchi) showed declines. After the end of the Cultural revolution, ABC was established for the fourth time and the Rural Household Responsibility system was spread in China. 51 out of 62 cities increased agricultural loans from 1979 to 1980 and only 11 cities (Zhangye, Shiyan, Shijiazhuang, Kunming, Putian, Haixi, Suicounty, Leshan, Wuhu, Changchun and Urumchi city) showed declines.

Table 4-10 Growth Rate of Agricultural Loan from city-level financial gazetteers

City	1951-1952	1955-1956	1958-1961	1966-1976
Abazhou	1069%	153%	-16%	18%
Anqing	322%	199%	77%	9%
Baoji	23%	230%	-26%	18%
Beihai	564%	13%	12%	14%
Binzhou		385%	4%	0%
Changchun		113%	58%	10%
Changsha			212%	-6%
Chaozhou	57%	613%	45%	5%
Chifeng			20%	9%
Chuxiong	332%	88%	13%	3%
Dandong		-67%	67%	0%
Danyang	177%	404%	-13%	4%
Dehong		85%	6%	8%
Dukou				17%
Ezhou	99%	-83%	20%	0%
Greaterkhinganrange				6%
Guiyang	500%	366%	4%	-1%
Haixi		248%	4%	46%
Hanzhong	136%	361%	-18%	7%
Hefei		833%	16%	5%
Hengyang	36%	315%	20%	-4%
Honghehany	207%	153%	9%	6%
Huaihua		206%	74%	16%
Huaiyin	-6%	264%	12%	4%
Hunanmiaozu	39%	340%	11%	1%
Jiaying	469%	60%	-14%	10%
Jilin			24%	6%
Kunming		146%	19%	10%
Leshan	361%	148%	91%	18%
Liangzhou	1039%	30%	43%	
Lianyungang	63%	247%	9%	0%
Linfen	38%	114%	1%	10%
Liuan	527%	257%	17%	-4%
Liupanshui	417%	130%	16%	2%
Loudi	297%	867%	59%	-6%
Luoyang	54%	300%	54%	-11%
Luzhou		150%		
Miaozudongzu	137%	131%	31%	4%
Nanning	296%	10%	-48%	5%
Nantong	308%	700%	19%	10%
Neijiang		66%	31%	-3%
Ningbo	560%	454%	9%	0%
Pengshui	200%	238%	39%	7%
Putian	140%	98%	-5%	-2%

Qingyang	242%	255%	-30%	19%
Qiqihar		110%	-5%	2%
Shantou		289%	36%	3%
Shaoyang	429%	573%	18%	4%
Shenyang	96%	59%	59%	1%
Shijiazhuang	159%	304%	28%	-7%
Urumchi			-19%	-29%
Wenshan		116%	0%	-1%
Wuhu	-29%	21%	28%	10%
Wuxi		245%		18%
Xiangtan	120%	689%	36%	-13%
Yanbian	42%	165%	39%	10%
Yiyang	6%	188%	24%	-2%
Yuhang		131%	-30%	9%
Yunfu		683%	17%	11%
Yuxi	100%	263%	10%	-3%
Zhangye		969%	138%	5%
Zhaoqing	237%	460%	23%	7%
Zhaotong	457%	161%	-13%	3%
Zhenjiang	325%	482%	4%	2%
Number of city	41	58	60	62
Mean	260%	268%	23%	5%
Min	-29%	-83%	-48%	-29%
Max	1069%	969%	212%	46%

Source: A compilation of local financial gazetteers.

4.4.2 Econometrics analysis

I collected agricultural loans of 45 cities from recorded city-level financial gazetteers and the data of 45 cities is continuous from 1950 to 1980. Data of 45 cities cover 20 provinces and 3 major economic regions in China (Shown in Table 4-11).

Table 4-11 Regression Data of Agricultural Loans from local financial gazetteers

Economic Regions	Provinces	Cities
Eastern	Fujian, Hebei, Guangdong, Jiangsu, Liaoning, Zhejiang	Putian, Shijiazhuang, Anqing, Liuan, Wuhu, Zhaoqing, Chaozhou, Zhenjiang, Lianyungang, Nantong, Dandong, Shenyang, Ningbo
Middle	Anhui, Henan, Hubei,	Hefei, Guiyang, Luoyang, Ezhou, Hanzhong,

	Hunan, Jilin, Shanxi	Hunan Miao Autonomous Region, Huaihua, Loudi, Binzhou, Yiyang, Hengyang, Xiangtan, Shaoyang, Chanchun, Yanbian, Linfen
Western	Gansu, Shannxi, Chongqing, Guangxi, Guizhou, Qinghai, Sichuan, Yunnan	Qingyang, Baoji, Pengshui, Nanning, Beihai, Miao Autonomous Region in Southeast Guizhou, Liupanshui, Haixizhou, Leshan, Abazhou, Neijiang, Yuxi, Honghehane, Chuxiong, Wenshan, Zhaotong

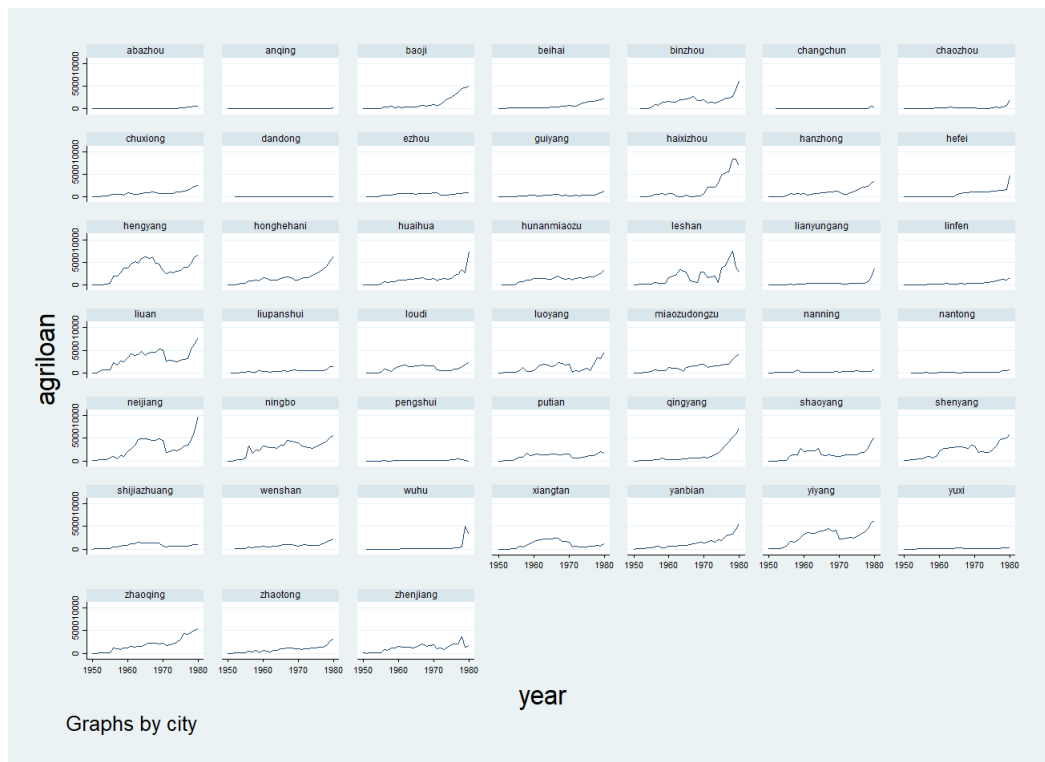


Figure 4-3 Agricultural loans in 45 cities from 1950 to 1980

I apply OLS model to analyze policy effects on city-level agricultural loans. Due to the difficulty of collecting city-level continuous data from 1950 to 1980, there is no continuous independent variables in this regression. But these dummy variables can also imply some interesting effects on agricultural loans.

The equation is as follows:

$$\ln(agri_{it}) = \alpha_0 + \beta_1 abcs + \beta_2 abct + \beta_3 glp + \beta_4 culre + \beta_4 culrelate + \beta_5 year_i + \beta_6 procode_i + u_{it} \quad (4.7)$$

Where i indexes a province and t indexes a year, and $\ln(agri_{it})$ stands for natural logarithm of nominal agricultural loans, respectively. $abcs$, $abct$, glp , $culre$ and $culrelate$ stand for political variables and all of which are time-invariant, and $year_i$ stands for the year dummies and $procode_i$ stands for the city dummies. Finally, u_{it} is the error term.

4.4.3 Estimation Results

Table 4-12 represents the estimation results. Policy dummy variables $abcs$, $abct$, glp , $culre$ and $culrelate$ are all significant at a 1% confidence level. The positive signs of these policy dummies imply a positive relationship between agricultural loans and policies. The coefficient of $abct$ is larger than $abcs$ which shows the second establishment of ABC impose more positive effects on agricultural loans. The coefficient of $culrelate$ is larger than $culre$ which shows the late stage of the Culture Revolution impose more positive effect on agricultural loans. After the 913 Incident in 1971, Central government started to rectify mistakes gradually. Furthermore, the effect of policy dummy variables are additive. If both ABCs were established and the Great Leap Forward movement happened, agricultural loans would grow faster than if only one condition is achieved. To sum up, the establishment of ABC, the launch of the Great Leap Forward movement and the Cultural Revolution all promote the boost of agricultural loans.

In terms of city effects, the coefficients of 43 cities are significant at a 1% confidence level. The city variables Pengshui and Yuxi are not significant, suggesting that some effects might not be captured. Interestingly, city variables Dandong, Nantong and Wuhu show a negative sign of coefficient.

$$\ln(agri_{it}) = 0.18 + 4.383*abcs + 5.182*abct + 5.502*glp + 4.967*culre + 5.568*culrelate + \beta_5 year_i + \beta_6 procode_i + u_{it} \quad (4.8)$$

Table 4-12 Estimation Results of City-level Agricultural Loans

Dependent variable= Agricultural Loan(Natural logarithm)					
VARIABLE	OLS	Robust	VARIABLE	OLS	Robust
S			S		
abcs	4.383*** (0.15)	4.383*** (0.25)	Chuxiong	1.838*** (0.17)	1.838*** (0.15)
abct	5.182*** (0.15)	5.182*** (0.25)	Dandong	-2.287*** (0.17)	-2.287*** (0.25)
glp	5.052*** (0.15)	5.052*** (0.26)	Ezhou	1.463*** (0.17)	1.463*** (0.13)
culre	4.967*** (0.15)	4.967*** (0.25)	Guiyang	0.590*** (0.17)	0.590*** (0.17)
culrelate	5.568*** (0.15)	5.568*** (0.26)	Haixizhou	1.750*** (0.17)	1.750*** (0.26)
Year=1951	1.087*** (0.16)	1.087*** (0.28)	Hanzhong	1.830*** (0.17)	1.830*** (0.13)
Year=1952	2.036*** (0.15)	2.036*** (0.27)	Hefei	0.895*** (0.17)	0.895*** (0.25)
Year=1953	2.610*** (0.15)	2.610*** (0.28)	Hengyang	3.125*** (0.17)	3.125*** (0.14)
Year=1954	3.030*** (0.15)	3.030*** (0.27)	Honghehany	2.437*** (0.17)	2.437*** (0.12)
Year=1955	-1.058*** (0.14)	-1.058*** (0.11)	Huaihua	2.139*** (0.17)	2.139*** (0.12)
Year=1956	0.08 (0.14)	0.08 (0.10)	Hunanmiaoz u	2.170*** (0.17)	2.170*** (0.12)
Year=1957	- (0.14)	- (0.10)	Leshan	2.390*** (0.17)	2.390*** (0.17)
Year=1958	-0.440*** (0.14)	-0.440*** (0.12)	Lianyungang	0.830*** (0.17)	0.830*** (0.15)
Year=1959	-0.397*** (0.14)	-0.397*** (0.13)	Linfen	0.872*** (0.17)	0.872*** (0.15)
Year=1960	(0.08) (0.14)	(0.08) (0.13)	Liuan	3.288*** (0.17)	3.288*** (0.13)
Year=1961	- (0.14)	- (0.13)	Liupanshui	1.192*** (0.17)	1.192*** (0.13)
Year=1962	4.991*** (0.15)	4.991*** (0.27)	Loudi	1.866*** (0.17)	1.866*** (0.15)
Year=1963	(0.12) (0.14)	(0.12) (0.11)	Luoyang	2.101*** (0.17)	2.101*** (0.17)
Year=1964	(0.15)	(0.15)	Miaozudongz u	2.143***	2.143***

	(0.14)	(0.12)		(0.17)	(0.14)
Year=1965	-	-	Nanning	0.829***	0.829***
				(0.17)	(0.22)
Year=1966	0.21	0.207*	Nantong	-0.420**	-0.420***
	(0.14)	(0.12)		(0.17)	(0.16)
Year=1967	0.301**	0.301***	Neijiang	3.067***	3.067***
	(0.14)	(0.11)		(0.17)	(0.14)
Year=1968	0.252*	0.252**	Ningbo	2.924***	2.924***
	(0.14)	(0.11)		(0.17)	(0.17)
Year=1969	0.304**	0.304***	Pengshui	(0.22)	(0.22)
	(0.14)	(0.10)		(0.17)	(0.25)
Year=1970	0.319**	0.319***	Putian	2.078***	2.078***
	(0.14)	(0.10)		(0.17)	(0.14)
Year=1971	-	-	Qingyang	1.786***	1.786***
				(0.17)	(0.16)
Year=1972	-0.489***	-0.489***	Shaoyang	2.291***	2.291***
	(0.14)	(0.11)		(0.17)	(0.15)
Year=1973	-0.444***	-0.444***	Shenyang	2.983***	2.983***
	(0.14)	(0.11)		(0.17)	(0.15)
Year=1974	-0.396***	-0.396***	Shijiazhuang	1.818***	1.818***
	(0.14)	(0.12)		(0.17)	(0.15)
Year=1975	(0.18)	(0.18)	Wenshan	1.658***	1.658***
	(0.14)	(0.12)		(0.17)	(0.12)
Year=1976	-	-	Wuhu	-0.566***	-0.566**
				(0.17)	(0.25)
Year=1977	5.696***	5.696***	Xiangtan	1.729***	1.729***
	(0.15)	(0.25)		(0.17)	(0.20)
Year=1978	5.901***	5.901***	Yanbian	2.106***	2.106***
	(0.15)	(0.26)		(0.17)	(0.14)
Year=1979	6.115***	6.115***	Yiyang	3.037***	3.037***
	(0.15)	(0.27)		(0.17)	(0.13)
Year=1980	6.288***	6.288***	Yuxi	(0.02)	(0.02)
	(0.15)	(0.29)		(0.17)	(0.13)
Anqing	-1.496***	-1.496***	Zhaoqing	2.562***	2.562***
	(0.17)	(0.22)		(0.17)	(0.12)
Baoji	1.855***	1.855***	Zhaotong	1.719***	1.719***
	(0.17)	(0.15)		(0.17)	(0.14)
Beihai	1.478***	1.478***	Zhenjiang	2.318***	2.318***
	(0.17)	(0.16)		(0.17)	(0.14)
Binzhou	2.420***	2.420***	Constant	(0.18)	(0.18)
	(0.17)	(0.13)		(0.16)	(0.26)
Changchun	-0.588***	-0.588***			
	(0.17)	(0.16)	Observations	1,374	1,374

Chaozhou	0.570*** (0.17)	0.570*** (0.14)	R-squared	0.89	0.89
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Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

4.5 Analysis of City-level RCC Loans from 1954 to 1980

4.5.1 Data Review

Shown in Table 4-13, RCC loans increased a lot from 1955 to 1956 due to the advanced agricultural cooperatives movement. Consequently, 16 cities doubled the RCC loans within a year. And interestingly, most of the cities decreased their RCC loans during the Great Leap Forward movement compared with the boost of agricultural loans at the same time. The decline of RCC loans might be affected by the transfer of RCC cadres to urban construction and the three-year economic hardship. While during the Cultural Revolution, almost all the recorded cities (22 out of 23 cities) had a positive annual growth rate of RCC loans. The average growth rate of early stage of the Cultural Revolution is slightly larger than the late stage of the Cultural Revolution. RCC loans of most recorded cities grew at a quicker rate after 1978.

Table 4-13 Growth Rate of RCC Loans from city-level financial gazetteers

City	1955- 1956	1958- 1961	1966- 1971	1972- 1976	1966- 1976	1978- 1980
Abazhou	533%	-3%	14%	12%	12%	29%
Aksuregion			8%	0%	2%	14%
Chuxiong	139%	-9%	6%	3%	5%	27%
Dali	85%	-10%	9%	3%	6%	26%
Danyang			1%	28%	12%	
Dukou			17%	13%	15%	99%
Ezhou	5%	-9%	11%	10%	12%	10%
Hengyang	164%	-6%	-7%	14%	4%	25%
Honghehani	136%	13%	11%	8%	10%	28%
Huaihua	356%	-12%	3%	-3%	6%	-5%
Hunanmiaozu	344%	-13%		-1%	0%	40%
Jiaozuo	279%	-4%	-22%	27%	-2%	40%
Jilin	27%	11%	9%	9%	15%	49%
Leshan	191%	23%	13%	13%	14%	34%
Lincang	185%	-7%	0%	1%	2%	15%
Loudi	152%	-19%	17%	11%	15%	16%
Luoyang	176%	23%	20%	27%	21%	13%
Nanping	176%	4%	3%	10%	5%	52%
Qingyang	221%	-18%	12%	14%	15%	16%
Qiqihar	390%	-48%	0%	43%	13%	
Shijiazhuang	149%	16%	-2%	8%	4%	24%
Wenshan	371%	5%	9%	-1%	5%	14%
Yuncheng	84%	-15%	12%	14%	13%	18%
Number of city	20	20	22	23	23	21
Mean	208%	-4%	7%	11%	9%	28%
Min	5%	-48%	-22%	-3%	-2%	-5%
Max	533%	23%	20%	43%	21%	99%

Source: A compilation of local financial gazetteers.

4.5.2 Econometric Analysis

In terms of data in the regression, I collected RCC loans of 23 cities from recorded city-level financial gazetteers and the data of 23 cities is continuous from 1954 to 1980. Data of 23 cities cover 12 provinces and 3 major economic regions in China.

Table 4-14 RCC Loans in 23 cities from 1954 to 1980

Economic Regions	Provinces	Cities
Eastern	Fujian, Hebei, Guangdong,	Nanping, Shijiazhuang, Chaozhou,
Middle	Henan, Hubei, Hunan, Jilin, Shanxi	Luoyang, Jiaozuo, Ezhou, Hunan Miao Autonomous Prefecture, Huaihua, Loudi, Hengyang, Jilin, Yuncheng,
Western	Gansu, Guangxi, Sichuan, Yunnan	Qingyang, Beihai, Leshan, Abazhou, Honghehoni, Yuxi, Dali, Lincang, Chuxiong, Wenshan

$$\ln RCCloan_{it} = \alpha_0 + \beta_1 glp + \beta_2 culre + \beta_3 culrelate + \beta_4 year_i + \beta_5 procode_i + u_{it} \quad (4.9)$$

4.5.3 Estimation Results

Table 4-15 presents the estimation results. Policy dummies *glp*, *culre* and *culrelate* showed a positive relationship with RCC loans at a 1% confidence level. The coefficient of the late stage of the Cultural Revolution is slightly bigger than the coefficient of the early stage of the Cultural Revolution, which is consistent with former regression results. Interestingly, the signs of coefficients in Year 1966, 1967, 1968, 1972, 1973 and 1974 were significantly negative at a 1% confidence level.

Table 4-15 Estimation Results of RCC Loans

Dependent Variable=RCC loans (Natural Logarithm)			
Independent Variables	Robust	Independent Variables	Robust
<i>glp</i>	2.314*** (0.18)	Year1978	3.278*** (0.18)
<i>culre</i>	2.583*** (0.18)	Year1979	3.333*** (0.18)
<i>culrelate</i>	3.097*** (0.18)	Year1980	3.711*** (0.18)
Year1955	0.800*** (0.20)	Beihai	-0.293** (0.13)
Year1956	1.778*** (0.19)	Chaozhou	1.397*** (0.14)

Year1957	1.837*** (0.19)	Chuxiong	2.094*** (0.12)
Year1958	0.19 (0.14)	Dali	2.060*** (0.11)
Year1959	(0.01) (0.10)	Ezhou	0.618*** (0.12)
Year1960	0.171** (0.08)	Hengyang	2.689*** (0.12)
Year1961	-	Honghehanti	1.723*** (0.12)
Year1962	2.142*** (0.18)	Huaihua	1.915*** (0.12)
Year1963	2.140*** (0.18)	Hunanmiaozu	1.707*** (0.14)
Year1964	2.213*** (0.19)	Jiaozuo	(0.11) (0.16)
Year1965	2.163*** (0.19)	Jilin	2.168*** (0.13)
Year1966	-0.296*** (0.10)	Leshan	2.505*** (0.13)
Year1967	-0.196** (0.09)	Lincang	1.494*** (0.12)
Year1968	-0.187** (0.09)	Loudi	2.270*** (0.13)
Year1969	(0.11) (0.08)	Luoyang	0.561*** (0.14)
Year1970	(0.04) (0.08)	Nanping	2.818*** (0.13)
Year1971	-	Qingyang	1.155*** (0.13)
Year1972	-0.357*** (0.09)	Shijiazhuang	1.783*** (0.13)
Year1973	-0.380*** (0.09)	Wenshan	1.385*** (0.12)
Year1974	-0.306*** (0.09)	Yuncheng	2.928*** (0.12)
Year1975	-0.161* (0.09)	Yuxi	1.591*** (0.12)
Year1976	-	Constant	1.797*** (0.22)
Year1977	3.170*** (0.18)	Observations	594.00
		R-squared	0.91

Standard errors in parentheses
 *** p<0.01, ** p<0.05, * p<0.1

4.6 Analysis of City-level Farmer Loans from 1956 to 1979

From 1955 to 1956, most of recorded cities increase their farmer loans at a higher rate (Shown in Table 4-16). Take Qiqihaer city for example, it increased farmer loans by 390%. While during the Great Leap Forward movement, farmer loans developed in the opposite direction. Only five cities (Anyang, Baise, Ezhou, and Leshan city) increased their farmer loans, all other recorded cities decreased their farmer loans. Furthermore, during the Cultural Revolution, 7 out of 20 cities (Anyang, Baoding, Huaihua, Hunan miao autonomous, Nanning and Shijiazhuang city) had a negative annual growth rate. To sum up, farmer loans get less affected in the Culture Revolution than the Great Leap Forward movement.

Table 4-16 Growth rate of Farmer Loans from city-level financial gazetteers

	1955-1956	1958-1961	1966-1971	1972-1976	1966-1976
Abazhou	150%	-16%	8%	1%	4%
Anyang		20%	-2%	-10%	-6%
Baise		5%	13%	-5%	4%
Baoding	284%	-23%	-29%	7%	-12%
Beihai	375%	-6%	6%	2%	3%
Dali	86%	-12%	8%	2%	6%
Ezhou	18%	122%	8%	1%	5%
Guangyuan	153%	-8%	-1%	12%	4%
Huaihua	-16%	-30%	-7%	9%	-1%
Hunanmaiozu	344%	0%	-7%	3%	-3%
Jilin		10%	-2%	-4%	2%
Linfen	134%	-53%	13%	-2%	5%
Loudi	327%	-25%	4%	0%	3%
Luoyang	-91%	-6%	18%	-4%	7%
Nanning	218%	41%	-13%	-13%	-13%
Ningbo	81%	-12%	6%	-5%	0%
Qiqihaer	390%	-48%	0%	43%	13%
Shijiazhuang	186%	0%	2%	-8%	-3%
Yuxi	300%	-24%	8%	-13%	0%
Zhangye	210%	-14%	4%	-4%	0%
Number of city	17	20	20	20	20
Mean	185%	-4%	2%	1%	1%
Min	-91%	-53%	-29%	-13%	-13%
Max	390%	122%	18%	43%	13%

Source: A compilation of local financial gazetteers.

4.7 More Stories from City-level financial gazetteers

By collecting over 71 city-level financial gazetteers, more interesting stories about agricultural credit are revealed. Most of financial gazetteers provide meaningful and detailed information about agricultural credit. Furthermore, In order to study the effect of historical policies on agricultural credit, 5 stages have been divided and I try to conclude features among different periods of time.

4.7.1 Stage 1: from 1950 to 1954

During this period of time, the theme of agricultural credit policy is to recover agricultural recovery and support the land reform. After the initial establishment, the PRC still encountered fiscal and economic difficulties and price instability. Farmers were facing difficulties in agricultural production and living. In order to quickly solve these problems, national banks decide to issue a mixed form of credit-both cash and in-kind form (Shown in Table 4-17). With the successful accomplishment of the land reform, the focus of agricultural credit policy started to shift from helping poor farmers to mutual-aid groups and agricultural production cooperatives.

Table 4-17 Summary of Credit Issuance from 1950 to 1954

City	Year	Credit Issuance		Covered Farmers
		Cash	In kind	
Hefei ¹	1950-1952	8.30	43.9	
Huaihua ²	1950-1952	125.00	554	
Anqing ³	1950	2.69		1715 Households, 6790 farmers
	1950-1952	9.37		
Putian ⁴	1950	25.30	36.7	76 Villages
Qingyang ⁵	1950	9.90	6.6	1447 Farmers
	1951	40.60		
Chaozhou ⁶	1951	7.00		
	1952	46.00		
Luoyang ⁷	1953-1954	34.93		191819 yuan to 13426 Households for agricultural production; 157506 yuan to 10851 Households for living difficulty; 3617 Households for other purposes.
Shijiazhuang ⁸	1950	6.87	896	662367 farmers

Source: A compilation of local financial gazetteers.

notes: The unit of cash is 10 Thousand yuan. The unit of in-kind credit is 10 Thousand Kilograms.

4.7.2 Stage 2: from 1955 to 1957

During this period of time, the theme of agricultural credit is to support the development of agricultural cooperatives. The purpose of loans changed from helping farmers maintain basic production to support agricultural production by increasing production equipment and

¹ Recorded in Hefei financial gazetteers, Chapter 5, page 105.

² Recorded in Huaihua financial gazetteers, Chapter 4, page 123.

³ Recorded in Anqing financial gazetteers, Chapter 12, page 322-324.

⁴ Recorded in Putian financial gazetteers, Chapter 4, page 205.

⁵ Recorded in Qingyang financial gazetteers, Chapter 4, page 115.

⁶ Recorded in Chaozhou financial gazetteers, Chapter 3, page 997.

⁷ Recorded in Luoyang financial gazetteers, Chapter 4, page 392.

⁸ Recorded in Shijiazhuang financial gazetteers, Chapter 13, page 197-199.

expanding reproduction. To solve farmers' difficulties in agricultural cooperatives, Central government started to issue poverty cooperative fund.

Table 4-18 Poverty Cooperative Fund from 1955 to 1957

City	Year	Credit Issuance	Covered Farmers	Credit per farmer
Hefei ¹	1955-1956	65.00	7609 farmers in 184 agricultural cooperatives	85
Anqing ²	1953-1957	4.90		
Liuan ³	1955-1956	722.00		
Pengshui ⁴	1955-1956	0.75	709 farmers in 96 agricultural cooperatives	10.6
Putian ⁵	1955-1959	25.00	21000 farmers	11.9
Qingyang ⁶	1954-1956	211.40	65300 farmers	32
Qiangdong ⁷ miaodong	1955	0.99		
	1955-1957	173.50		

Source: A compilation of local financial gazetteers.

notes: The unit of Credit Issuance is 10 Thousand yuan. The unit for credit per farmer is yuan.

Table 4-19 presents the agricultural credit issuance from 1955 to 1957. According to Chaozhou financial gazetteers⁸, loans issued for mutual-aid groups and agricultural cooperatives accounted for 86.3% of the total loans and farmer loans only accounted for 13.7% in 1955. Furthermore, with the development of RCCs, farmer loans were mainly issued by RCCs. RCCs also increased agricultural collective loans during that period of time.

¹ Recorded in Hefei financial gazetteers, Chapter 5, page 105.

² Recorded in Anqing financial gazetteers, Chapter 12, page 322.

³ Recorded in Liuan financial gazetteers Chapter 4, page 145.

⁴ Recorded in Pengshui financial gazetteers, Chapter 5, page 64.

⁵ Recorded in Putian financial gazetteers, Chapter 4, page 177.

⁶ Recorded in Qingyang financial gazetteers Chapter 4, page 121.

⁷ Recorded in Financial gazetteers of Miao and Dong Autonomous Prefecture in Eastern Guizhou province, Chapter 5, page 49.

⁸ Recorded in Chaozhou financial gazetteers, Chapter 59, page 997.

Table 4-19 Agricultural Credit Issuance from 1955 to 1957

City	Year	Agricultural Loans Credit Issuance	Average issuance per year
Anqing ¹	1953- 1957	63.61	12.722
Chaozhou ²	1953- 1957	624	124.8
Putian ³	1953- 1957	3417	683.4
Qingyang ⁴	1956	339.1	339.1
City	Year	RCC loans	Credit Issuance
		RCC loans	Farmer loans
Qingyang ⁵	1956 1957	366.4	
Shijiazhuang ⁶	1955		101
Shijiazhuang ⁷	1957	1250.5	
Ezhou ⁸	1957	125	119

Source: A compilation of local financial gazetteers.
notes: The unit of loan is 10 thousand yuan.

4.7.3 Stage 3: from 1958 to 1961

During this period of time, credit division the People's commune was developed at accelerated speed. According to Liu'an financial gazetteers⁹, 3,056 advanced agricultural cooperatives were transformed into 148 communes within half a year. Besides, 4,166 rural cooperatives in Huaihua city were formed to 104 credit divisions of the People's communes. Meanwhile, as financial gazetteers of Tujia and Miao autonomous prefecture of western Hunan province¹⁰ mentioned, 135 credit division were built in May 1959. In the meantime, 664 cadres were

¹ Recorded in Anqing financial gazetteers, Chapter 12, page 322.

² Recorded in Chaozhou financial gazetteers, Chapter 59, page 997.

³ Recorded in Putian financial gazetteers, Chapter 4, page 177.

⁴ Recorded in Qingyang financial gazetteers, Chapter 4, Page 121-122.

⁵ Recorded in Qingyang financial gazetteers, Chapter 4, page 820.

⁶ Recorded in Shijiazhuang financial gazetteers, Chapter 13, page 197.

⁷ Recorded in Shijiazhuang financial gazetteers, Chapter 13, page 227.

⁸ Recorded in Ezhou financial gazetteers, Chapter 6, page 105.

⁹ Recorded in Liu'an financial gazetteers, Chapter 4, page 147.

¹⁰ Recorded in financial gazetteers of Tujia and Miao autonomous prefecture of western Hunan, Chapter 4, page 206.

transferred to lower levels cross the prefecture, including 305 bank cadres and 359 cadres of RCCs.

Table 4-20 Summary of Agricultural Loans during the Great Leap Forward

City	Year	Credit Issuance
Anqing ¹	1958-1960	186.76
Putian ²	1958	1574
	1959	1159
	1960	997
	1961	720
	1962	632.8
Chaozhou ³	1958-1960	1855
Liupanshui ⁴	1958-1960	1382

Source: A compilation of local financial gazetteers.

Furthermore, agricultural loans were also developed at accelerated speed during this period. According to Anqing city financial gazetteers⁵, factories were built one after another in the upsurge of the Great Leap Forward movement and the credit division units increased from 49 to 232 in late 1958. Shown in Table 4-20, agricultural loans in Putian city issued in 1958 were added up to 15.74 million yuan with a 9 million increase compared with 1957. The annual growth rate was 133.5%. However, in 1959, influenced by left-leaning thoughts, not only issuance continued to increase but recovery of loans reached a peak. Even some undue loans were recovered. As a result, a total of 17.27 million yuan agricultural loans were recovered in a year, which exceeded 5.68 million yuan than issuance. As recorded by Chaozhou city financial gazetteers⁶, a cumulative agricultural loans of 18.55 million yuan were issued from 1958 to 1960, which were equivalent to three times of the total loans issued in the previous 5 years.

¹ Recorded in Anqing financial gazetteers, Chapter 12, page 322.

² Recorded in Putian financial gazetteers, Chapter 4, page 170.

³ Recorded in Chaozhou financial gazetteers, Chapter 59, page 997.

⁴ Recorded in Liupanshui financial gazetteers, Chapter 4, page 64.

⁵ Recorded in Anqing financial gazetteers, Chapter 4, page 263.

⁶ Recorded in Chaozhou financial gazetteers, Chapter 59, page 997.

Particularly, the over 13.74 million yuan agricultural loans were issued in 1959, which were ten times of the agricultural loans issued in 1957.

Meanwhile, another feature during the Great Leap Forward movement was the slow development of farmer loans. As recorded by the financial gazetteers of Miao and Dong autonomous¹ regions of east Guizhou province, farmer loans were almost ceased except few loans for raising pigs after 1959. On the other side, collectives loans increased quickly. According to Ezhou city financial gazetteers², the proportion of collective loans issued by RCCs increased from 7.4% in 1957 to 37.7% in 1958 and 70.1% in 1979 respectively.

4.7.4 Stage 4: from 1962 to 1965

Starting from 1962, Central government started to put forward adjustment policies to rectify mistakes of the Great Leap Forward movement. An 8-character policy “adjustment, consolidation, enrichment and improvement” was implemented. National banks decided to strengthen credit management and comprehensively eliminate irrational occupation of funds. As a result, the situation of blindly issuance was corrected. In the meantime, “Four Cleans Movement” campaign was launched in rural areas to provide interest-free loans for poor farmers and families around the country.

¹ Recorded in financial gazetteers of Miao and Dong autonomous, Chapter 3, page 131.

² Recorded in Ezhou financial gazetteers, Chapter 3, page 49.

Table 4-21 Summary of Agricultural Credit from 1962 to 1965

City	Year	Agricultural Loans Credit Issuance
Putian ¹	1962	167
Anqing ²	1961-1965	159.97
Putian ³	1963-1965	1830
	1963	450
Qingyang ⁴	1965	101.3
City	Year	Rcc loans Issuance
Putian ⁵	1962-1965	1603
Qingyang ⁶	1961	222
	1963	90.5
	1965	182.8
Luoyang ⁷	1963-1965	1434

Source: A compilation of local financial gazetteers.

As recorded by Anqing city financial gazetteers⁸, agricultural loans were mainly for equipment loans including agricultural machinery, water conservancy. Simultaneously, long-term interest-free loan of 146.8 thousand yuan were issued for collectives economy. While, the focus of RCC loans during this period of time was to solve difficulties of farmers both in agricultural production and living. Mentioned in Qingyang financial gazetteers⁹, RCC loans were mainly used for hogs farmers. While in Luoyang city¹⁰, 79.9% loans of RCC loans were used for supporting poor farmers.

¹ Recorded in Putian financial gazetteers, Chapter 4, page 172.

² Recorded in Anqing financial gazetteers, Chapter 12, page 322.

³ Recorded in Putian financial gazetteers, Chapter 4, page 170.

⁴ Recorded in Qingyang financial gazetteers, Chapter 4, page 117.

⁵ Recorded in Putian financial gazetteers, Chapter 4, page 205.

⁶ Recorded in Qingyang financial gazetteers, Chapter 4, page 855.

⁷ Recorded in Luoyang financial gazetteers, Chapter 4, page 420.

⁸ Recorded in Anqing financial gazetteers, Chapter 12, page 323-324.

⁹ Recorded in Qingyang financial gazetteers, Chapter 8, page 855.

¹⁰ Recorded in Luoyang financial gazetteer, Chapter 4, 420-422.

4.7.5 Stage 5: from 1966 to 1976

The Cultural Revolution was initially launched in 1966. During this period, many effective regulations were abolished. Besides, lots of bank cadres were transferred to rural areas. As a result, credit management was loosen and credit funds and fiscal funds were out of control. During this period, agricultural loan policy was mainly for supporting “learning from Dazhai in agriculture” to realize agricultural mechanization and expand irrigation and water conservancy projects. Agricultural loans were invested in a single direction and interest rate was too low to have economic benefits. As a result, RCCs suffered from great losses. According to Chaozhou city financial gazetteer¹, 17 RCCs suffered from losses, accounting for 80% of 21 RCCs across the whole city. To be worse, the loans were not issued following scientific principles. RCCs blindly supported collectives in agricultural mechanization and gradually had difficulties in reclaiming loans. As recorded by Hefei city financial gazetteer², a cumulative agricultural loans of 17.122 million yuan were issued during the Cultural Revolution, but only 748 thousand yuan of agricultural loans were recovered.

Table 4-22 Summary of Agricultural Loans during the Cultural Revolution

City	Year	Credit issuance
Hefei ³	1966-1976	1712.2
Huaihua ⁴	1974-1978	3000
Putian ⁵	1966-1971	1240
Qingyang ⁶	1966	281.7
Chaozhou ⁷	1967-1976	1717

Source: A compilation of local financial gazetteers.

¹ Recorded in Chaozhou financial gazetteer, Chapter 59, page 1009.

² Recorded in Hefei financial gazetteer, Chapter 5, page 107.

³ Recorded in Hefei financial gazetteers, Chapter 5, page 107.

⁴ Recorded in Huaihai financial gazetteers, Chapter 4, page 124.

⁵ Recorded in Putian financial gazetteers, Chapter 4, page 205.

⁶ Recorded in Qingyang financial gazetteers, Chapter 4, page 112.

⁷ Recorded in Chaozhou financial gazetteers, Chapter 59, Page 997.

CHAPTER 5 AN OVERVIEW OF CREDIT IN CHINA AFTER 1978

5.1 Introduction

In previous chapter I investigate agricultural credit within the collective era. In this chapter I provide, as a point of comparison credit and credit policies in the modern era. As previously discussed the two periods are distinguished by a centrally planned economy (1950 to 1978) and the development of a market economy (1978 to present). Publicly available data in the modern era is more readily available than the collective era, but most statistical yearbooks do not go back as far as 1978. For this reason the data sources and regional emphasis differ between the two time periods, largely because the collective era data sources were obtained from a scattering of local gazetteers and compiled for this study. Moreover, to fully understand the credit situation in rural China it is also important to distinguish between formal and informal sources of credit, These issues are discussed in relation to the modern era from approximately 1985 to 2009.

5.2 Introduction of the survey

In terms of loan demand of farmers, I adapt data from National rural fixed observation station survey¹. The National rural fixed observation station was established in 1985 in line with rural economic reform and supervised by the Ministry of Agriculture in China. The station was established to make up for the lack of systematic investigations in rural areas and provide necessary support for policy research. This survey was conducted continuously in over 20,000 rural households from 1985 to 2009. For year 1992 and year 1994, data of these two years are missing, I get an average value of 1991 and 1993, 1993 and 1995 respectively to fill in the missing data.

For the survey data, the survey of National rural fixed observation station covers the whole country from 1986 to 2009 consecutively and therefore, is very representative. The National

¹ National Rural Social-Economic Survey Data Collection was published by China Agricultural Press from 1986.

rural fixed observation system uses the classification method of sample selection based on various categories of villages, which includes different geographic features (mountains, hills and plains), different income levels (poor, middle-level, and rich farmers), and different planting types (Agriculture, forestry, animal husbandry and fisheries). In order to ensure the continuity of the survey, if any other household changes, it will be replaced by the similar village farmers. The annual survey continuously tracks 300 fixed observation stations, over 20,000 village households, which can reflect the overall level of national situation.

5.3 Informal Lending in Rural China (1986-2009)

Informal lending¹ has a long history in both cities and rural areas in China. Informal lending is built upon neighborhood kinship and geopolitical relations. It usually occurs between relatives and friends in rural areas and the interest rate is usually low or even free.

In China, there are several forms of informal lending, which include Rotating Saving and Credit Association, Private Banking, lending among relatives or friends and rural cooperative fund (RCF)². The specific category is shown in Table 4-1.

Table 5-1 Form of Informal Lending

Main Form	Category
Individual	Mutual-aid Loan
	Usury
	Guarantor
Organization	Mutual-aid Association
	Underground Bank
	Fund-raising company
	Rural Cooperative Fund

note: Summarized by Chaoshun Pan and Kun Cheng(2005), “An Empirical Study on the Scale of Informal Lending in rural China”.

¹ As defined by the Asian Development Bank ADB, 1990, informal finance is a financial sector that is not subject to government constraints on capital, reserves and liquidity, deposit and loan interest rates, mandatory credit objectives, and audit reporting requirements.

² RCFs were essentially government-initiated and government-controlled financial institutions that were registered under the Ministry of Agriculture, Tsai(2002).

Before 1999, rural cooperative funds developed rapidly, posing a challenge to the status of RCCs. However, in the process of development, rural cooperative funds exceeded its scope and were not standardized. Consequently, the risk of RCFs was relatively high. It was uniformly cleared up and banned in 1999, forming a monopoly of informal loans in the unofficial lending market of farmers.

Furthermore, the interest rate of informal lending is determined by various factors, like the overall supply and demand of loans in the market, the interest rate of formal financial institutions, inflation rate and the demographic culture. However, the setting of interest rate in China is not a result of static market equilibrium of credit market. Low interest rate or interest-free informal lending is more typical in most parts of rural areas in China.

Due to the reciprocity of informal lending in rural China, most of the informal lending is oral commitment and without collaterals. However, informal lending carries a “Debt of Gratitude”, which implies farmers might need to offer the same help when their relatives or friends borrow money in the future. The total scale of informal lending is large in China but it is small for each personal lending case.

5.3.1 Data Selection

I used continuous data from National rural fixed observation station. In this chapter, I will analyze the informal lending from 1986 to 2009 by three geographic regions (Eastern, Middle and Western) in China based on the survey data. The main focus of informal lending is the scale of lending, the preference of lending and the usage of lending.

According to the economic development of different regions, National Bureau of Statistics divided China into three regions¹-Eastern, Middle and Western regions. Each region contains several provinces. Table 5-2 and Figure 5-1 present the specific provincial division.

¹ See:http://www.stats.gov.cn/ztjc/zthd/sjtjr/dejtkfr/tjkg/201106/t20110613_71947.htm

Table 5-2 Classification of Three Regions in China

Eastern	Middle	Western
Beijing	Shanxi	Inner Mongolia
Tianjin	Anhui	Chongqing
Hebei	Jiangxi	Sichuan
Shanghai	Henan	Guizhou
Jiangsu	Hubei	Yunnan
Zhejiang	Hunan	Tibet
Fujian	Jilin	Shannxi
Shandong	Heilongjiang	Gansu
Guangdong		Qinghai
Hainan		Ningxia
Liaoning		Xinjiang
		Guangxi

Source: National Bureau of Statistics, 2011

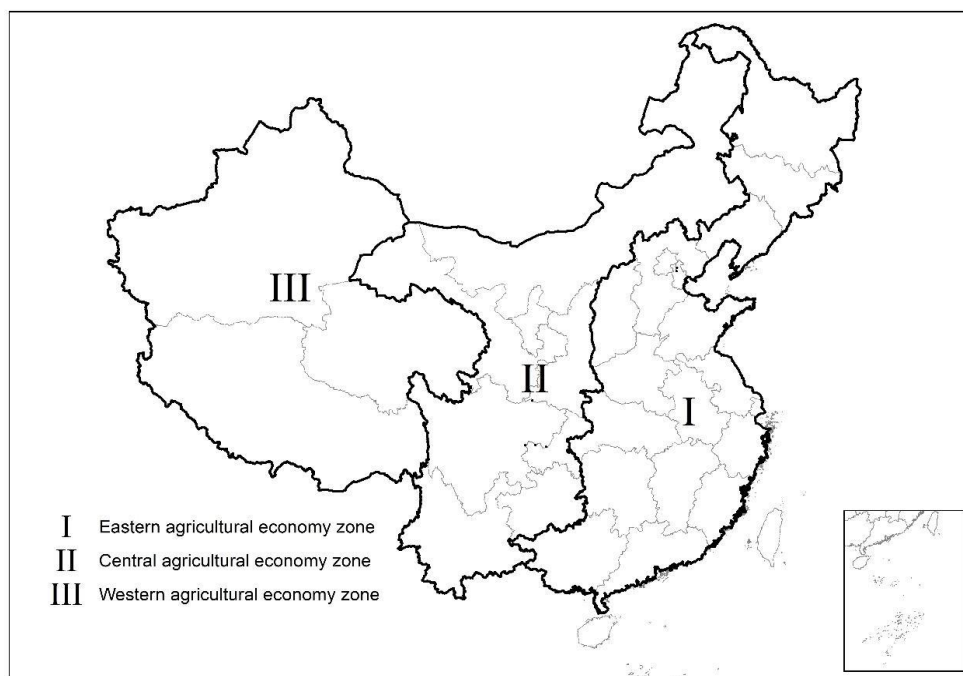


Figure 5-1 Three Agricultural Economic Zones

5.3.2 Data Review

Based on the survey of National rural fixed observation station, I summarize the basic information of farmers among different regions. Shown in Table 5-3, the average planting area per household decreased from 9.2 mu¹ per household in 1986 to 7.12 mu per household in

¹ Mu is a unit of measurement in China. 1 Mu is equal to 0.067 Hectare.

2009 (note: 1 mu = 1/6th acre). Meanwhile, the farm size shrank from 4.79 per household in 1986 to 3.92 per household in 2009. The shrinkage of farm size might be due to urbanization¹ and transfer of the rural labor force to urban areas. On the other side, rural income per household increased 10 times in 2009 compared with 1986 and proportion of farming income decreased from 0.66 to 0.29 which implies the diversification of income and farming income is no longer the main sources of household income in China.

Table 5-3 Nationwide Farmer Information

Year	Planting area per household(mu)	Family size	Income from farming (%)	Net income (yuan)
1986	9.20	4.79	0.66	2284.90
1987	8.90	4.77	0.56	2944.67
1988	9.32	4.80	0.53	3505.47
1989	9.03	4.72	0.58	3721.78
1990	7.98	4.70	0.58	3920.16
1991	8.47	4.64	0.57	4093.32
1992	8.27	4.57	0.52	5029.51
1993	8.07	4.50	0.49	5965.70
1994	7.95	4.44	0.52	7902.63
1995	7.83	4.37	0.53	9839.56
1996	7.78	4.33	0.51	10214.39
1997	7.65	4.28	0.48	10576.02
1998	7.76	4.24	0.48	10232.35
1999	7.94	4.21	0.43	10255.84
2000	7.44	4.17	0.38	10610.19
2001	7.63	4.10	0.38	10855.78
2002	7.56	4.09	0.36	11770.41
2003	6.95	4.03	0.31	14101.74
2004	7.34	3.99	0.35	15970.45
2005	7.32	4.00	0.34	17999.36
2006	7.32	3.98	0.32	19094.13
2007	7.22	3.98	0.30	23314.76
2008	7.16	3.98	0.29	26192.14
2009	7.12	3.92	0.29	27146.63
Mean	7.88	4.32	0.45	11147.58
Min	6.95	3.92	0.29	2284.90
Max	9.32	4.80	0.66	27146.63
Skewness	0.84	0.34	-0.01	0.87

¹ Urbanization was approved by the State Council in 1982.

Table 5-4 presents information of farmers in the Eastern region. The planting area per household in the Eastern region also showed a downward trend from 1986 to 2009 and the decline rate was slightly higher than national data. The planting area per household decreased from 6.35 mu in 1986 to 4.48 mu in 2009 with an annual decline rate of 29.4%. The average planting area was smaller than national data. Meanwhile the downward trend of family size was similar to the national data, decreasing from 4.47 people per household in 1986 to 3.87 people per household in 2009 (likely due to the one-child policy). Net income per household increased faster from 2,791 yuan in 1986 to 34,229 yuan in 2009 with an increase rate of 110%. At the same time, proportion of farming income also declined sharply, from 0.51 in 1986 to 0.22 in 2009. It can be seen that in Table 5-4, the proportion of farming income to the total income of farmers in the Eastern region was always lower than national proportion ratio.

Table 5-5 presents information of farmers in the Middle region. The average planting area per household in the Middle region was the highest in China and the decline rate was relatively small between 1986 and 2009. The planting area per household in the Middle region was 11.92 mu in 1986 and 10.56 mu in 2009 with a decrease rate of only 11.4%. The dependence of farmers' income on farming in the Middle region was also higher than that in the Eastern and Western regions. The proportion of farming income in the Central region had a national maximum of 0.80 in 1986.

The proportion declined to 0.38 in 2009 but it still remained highest among three regions. Farmers' income in the Central region increased 10 times between 1986 and 2009, which is in line with the national trend. Family size decreased from 4.79 in 1986 to 3.82 in 2009, which was also consistent with the national trend.

Table 5-6 presents information of farmers in the Western region. The planting area per household decreased from 9.74 mu in 1986 to 5.98 mu in 2009 with a decrease rate of 38.6%. Interestingly, the decline rate of planting areas per household in the Western region was

highest among three regions. Despite the sharp decline in planting areas, family size remained largest. The net income of farmers was low at the very beginning compared with the Eastern and Middle region. However, from 1991 to 2008, net household income in the Western region was higher than the Middle region and the net household income has increased 10 times over 23 years.

To sum up, there is an imbalance in economic development among three regions. Farmers in the Eastern regions have the highest income and more versatile income structure while farmers in the Middle region rely more on farming activities. Farmers in the Western regions have a stable family structure.

Table 5-4 Farmer Information in the Eastern Region

Year	Planting area per household(mu)	Family size	Income from farming (%)	Net income(yuan)
1986	6.35	4.47	0.51	2791.31
1987	6.19	4.48	0.43	3800.82
1988	5.93	4.55	0.39	4692.34
1989	5.68	4.52	0.44	4887.96
1990	5.83	4.50	0.43	5051.11
1991	5.43	4.42	0.41	5500.96
1992	5.17	4.39	0.35	6888.93
1993	4.90	4.35	0.32	8276.90
1994	4.90	4.29	0.34	10810.71
1995	4.89	4.23	0.35	13344.51
1996	4.80	4.21	0.33	14041.10
1997	4.86	4.15	0.31	14339.65
1998	4.96	4.10	0.35	14005.37
1999	5.28	4.10	0.30	14679.37
2000	4.06	4.07	0.27	14682.32
2001	4.61	3.99	0.26	14697.13
2002	4.50	3.97	0.23	15930.42
2003	4.35	3.89	0.22	18375.00
2004	4.41	3.60	0.20	20188.32
2005	4.32	3.95	0.25	23808.66
2006	4.23	3.89	0.23	24238.05
2007	4.51	3.93	0.21	28688.49
2008	4.30	4.11	0.22	33044.40
2009	4.48	3.87	0.22	34229.41
Mean	4.96	4.17	0.31	14624.72
Min	4.06	3.60	0.20	2791.31
Max	6.35	4.55	0.51	34229.41
Skewness	0.75	-0.18	0.43	0.72

Table 5-5 Farmer Information in the Middle Region

Year	Planting area per household(mu)	Farmer size	Income from farming (%)	Net income(yuan)
1986	11.92	4.79	0.80	2054.95
1987	11.94	4.78	0.72	2541.03
1988	11.82	4.74	0.67	2935.22
1989	12.39	4.60	0.76	3153.34
1990	9.78	4.60	0.74	3253.53
1991	11.26	4.58	0.73	3259.68
1992	10.88	4.49	0.70	3889.03
1993	10.49	4.40	0.67	4518.37
1994	10.48	4.32	0.72	6152.70
1995	10.47	4.24	0.74	7787.02
1996	10.63	4.19	0.73	8134.78
1997	10.24	4.16	0.64	8410.29
1998	10.39	4.11	0.62	7960.13
1999	10.61	4.07	0.58	7752.17
2000	10.23	4.02	0.56	7730.18
2001	10.45	3.97	0.53	8367.85
2002	11.06	3.98	0.55	9203.87
2003	10.10	3.97	0.44	11113.62
2004	10.91	3.88	0.36	13238.06
2005	11.03	3.91	0.45	14421.68
2006	11.02	3.93	0.44	16273.78
2007	10.80	3.88	0.50	16795.71
2008	10.74	3.68	0.41	21958.01
2009	10.56	3.82	0.38	24291.34
Mean	10.84	4.21	0.60	8966.51
Min	9.78	3.68	0.36	2054.95
Max	12.39	4.79	0.80	24291.34
Skewness	0.90	0.42	-0.37	1.10

Table 5-6 Farmer Information in the Western Region

Year	Planting area per household(mu)	Family size	Income from farming (%)	Net income(yuan)
1986	9.74	5.33	0.77	1800.17
1987	8.14	5.26	0.64	2166.89
1988	9.98	5.23	0.64	2790.91
1989	9.11	5.16	0.65	2838.48
1990	8.51	5.15	0.71	3231.01
1991	8.34	5.05	0.70	3427.65
1992	8.71	4.96	0.67	4104.86
1993	9.08	4.86	0.65	4782.06
1994	8.60	4.81	0.66	6349.76
1995	8.11	4.76	0.67	7917.45
1996	7.85	4.71	0.63	7819.87
1997	7.68	4.64	0.62	8505.03
1998	7.57	4.60	0.58	8642.53
1999	7.67	4.57	0.57	7436.67
2000	7.28	4.49	0.46	8553.23
2001	7.51	4.42	0.45	8726.49
2002	6.57	4.37	0.41	9423.42
2003	5.99	4.08	0.35	11707.23
2004	6.02	4.21	0.38	13727.21
2005	6.00	4.20	0.37	14862.33
2006	5.89	4.18	0.34	16285.45
2007	5.82	4.21	0.35	18809.82
2008	5.93	4.25	0.29	22502.73
2009	5.98	4.16	0.31	22408.51
Mean	7.59	4.65	0.54	9117.49
Min	5.82	4.08	0.29	1800.17
Max	9.98	5.33	0.77	22502.73
Skewness	0.05	0.22	-0.30	0.91

5.3.3 Informal Lending in rural China from 1986 to 2009

5.3.3.1 Loan Scale

In this part, I divide informal lending loans amount by planting areas to get loan per mu to study the loan development from 1986 to 2009.

Shown in Table 5-7, the average loan per mu increased from 1986 to 2009, with an average annual growth rate of 10.6%. It increased from 25.77 yuan in 1986 to 171.06 yuan in 2009. The growth rate of loans per mu in the Eastern region was 10.8%, followed by 8.6% in the Middle region and 15% in the Western region. The Western region had the fastest growth rate, while the Middle region had the slowest growth rate. In 1986, the average loan per mu was the highest in the Eastern region, followed by the Middle region and the Western region came last. But after the rapid growth from 1986 to 2009, the average loan per mu in the Western region reached 437.99 yuan in 2009, exceeding the Middle region by 266.93 yuan, while the Eastern region remained the highest.

I divide years into two stages and the first stage is 1986 to 1996 based on the reform of RCCs¹ in 1996. The growth rate of loan per mu before 1996 was relatively quick, with an annual growth rate of 17.7%. From 1996 to 2009, the growth rate of loan per mu dropped significantly, with an annual growth rate of 5.4%. One reason for this might be ABC started to reduce supply farmer loans after 1996. This feature has also been shown in the Eastern, Middle and Western regions. The Western region maintained a faster growth rate than Eastern and Middle region.

For informal loans per mu, the average informal loan per mu increased from 20.99 yuan to 206.55 yuan in the past 23 years, with an average annual growth rate of 10.5%. The growth rate of informal loans was consistent with the growth rate of total loan which implies the loan structure was relatively stable. The growth of informal loans was 14.9% in the Western region

¹ RCCs were independent from ABC after 1996 and were under direct control of the PBC.

and was highest among three regions. The growth rate of informal loans in the Middle region was lowest and only 9.5%. In terms of absolute value, informal loans per mu was highest in the Eastern region which was more than three times the informal loans in the Middle region and two times of informal loans in the Western region. The annual growth rate of informal loans per mu was 21.3% in the Eastern region from 1986 to 1996, and fell to 2.1% from 1997 to 2009; The growth rate was 16.9% in the Middle region from 1986 to 1996, and fell to 4.2% from 1997 to 2009. In the Western region, the annual growth rate of informal loans per mu was 24.4% from 1986 to 1996, and fell to 8.1% from 1997 to 2009. The Eastern region encountered an obvious drop from 1997 to 2009, while the Western region has the highest growth rate in both phases.

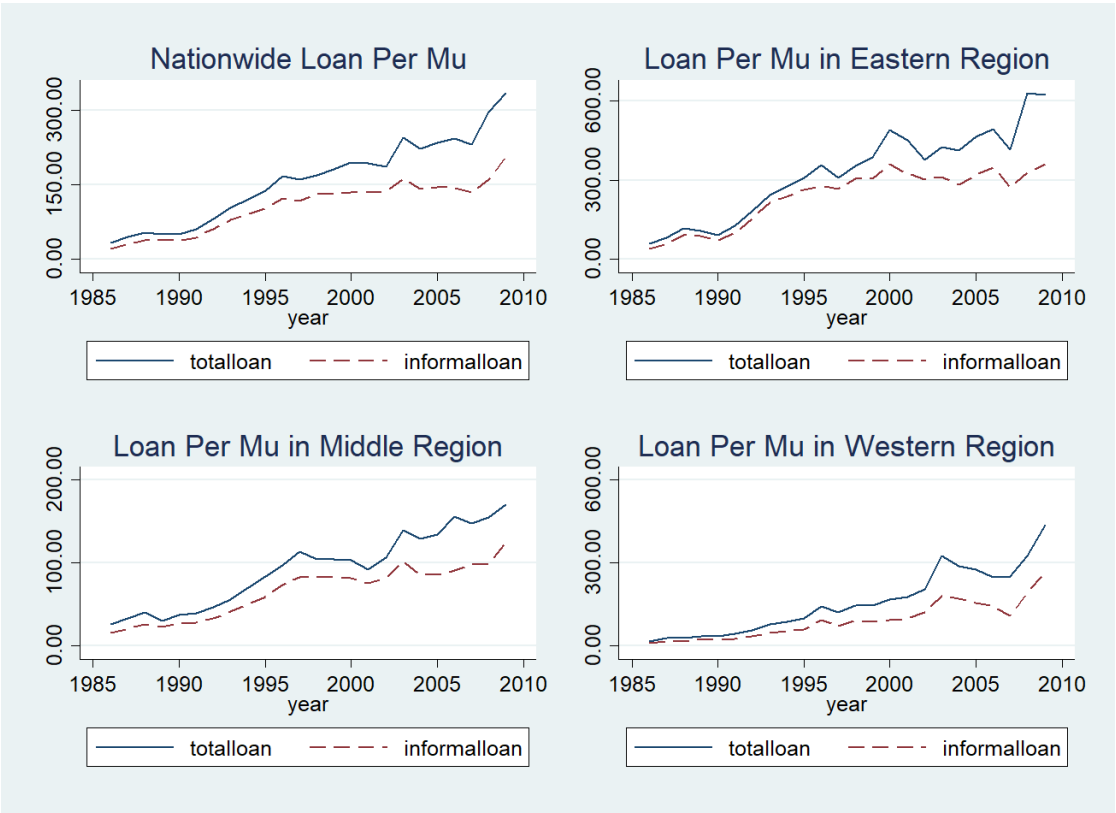


Figure 5-2 Loan per Mu from 1986 to 2009

Table 5-7 Loan per mu of National Data from 1986 to 2009

Year	Total Loans	Formal Loans	Informal loans	Interest-free informal lending
1986	32.84	11.85	20.99	
1987	45.38	15.39	29.99	
1988	54.38	15.96	38.42	
1989	50.04	11.09	38.95	
1990	51.22	13.20	38.02	
1991	60.44	16.15	44.29	
1992	81.74	20.11	61.62	
1993	104.09	24.27	79.82	45.81
1994	121.44	30.59	90.84	47.40
1995	139.32	37.11	102.20	49.03
1996	168.04	45.87	122.17	59.79
1997	160.78	42.87	117.91	61.32
1998	170.03	38.41	131.63	62.32
1999	182.12	49.53	132.58	64.81
2000	194.95	60.25	134.70	69.90
2001	193.68	59.11	134.57	65.46
2002	187.31	51.99	135.32	71.56
2003	246.03	83.32	162.71	99.91
2004	223.92	81.42	142.50	92.19
2005	234.49	89.66	144.84	94.03
2006	243.77	99.26	144.51	96.46
2007	231.20	96.76	134.45	109.47
2008	296.82	135.94	160.88	105.07
2009	334.88	128.32	206.55	136.57

note: The unit of loan is yuan per mu.

Table 5-8 Loan per mu in the Eastern Region from 1986 to 2009

Year	Total Loans	Formal Loans	Informal loans	Interest-free informal lending
1986	59.32	19.21	40.11	
1987	83.26	24.47	58.79	
1988	118.19	25.83	92.36	
1989	107.14	20.58	86.56	
1990	91.24	19.65	71.59	
1991	125.95	25.33	100.62	
1992	181.91	27.41	154.51	
1993	243.92	29.70	214.22	111.44
1994	276.10	37.32	238.78	98.67
1995	308.35	44.96	263.39	85.87
1996	357.51	79.77	277.73	117.09
1997	309.72	41.78	267.94	132.62
1998	353.58	48.11	305.47	134.01
1999	386.04	80.66	305.38	129.66
2000	490.75	130.60	360.15	160.30
2001	451.64	126.44	325.19	144.31
2002	377.93	75.28	302.65	132.89
2003	424.17	112.11	312.05	189.40
2004	411.83	127.63	284.20	173.54
2005	463.73	144.17	319.56	199.12
2006	494.59	146.48	348.11	218.94
2007	416.43	143.46	272.97	199.76
2008	629.22	300.69	328.53	182.17
2009	623.01	260.76	362.25	215.13

note: The unit of loan is yuan per mu.

Table 5-9 Loan per mu in the Middle Region from 1986 to 2009

Year	Total Loans	Formal Loans	Informal loans	Interest-free informal lending
1986	25.77	10.24	15.52	
1987	33.01	12.60	20.41	
1988	40.61	14.18	26.43	
1989	30.65	7.19	23.46	
1990	36.98	9.95	27.03	
1991	39.90	11.88	28.02	
1992	46.79	13.17	33.63	
1993	55.91	14.55	41.37	27.88
1994	70.03	19.62	50.41	33.95
1995	84.17	24.70	59.47	40.03
1996	97.60	23.78	73.82	41.98
1997	113.66	30.23	83.43	47.14
1998	104.33	20.86	83.47	45.29
1999	104.15	20.81	83.34	46.99
2000	104.01	22.10	81.91	53.46
2001	92.18	16.53	75.66	48.54
2002	106.57	25.24	81.33	56.51
2003	139.61	37.55	102.06	68.42
2004	129.51	43.22	86.29	66.37
2005	134.25	48.09	86.17	63.02
2006	155.96	64.94	91.03	63.71
2007	147.42	49.29	98.13	79.66
2008	154.84	55.35	99.49	80.42
2009	171.06	45.13	125.94	97.61

note: The unit of loan is yuan per mu.

Table 5-10 Loan per mu in the Western Region from 1986 to 2009

Year	Total Loans	Formal Loans	Informal loans	Interest-free informal lending
1986	17.63	6.94	10.69	
1987	27.65	10.68	16.97	
1988	28.60	11.32	17.28	
1989	35.93	10.04	25.88	
1990	35.13	12.17	22.96	
1991	44.19	16.87	27.32	
1992	57.77	23.47	34.31	
1993	77.20	29.53	47.67	25.71
1994	87.99	34.85	53.14	29.98
1995	100.08	40.80	59.28	34.76
1996	142.88	48.27	94.61	45.24
1997	122.69	51.81	70.88	26.48
1998	146.49	53.64	92.85	36.71
1999	148.08	59.00	89.08	40.01
2000	169.57	76.38	93.19	42.50
2001	176.66	78.76	97.89	29.42
2002	204.11	83.85	120.26	50.99
2003	324.97	143.00	181.97	85.40
2004	288.84	117.00	171.85	79.10
2005	275.52	120.28	155.23	73.10
2006	249.59	105.87	143.72	71.15
2007	250.69	141.00	109.69	85.60
2008	325.17	131.27	193.90	90.78
2009	437.99	176.46	261.53	149.76

note: The unit of loan is yuan per mu.

5.3.3.2 Loan Preference Analysis

In order to study the loan preference of farmers, I create the preference ratio to analyze the proportion of formal loans to informal loans. If the ratio is smaller than 1, it implies farmers prefer to borrow from informal channel.

$$\text{Loan Preference Ratio} = \frac{\text{Formal Loan}}{\text{Informal Loan}} \quad (5.1)$$

Shown in the figure 5-3, farmers rely more on rural informal channels than formal channels. The average national ratio was 0.46 which implied formal loans was less than half of informal loans. Among them, the ratio in the Eastern region was 0.35, followed by 0.42 in the Middle region and 0.69 in the Western region. It shows that the closer to the eastern part of China, the stronger preference to informal lending. When divided years into different phases, the loan preference ratio shows a trend from high to low and then started to rebound. Based on the national data, the preference ratio was 0.44 from 1986 to 1989 and then was 0.36 from 1990 to 2002, and 0.65 from 2003 to 2009 respectively. The quick increase from 2003 to 2009 might be explained by the development of RCCs and Micro-Credit companies in rural areas. Interestingly, the loan preference ratio in the Western region kept increasing in the three phases and the ratio remained highest among three regions which implied the inclination of national credit in the Western regions.

Table 5-7 also presents the proportion of interest-free loans to total loans from 1993 to 2009. The average proportion of interest-free loans in national data was between 35% and 40% and remained a stable trend. The average proportion of interest-free loans to total loans was 38.6%, of which in the Eastern region was 37.7%, in the Middle region was 48.7%, and in the Western region was 28.2%. Interestingly, the Middle region had the highest ratio of informal loans and Western region has the lowest ratio. To conclude, even though formal loans developed quickly, interest-bearing informal loans were dominant in the Western rural credit market.

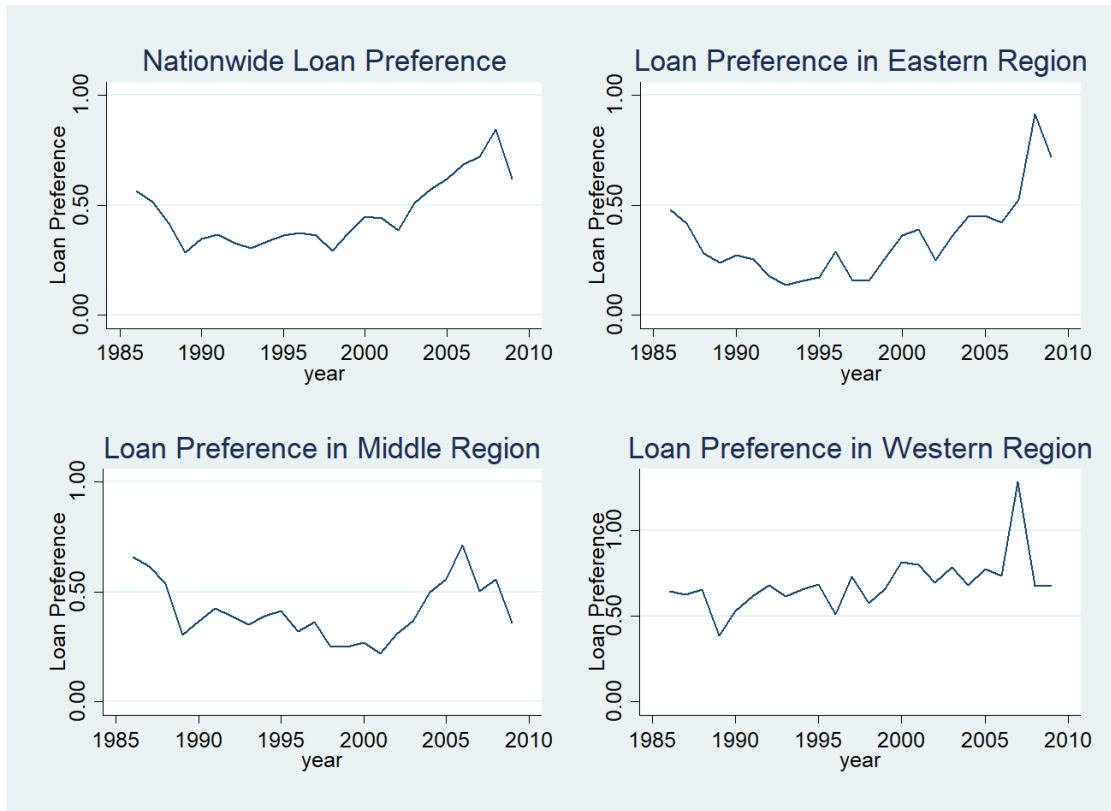


Figure 5-3 Loan Preference in three regions from 1986 to 2009

5.3.3.3 Usage of Loans

In terms of the usage of loans, the average proportion of loans for living in national data was 53.3% from 1995 to 2009, which reflected that the distribution of loans between living and production was relatively balanced. The proportion of loans for living in the Eastern region was similar to national proportion with an average ratio of 53.91%. The proportion of loans used for living in the Middle region was 56.09%, which is slightly higher than Eastern region. The proportion of loans for living in the Western region was 43.25%, which is the lowest among the three regions. It can be seen that loans in the western region were more used for production while loans in the Middle regions were tended to living purpose.

Table 5-11 Nationwide Usage of Loan from 1995 to 2009

Year	Living loan	Production loan	Living (%)	Production (%)
1995	500.94	589.91	45.92%	54.08%
1996	693.32	614.00	53.03%	46.97%
1997	734.15	495.81	59.69%	40.31%
1998	713.79	605.68	54.10%	45.90%
1999	808.09	637.93	55.88%	44.12%
2000	717.33	733.33	49.45%	50.56%
2001	913.92	564.45	61.82%	38.20%
2002	674.15	741.42	47.62%	52.36%
2003	860.64	849.29	50.33%	49.67%
2004	758.90	868.56	46.63%	52.85%
2005	866.00	848.10	50.52%	49.41%
2006	1000.10	782.80	56.09%	43.87%
2007	999.20	819.60	54.94%	49.10%
2008	1174.56	1084.85	51.99%	51.05%
2009	1467.51	916.81	61.55%	38.45%
Mean	858.84	743.50	0.53	0.47

Table 5-12 Usage of Loan in the Eastern region from 1995 to 2009

Year	Living loan	Production loan	Living (%)	Production (%)
1995	498.71	856.70	33.07%	63.21%
1996	872.05	843.98	50.82%	49.18%
1997	954.88	550.36	63.44%	36.56%
1998	928.17	825.59	52.92%	47.08%
1999	1101.25	937.02	54.03%	45.97%
2000	966.02	987.01	48.48%	50.54%
2001	1335.52	746.53	64.14%	35.86%
2002	788.85	912.45	46.38%	53.63%
2003	1016.68	828.44	55.10%	44.90%
2004	884.10	932.05	48.68%	51.32%
2005	1104.10	899.20	55.11%	44.89%
2006	1207.90	884.20	57.74%	42.26%
2007	1186.50	812.90	63.18%	40.66%
2008	1429.67	1457.14	52.84%	50.48%
2009	1751.03	1040.04	62.74%	37.26%
Mean	1068.36	900.91	0.54	0.46

Table 5-13 Usage of Loan in the Middle region from 1995 to 2009

Year	Living loan	Production loan	Living (%)	Production (%)
1995	358.90	416.65	46.28%	53.72%
1996	493.53	404.12	54.98%	45.02%
1997	547.89	470.70	53.79%	46.21%
1998	527.49	419.82	55.68%	44.32%
1999	554.92	445.83	55.45%	44.55%
2000	587.47	413.83	58.67%	41.33%
2001	547.48	324.98	62.75%	37.25%
2002	642.67	405.77	61.30%	38.70%
2003	742.63	667.40	52.67%	47.33%
2004	669.35	740.93	47.46%	52.54%
2005	774.00	702.20	52.43%	47.57%
2006	991.00	725.60	57.73%	42.27%
2007	960.20	734.20	56.67%	43.33%
2008	1035.36	747.40	58.08%	41.92%
2009	1217.79	588.65	67.41%	32.59%
Mean	710.05	547.21	0.56	0.44

Table 5-14 Usage of Loan in the Western region from 1995 to 2009

Year	Living loan	Production loan	Living (%)	Production (%)
1995	239.88	408.12	37.02%	62.98%
1996	363.23	521.24	41.07%	58.93%
1997	304.16	433.60	41.23%	58.77%
1998	325.11	590.36	35.51%	64.49%
1999	419.13	516.67	44.79%	55.21%
2000	357.77	630.03	36.22%	63.78%
2001	459.73	651.49	41.37%	58.63%
2002	548.02	533.52	50.67%	49.33%
2003	804.90	1141.67	41.35%	58.65%
2004	711.04	967.98	42.35%	57.65%
2005	665.20	985.30	40.30%	59.70%
2006	736.80	730.50	50.21%	49.79%
2007	761.40	970.10	43.97%	56.03%
2008	992.39	1019.68	49.32%	50.68%
2009	1399.10	1220.00	53.42%	46.58%
Mean	605.86	754.68	0.43	0.57

5.4 Formal Lending in Rural China (1979-2009)

5.4.1 Introduction of Data from Other Sources

In terms of the formal lending in China, I adapt the data from China Statistical Yearbook, China Rural Finance Yearbook, China Agricultural Economics Statistical Yearbook and Chinese Rural Finance Reports to try to analyze farmer loans provided by formal financial institutions. The Chinese government published farmer loans from 1979 to 1991 by province and from 2007 to present, but the data from 1992 to 2008 is missing.

In this part, I mainly focus on RCC loans and farmer loans. In terms of farmer loans, the first data source is China Rural Financial Yearbook¹, which recorded farmer loans from 1979 to 1989 in China. The second data source is China Rural Finance report². After 1991, Central government stopped to release farmer loans data in China Financial yearbook until 2007, so the data of farmer loans from 1992 to 2007 is missing. In order to better reflect the development of farmer loans, I divide loans by planting areas to get farmer loans per mu to analyze the features of farmer loans.

For the data from other sources, they are mainly coming from authoritative official channels and most of financial data is recorded in nominal terms. The data during those historical movements (e.g Grain output value) might be modified by central government, but considering the difficulty of obtaining these data, I ignore the problem and try to adjust these from other sources.

¹ China Rural Finance Yearbook was published by China Statistical Publishing House, 1992.

² China Rural Finance Report was initially published by the People's Bank of China in 2007 and it is published per biennium.

5.4.2 Analysis of farmer loans from 1979 to 1989

As it can be seen in Table 5-15, average annual growth rates of farmer loans in all provinces were over 20% from 1979 to 1989. The average growth rates for all provinces from 1985 to 1989 were 10.8%, 27.7%, 26.3%, 10.3% and 4.4%, respectively. And the growth rate reached a peak in 1984. Farmer loans per mu in 20 out of 32 provinces increased by more than 100% in 1984. One of the reasons is due to 1978 reform and the Rural Household Responsibility system was established and developed after that. Another reason might be agricultural loans were out of control in 1984¹. After 1984, the growth rate has slowed down significantly.

Farmer loans in Hebei, Guangdong and Shanxi provinces increased relative quickly from 1979 to 1989, with a growth rate of 56%, 53% and 40% respectively. Meanwhile, farmer loans in Beijing, Shanghai and Neimenggu provinces increased at the slowest annual growth rate with 27%, 25% and 24% respectively. The slow increase in Beijing and Shanghai might be the change of the focus of economic structure in these provinces.

¹ See: The History of ABC (2000), Economic Science Press, Chapter 4, page 182.

Table 5-15 Farmer Loans per mu from 1979 to 1989

Province	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	Annual growth rate
Beijing	0.88	0.95	1.06	1.12	1.52	9.18	7.87	6.95	8.03	9.42	8.13	25%
Tianjin	0.41	0.57	0.68	0.94	1.87	12.17	13.66	14.80	20.18	22.71	22.09	49%
Hebei	0.58	0.65	1.10	1.79	3.32	13.33	14.49	22.72	33.66	42.75	48.37	56%
Shanxi	0.65	0.75	1.49	2.60	6.72	20.70	19.78	23.80	27.62	32.74	38.69	50%
Neimenggu	1.68	0.93	1.15	2.00	3.86	6.56	7.29	8.90	10.64	12.92	14.17	24%
Liaoning	0.66	0.89	1.14	1.76	4.62	14.46	17.28	21.26	26.17	29.62	33.79	48%
Jilin	0.41	0.64	0.68	1.08	4.39	16.99	21.83	26.66	31.63	31.17	17.42	46%
Heilongjiang	0.33	0.33	0.42	0.70	1.59	8.26	9.49	9.89	11.13	11.32	11.90	43%
Shanghai	0.53	1.19	1.21	1.28	2.16	4.54	3.78	5.93	8.66	8.68	5.57	27%
Jiangsu	0.41	0.36	0.40	0.59	1.22	4.21	3.10	4.13	4.58	4.72	5.28	29%
Zhejiang	0.72	1.09	1.20	1.50	2.79	6.81	7.37	13.11	17.22	18.24	20.91	40%
Anhui	0.38	0.55	1.10	3.25	5.81	9.09	9.83	12.85	15.67	15.17	16.31	46%
Fujian	0.85	1.10	2.67	4.65	7.41	15.72	17.97	25.24	32.75	30.87	34.86	45%
Jiangxi	0.47	0.52	0.77	1.74	3.63	5.94	7.23	9.24	11.18	12.27	13.04	39%
Shandong	0.45	0.45	0.64	0.79	1.84	8.51	9.18	12.27	15.24	16.10	17.00	44%
Henan	0.61	0.77	1.69	3.11	4.72	11.83	13.02	17.43	23.74	26.00	29.35	47%
Hubei	0.80	0.88	1.11	1.63	2.87	8.20	8.45	9.55	11.94	13.60	15.15	34%
Hunan	0.47	0.66	1.20	2.23	3.23	6.34	7.38	10.39	14.69	14.97	15.80	42%
Guangdong	0.82	2.25	3.90	6.13	8.87	17.71	21.52	29.92	39.08	50.85	58.32	53%
Guangxi	0.90	1.17	1.98	4.90	6.65	11.10	14.11	18.25	24.28	24.16	26.04	40%
Hainan								33.26	48.86	69.11	67.07	
Sichuan	0.94	1.50	1.73	3.18	6.24	11.79	11.65	14.90	18.55	18.05	19.88	36%
Guizhou	1.46	2.24	3.85	5.55	7.52	10.40	11.14	14.06	16.43	17.41	16.82	28%
Yunnan	1.17	1.54	2.60	4.84	9.02	17.19	18.77	22.09	26.83	27.84	26.26	36%

Shannxi	0.64	0.82	1.29	2.69	5.00	11.61	11.90	17.20	23.09	25.36	28.01	46%
Gansu	0.64	0.77	2.12	3.91	5.85	9.73	12.12	14.08	16.25	17.59	18.72	40%
Qinghai	0.44	0.62	0.97	2.76	5.29	11.44	14.88	17.33	19.14	22.05	23.58	49%
Ningxia	0.59	0.65	1.06	2.12	3.50	6.29	8.74	9.23	11.47	13.66	14.60	38%
Xinjiang	0.34	0.32	0.33	0.42	0.84	4.50	5.39	6.43	8.18	9.58	11.80	43%

Sources: China Rural Finance Yearbook

note: The unit is yuan. Data of Hainan is missing for Hainan was established as a provincial administrative region on April 13, 1988.

From 1979 to 1991, RCCs were the main provider of farmer loans and on average 79.1% of total farmer loans were issued by RCCs. As it can be seen from Table 5-16, the proportion of farmer loans provided by RCCs in almost all provinces were over 50% except Gansu, Qinghai and Neimenggu province. Among them, almost all farmer loans in Beijing and Shanghai were provided by RCCs. In the more developed eastern provinces such as Tianjin, Jiangsu, Zhejiang and Guangdong, RCCs provided more than 90% of the total farmer loans.

Table 5-16 Percentage of Farmer Loans issued by RCCs from 1979 to 1989

RCC percentage	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
Beijing	96.8%	97.1%	98.8%	99.3%	99.5%	99.2%	98.4%	98.6%	99.0%	99.3%	99.1%
Tianjin	61.7%	75.3%	82.1%	87.4%	93.6%	91.3%	92.8%	94.7%	94.9%	94.5%	93.1%
Hebei	53.9%	61.5%	78.1%	86.7%	92.5%	91.9%	91.5%	91.3%	88.0%	86.4%	85.8%
Shanxi	74.4%	79.5%	89.2%	93.4%	93.7%	84.0%	83.0%	84.5%	85.1%	85.4%	85.9%
Neimenggu	46.3%	51.4%	52.1%	48.2%	41.1%	50.7%	49.8%	48.7%	51.6%	54.4%	57.3%
Liaoning	63.1%	67.8%	74.1%	83.2%	78.7%	85.0%	79.9%	80.8%	84.2%	85.7%	86.6%
Jilin	83.4%	87.2%	95.6%	92.7%	45.4%	51.4%	44.0%	43.2%	47.9%	50.0%	9.9%
Heilongjiang	62.5%	62.0%	65.7%	68.4%	48.5%	34.4%	34.5%	39.3%	46.5%	48.9%	50.9%
Shanghai	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Jiangsu	54.0%	51.1%	43.2%	57.7%	88.3%	96.8%	95.4%	96.1%	97.0%	96.5%	97.2%
Zhejiang	84.3%	90.0%	91.8%	94.1%	96.6%	97.2%	96.0%	97.2%	95.9%	94.3%	94.1%
Anhui	64.9%	77.1%	80.5%	57.7%	46.2%	66.8%	70.0%	74.6%	78.1%	82.5%	81.8%
Fujian	92.3%	94.2%	95.8%	96.6%	92.8%	91.1%	87.8%	85.3%	80.2%	79.2%	80.9%
Jiangxi	81.6%	84.8%	85.5%	84.9%	75.0%	83.4%	83.3%	85.3%	85.5%	86.4%	88.8%
Shandong	73.3%	76.3%	85.1%	89.8%	79.4%	85.4%	85.4%	87.9%	87.7%	87.4%	87.7%
Henan	62.7%	74.3%	79.5%	72.4%	71.0%	74.7%	74.9%	77.2%	79.9%	79.7%	80.0%
Hubei	86.3%	87.6%	86.0%	89.1%	88.0%	86.4%	84.7%	86.1%	87.8%	88.3%	89.8%
Hunan	91.5%	92.2%	93.3%	93.7%	90.0%	84.9%	84.5%	87.3%	86.8%	85.8%	87.2%
Guangdong	91.8%	97.0%	97.5%	97.1%	96.3%	93.8%	92.2%	91.4%	90.8%	90.3%	90.4%
Guangxi	72.9%	79.6%	84.8%	89.8%	89.7%	88.0%	86.5%	87.7%	87.4%	85.4%	87.4%
Hainan								77.3%	71.2%	66.6%	64.9%
Sichuan	76.7%	85.9%	87.0%	92.2%	95.6%	95.3%	94.0%	92.6%	92.7%	91.9%	92.4%
Guizhou	84.5%	90.0%	90.5%	93.1%	93.7%	90.4%	89.0%	85.2%	82.8%	81.1%	81.8%
Yunnan	88.5%	93.1%	87.2%	85.1%	85.1%	82.6%	79.3%	78.6%	77.3%	76.1%	77.8%
Shannxi	75.4%	76.7%	84.5%	88.2%	89.7%	82.8%	79.1%	81.6%	81.1%	81.6%	83.5%
Gansu	54.3%	65.7%	44.8%	40.3%	34.8%	45.9%	44.8%	47.0%	50.3%	49.6%	53.5%
Qinghai	71.8%	76.0%	70.8%	63.9%	60.4%	54.5%	47.4%	44.0%	43.0%	42.4%	42.5%
Ningxia	57.4%	62.9%	58.8%	54.9%	65.3%	72.3%	70.1%	68.4%	64.7%	71.2%	76.5%
Xinjiang	93.7%	92.7%	94.4%	92.0%	86.3%	76.0%	70.4%	66.6%	67.1%	64.8%	68.2%

Sources: China Rural Finance Yearbook, 1992.

5.4.3 Analysis of farmer loans from China Rural Finance Report

Starting from 2007, Central government started to publish China Rural Finance Report to provide development of rural finance in China. There are four categories of loans about agriculture. To be specific, Agri-related loan stands for all loans related to agriculture and is a broad concept. Rural loan stands for all loans issued to rural areas in China and village enterprise is part of rural loans. Agricultural production loan stands for loans for agricultural production. Farmer loan stands for loans issued to farmers and individuals in China.

Table 5-17 represents agricultural credit development from 2007 to 2016. From 2007 to 2016, farmer loans increased at an annual growth rate of 20%, which is significantly higher than that of agricultural production loans (10%), of rural Loan (18%) and Agri-related Loan (19%). The proportion of farmer loans to rural loans has gradually increased from 26.6% in 2007 to 30.8% in 2016.

Table 5-17 Summary of Agricultural Credit from 2007 to 2016

Year	Farmer Loan	Agricultural Production Loan	Rural Loan	Agri-related Loan
2007	13399	15055	50384	61151
2008	15170	15559	55569	69124
2009	20134	19488	74551	91316
2010	26043	23045	98017	117658
2011	31023	24436	121469	146016
2012	36195	27261	145467	176310
2013	45047	30437	173025	208893
2014	53587	33394	194383	236002
2015	61488	35137	216055	263522
2016	70846	36627	230092	282336
Annual Growth Rate	20%	10%	18%	19%

Source: China Rural Finance Report, 2016

note: The unit of loan amount is 100 million yuan. The loan amount is a year-end outstanding figure.

5.4.4 Summary

In Chapter 5, I focus on the demand analysis of farmer loans from two aspects. Firstly, I analyze the informal lending based on National rural fixed observation data among three regions. Imbalance of economy and policy inclination brought about different features of farmer loans in three regions. It can be concluded that farmers rely more on informal channels based on National data and farmers in the Western region have a higher tendency toward formal finance compared with farmers in the Eastern and the Middle regions. On another side, I analyze the farmer loans based on China Rural Finance Yearbook. By analyzing farmer loans from 1979 to 1989, I found out that RCCs have gradually become an important provider of farmer loans and farmer loans in all provinces maintain a high annual growth rate from 1979 and 1989, which might imply the establishment of Rural Household Responsibility system promoted the development of rural economy. After the re-releasing of farmer loans after 2007, farmer loans has gradually become a focus of rural finance.

CHAPTER 6 CONCLUSION

In this thesis I investigated developments in agricultural credit in China from a historical and macro view. I sought to achieve the following objectives: First, I sort out the political movements and development of rural finance sector in China from 1950 to 1984. Secondly, by using data from financial gazetteers, I have shown that agricultural loans and RCC loans were affected by policies during different periods of time. Interestingly, establishments of ABC, occurrence of the Great Leap Forward movement and two stages of the Cultural Revolution do impose positive effect on agricultural loans. And the change of steel output value imposes a negative effect on RCC loans during the Great Leap Forward. The simple analysis of interest rate elasticity of credit demand also demonstrates full elasticity might exist in some provinces, which challenges the tradition idea that credit demand elasticity is not elastic in China. Furthermore, the documentation of local financial gazetteers do provide interesting and valuable stories about agriculture credit in China. Thirdly, I conduct qualitative analysis on informal lending in three economic regions from 1986 to 2009 based on the National rural fixed observation data and find out that farmers rely more on informal channels and interest-free informal lending accounts for a relatively large part of total loan demand. Fourthly, I conduct qualitative analysis on farmer loan per mu based on China Rural Finance yearbook. Farmer loans per mu maintain a growth rate of over 20% in all provinces from 1979 to 1989 and farmer loans are mainly provided by RCCs. To sum up, China's rural finance development and reform is spontaneous process that accommodates reforms in other sectors and responds to the economic and institutional environment.

Due to the availability of continuous data from local financial gazetteers, I only have a chance to analyze the effects of different policies on agricultural credit. If more continuous and valuable data is collected from city-level gazetteers, more interesting stories will be revealed.

APPENDIX

Table A 1 Agricultural Loan in China from 1952 to 1988

Year	Total Loans	Agricultural Loans	Change of Agricultural Loans	Great Events in China
1952	108	4.2		1951 Agricultural cooperative Bank established
1953	134	6.6	2.4	
1954	184.6	7.6	1	
1955	204.2	10	2.4	1955 ABC was established for the first time
1956	233.9	30.2	20.2	
1957	277.5	27.7	-2.5	1957 ABC was abolished
1958	477.7	43.4	15.7	"Great Leap Forward" movement carried out
1959	798.1	44.5	1.1	
1960	968.7	62.8	18.3	
1961	803.5	63.7	0.9	Three-year economic hardship
1962	682.1	66.7	3	
1963	568	70.8	4.1	1963 ABC was re-established for the second time
1964	578	71.5	0.7	
1965	647.4	78.2	6.7	
1966	755.9	77.7	-0.5	
1967	796.6	81.4	3.7	
1968	890.3	81.2	-0.2	
1969	945.5	84	2.8	
1970	1033.4	85.1	1.1	
1971	1113.9	51.6	-33.5	Cultural Revolution
1972	1145.6	56.6	5	
1973	1269	58.8	2.2	
1974	1353.5	64	5.2	
1975	1462.7	72.4	8.4	
1976	1541.8	90.4	18	
1977	1663.3	98.3	7.9	
1978	1850	115.6	17.3	Household Responsibility System was established
1979	2039.6	136.7	21.1	ABC was re-established for the third time
1980	2414.3	175.9	39.2	
1981	2764.6	189.7	13.8	
1982	2860.2	212.5	22.8	
1983	3180.6	231.2	18.7	
1984	3589.9	368.1	136.9	
1985	4766.1	416.6	48.5	

1986	5905.6	570.4	153.8
1987	9032.5	685.8	115.4
1988	10551.3	814.2	128.4

Table A 2 Statistics of Deposit and Loan by RCC from 1953-1988

Year	Total Deposit	Collective agriculture deposit	Township enterprise deposit	Farmers savings deposit	Other deposit	Total Loan	Collective agriculture loan	Township enterprise loan	Farmers loan
1953	0.1	0.1				0.2	0.2		
1954	1.6	1.6				1.2	1.2		
1955	6.1	6.1				3.0	3.0		
1956	10.8	6.5		4.3		10.2	4.1		6.1
1957	20.7	13.4		7.3		9.5	4.2		5.3
1958	40.3	20.2		20.1		24.7	13.6		11.1
1959	45.0	24.0		21.0		22.9	16.0		6.9
1960	43.1	27.9		15.2		22.3	12.7		9.6
1961	47.1	30.9		16.2		17.6	9.5		8.1
1962	28.2	18.4		9.8		15.6	7.9		7.7
1963	31.4	21.3		10.1		13.8	5.6		8.2
1964	42.8	32.1		10.7		14.1	4.2		9.9
1965	48.0	35.1		12.9		13.5	3.1		10.4
1966	60.9	46.3		14.6		15.2	3.8		11.4
1967	73.2	59.2		14.0		14.6	3.6		11.0
1968	75.7	59.7		16.0		16.5	4.0		12.5
1969	73.3	58.4		14.9		17.8	4.5		13.3
1970	76.4	61.4		15.0		18.8	5.6		13.2
1971	90.3	64.2		17.0	9.1	19.4	6.0	0.8	12.6
1972	90.9	61.5		20.1	9.3	21.1	7.9	1.2	12.0
1973	104.3	67.3		27.1	10.4	20.8	7.8	1.5	11.5
1974	121.2	78.1		30.6	12.5	22.0	10.7		11.3
1975	135.1	85.1		35.1	14.9	26.7	15.4		11.3
1976	141.2	89.4		36.9	14.9	35.8	17.1	7.0	11.7
1977	151.3	89.3		46.5	15.5	39.7	18.4	9.9	11.4
1978	166.0	93.8		55.7	16.5	45.1	21.8	12.1	11.2
1979	215.9	98.3	21.9	78.4	17.3	47.5	22.4	14.2	10.9
1980	272.3	105.5	29.5	117.0	20.3	81.6	34.5	31.1	16.0
1981	319.6	113.2	29.7	169.6	7.1	96.4	35.7	35.5	25.2
1982	389.9	121.1	33.7	228.1	7.0	121.2	34.8	42.3	44.1
1983	487.4	91.8	62.3	319.9	13.4	163.7	28.2	60.1	75.4
1984	624.9	89.9	81.1	438.1	15.8	354.5	38.4	135.0	181.1
1985	724.9	71.9	72.1	564.8	16.1	400.0	41.4	164.4	194.2
1986	962.3	83.9	91.7	766.1	20.6	568.5	44.6	265.9	258.0
1987	1225.2	89.9	104.7	1005.7	24.9	771.4	64.5	359.3	347.6
1988	1399.8	98.4	128.3	1142.3	30.8	908.6	80.1	456.1	372.4

Source: Fighting 40 years, National Bureau of Statistics, 1989

Note: The unit of loan is billion yuan.

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