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RESEARCH ON RURAL CREDIT UNION FINANCIAL RISK MANAGEMENT AND
PRECAUTION. CASE STUDY: MIANZHU RURAL CREDIT UNION.

Bachelor's Thesis 2009

ABSTRACT

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Liuqin Yang Research on rural credit union financial risk management and precaution. Case study: Mianzhu rural credit union

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The aim of this thesis was to analyse the rural financial institution's management and prevention as well as the control of financial risks through the specified case study. Post-disaster reconstruction loans have twofold characteristics, not only a positive social meaning, but also financial risks. How does Mianzhu rural credit union issue loans to earthquake victims to support post-disaster reconstruction, and through what methods it manages and guards against the financial risks at the same time? This is the study of this thesis.

The study combines qualitative research methods. In the analysis of financial risks management and control using the qualitative research methods mainly, for instance, interview rural credit union departments and prospective borrowers.

The results of study include the summary and suggestions of post-disaster reconstruction loans risks management and control in Mianzhu rural credit union, moreover, revelation from the financial support of post-disaster reconstruction and stable operation of regional financial economies.

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1. INTRODUCTION

1.1 Background

A devastating earthquake disaster, measuring up 8.0 richter scale, struck southwestern China on May 12th 2008 at 06.28 GMT. The total disaster area of Sichuan province was approximately 500,000 square meters, the number of calamity-stricken people was more than 46,250,000, and 68,712 people died in the disaster, the number of missing people was 17,921 and 374,649 were injured. In the direct economic losses were more than 845.1 billion RMBs (approximately 84.51 billion Euros). (Gao & Ban 2009.) Longmen Mountains, Wenchuan, Mianzhu and Beichuan and some other counties were severely damaged, a large number of rural housing had been razed to the ground, the calamity-stricken farmers are homeless, and all the property had been damaged.

The primary task in post-disaster restoration and reconstruction work is to do the rural residential housing rehabilitation and reconstruction in the earthquake-stricken areas which was concerning the overall situation of social stability in the disaster areas. To provide credit support for the rural residents housing restoration and reconstruction is the currently primary task of banking institutions of Sichuan province (The people's bank of China 2008). In the particular context of earthquake, the loans of rural housing reconstruction have very large quantities, and wide range of distribution, post-farm families' economic power yet to resume, therefore, credit risk prevention management of post-disaster reconstruction loans is an important task faced by

financial institutions (The people's bank of China 2008).

After the earthquake, many countries and international organizations showed sympathy with Chinese calamity-stricken people. Some of them had provided financial and material aid to China. Associated Press, CNN, New York Times, The Washington Post, The Wall Street Journal, Times etc. had reported the earthquake in China . Continuously, they reported the earthquake disaster in China through pictures, photos and videos. And how Chinese government did with the rescue work, especially Japanese press, they had analysed the affect on the earthquake might bring to Chinese economy and the problems China might meet with in the post-disaster reconstruction works. To sum up, the international media attached high attention to Wenchuan earthquake disaster, and they admired the quick response of Chinese government after the earthquake happened.

1.2 The objectives of the thesis

Financial institutions for post-disaster reconstruction of rural housing loans have a dual character, not only to support agriculture, rural areas, farmers as well as post-disaster reconstruction, these have positive social significance, at the same time, because of this particularity of rural housing reconstruction loans, requiring a high degree of preventing credit risk.

The purpose of this thesis through the specific cases of rural housing loans for construction, analyse the credit risk specification

of this post-disaster reconstruction loans, form of expression, the deep cause reasons for it, and how to manage, prevent and resolve the credit risk of reconstruction of rural housing loans by rural credit unions, in the end, several proposals and measures will give.

1.3 The research methods

This thesis combines qualitative and quantitative research methods to analyse and identify deeply of issuing the post-disaster rural housing reconstruction loans and credit risks in Mianzhu city, and then summarizing the reasons of the credit risks caused by using the inductive and standard study methods.

In the analysis of credit risk management and risk control, the quantitative research methods mainly to survey, analyse the research of the credit department of rural credit union and prospective borrowers.

2. FINANCIAL RISK AND THE MANAGEMENT OF FINANCIAL RISK

2.1 Financial risk

2.1.1 The definition of the financial risk

At present, the academic circles have not reached at a consensus and unified definition for what is risk or financial risk. The risk is a common and frequently used word; Li (1996, 1) defined current risk definitions including the followings:

- Risk refers to the possibility for losses.
- Risk means uncertainty.
- Risk refers to the deviation or degree of deviation between the actual outcome and the expectations.

The three different definitions attempt to elaborate the meaning of risk from different perspectives, the first one elaborates in terms of its overall damage or consequences, the second one defines its nature and state, the last one looks at it from the perspective of its actual influence on the principle part. By summarizing the three ideas, it is possible to conclude a complete theory of what is risk.

In this sense, financial risk refers to the possibility and uncertainty of suffering losses for the principal party in financial transaction, or under the influence of various insecure factors the possibility of deviation between the actual proceeds and expected proceeds (Song & Li 2008, 10).

2.1.2 The characteristics of the financial risk

The knowledge of the intrinsic nature and characteristics of financial risk form the foundation and premise for the prevention and control of bank's risk. In addition to the general features of risk, Li (1996, 6) demonstrates the following characteristics of the financial risk:

- **Objectivity.** The existence of financial risk is inevitable as long as human beings are engaged in the financial activities; it is of sure existence regardless of the human will. The 100% risk free financial transaction does not occur in the real financial activities.
- **Controllability.** Although, the existence of risk cannot be denied, it can be put under control. The so-named controllability refers the anticipation and identification of risk in advance, prevention and handling of the risks afterwards.
- **Infusibility.** One obvious characteristic which makes financial risk different from other types of risks is that the losses or failures of banks affect its own development and more importantly it incurred the losses and failures to numerous investors and saving accounts.
- **Concealment.** The financial risk accompanies the financial crisis and crisis of calming deposits because the banks credit may cover up its nature of uncertain losses.
- **Accumulatively and Acceleration.** Once the financial risks broke out, unlike the break out of other crisis which alter within a certain limit. Owing to the loss of credit, it stimulates the changes which is sudden and accelerative which results

in the financial risks.

2.2 Credit risk

Once the commercial banks begin to perform their function as a credit agent, it is unavoidable for them to face one fundamental risk, or credit risk. Credit business loan which is one of the traditional and major businesses of banks, owing to the fact that bank is the center of social credit and centralized area of credit risk.

Therefore, credit risk is one of traditional risks the banks are confronted with; meanwhile, due to enormous loss caused by credit risk, it is one of the prominent risks the banks are confronted with.

In different economic and financial environment, the commercial banks operating mechanism and management system are different; people's credit risk definition and connotation of understanding are different. The current theoretical understandings of credit risk are mainly the following views.

Firstly, with regard to the definition of credit risk, the traditional view refers to the inability to perform the risk of trading partners, and the debtor fails to repay its debts on schedule caused by breach of contract, consequently causing risks to the operation of economic body (Basel committee 1997).

Secondly, in terms of other point of views, the credit risk is of both

the broad and narrow sense. According to Zhao (1999, 20) the broad sense refers to risk resulting from the breach of contract (or trustworthiness) and changes of assets qualities arising from business borrowers who do not timely pay the debt; a large number of depositors run on the formation of an early withdrawals in debt business which increased the difficulties in payment; balance-sheet business, counterparty default contingent liabilities arise out of or into a sheet liabilities, and so on. Credit risk in the narrow sense usually refers to credit risk.

Thirdly, Wang (2001,6) holds that credit risk refers to the possibility of suffering losses incurred by the breach of faith of the borrowers or the counterparts in business; more generally, the credit risk also involves borrower's credit rating changes and performance capabilities changes which lead to changes in the market value of the debt. Therefore, the magnitude of credit risk depends on the size of the counterparty's financial situation and risk profile.

I think that the third view is more accurate and more thorough, Gestel and Baesens (2009,24) argue the credit risk from the borrower's poor performance means that the borrower cannot afford, or unwilling to meet a predetermined schedule to repay the loan principal and interest of the contract to commercial banks, therefore incurred losses. This thesis focuses on discussing credit risk within the range of its narrow sense.

2.2.1 Credit risk impact on economy and society

2.2.1.1 The impact of credit risk on micro-economy

The impact of credit risk on micro-economic is presented in the following areas.

Firstly, the direct consequence of credit risk is a direct economic loss to the economic body (Song & Li 2008, 44).

Secondly, credit risk reduces the capital utilization rate. Due to the seriousness of the breadth of its consequences, a number of enterprises (including banks) and individuals have a certain amount of "risk reserve" to cope with credit risk and other financial risks(Song & Li 2008, 44).

Finally, the credit risk increases transaction costs and management costs. As the uncertainty of credit activities makes it difficult to correctly assess the number of assets, the transaction is not smooth; the market is inefficient, increases the transaction costs. In addition, it increases the risk of economic agents in decision-making, management costs. Moreover, the credit risk causes financing difficulties to enterprises, and affects banker's liabilities and intermediate business. (Song & Li 2008, 44.)

2.2.1.2 The impact of credit risk on macro- economy

First of all, credit risk and financial risk can cause abnormal development of the industrial structure, the entire lower the level of social productive forces. Because of the existence of credit risk and other financial risks, a large number of capital flows to national monopolies, such as electricity, security pass and high schools and lead to superposition of investment, while the much-needed

capital for small businesses are difficult in financing, leading to the marginal decline in productivity and misallocation of resources which result in slow development for some key sectors of the economy, thus form a "bottleneck". Similarly, a number of economic entities often find it is difficult to raise development funds or obtain loans from banks, and adhere to traditional technologies instead of making technological innovation in order to reduce risk. (Song & Li 2008, 45.)

Again, Song and Li (2008, 45) say that a serious credit risk will cause financial disorder or chaos and undermine social order even causing a panic. Moreover, it can greatly damage the productive forces. A poorly managed bank failures will increase the credit risk of the depositor vigilance, could trigger a bank's credit crisis, triggered a large-scale bank run, or more seriously, will lead to the collapse of the financial system.

Finally, Song and Li (2008, 45) explain the credit risk has a direct impact on a country's development and smooth operation of international trade activities and financial activities. A country's credit system is sound whether people have a good credit culture or environment constitutes an important element of the country's investment environment. If the credit risks of economic and financial activities turn out to be great foreign countries would reduce the country's investment and other exchanges, they also affect the country's import and export of goods which may result in a decline in the trade balance, labor income, ultimately give a direct impact on a country's capital projects.

2.3 Credit risk management

In the commercial bank business process, credit risk caused by the non-compliance of borrowers is the major sources of risk for commercial banks. Borrowers are unable or unwilling to repay loans due thus formed overdue, doubtful or bad loans of bank are one of the key factors affecting banker's performance. Therefore, for commercial banks, credit risk control and management are crucial.

Li (1996, 64-66) defines credit risk management is to prevent and reduce commercial bank loan losses, and take effective preventive, resolve and control measures to protect the security of credit assets and profitability of the activities of the process. According to Li (1996, 66-67) credit risk management not only affects the main micro-economic behavior and business performance, but also affects the entire order and efficiency of financial markets, credit risk management; the significance of credit risk management is its impact on the economy.

From the perspective of commercial banks, Li (1996, 66-67) argues credit risk management can be divided into three stages: pre-loan credit analysis, credit control and credit review, post-monitoring and management. Among them, pre-credit risk identification, risk assessment and post-loan risk monitoring, risk warning and treatment are the most important credit management process. Complete credit risk management mechanism is usually made up of four parts: mechanism of credit risk identification, credit risk analysis, assessment mechanisms, and credit risk

monitoring and early warning mechanisms.

2.3.1 Credit risk identification

Commercial bank credit risk identification is defined by Song and Li (2008, 50) as identification and analysis of risk types and causes before the occurrence of a variety of credit risk in order to measure and handle the credit risk which is the first step in credit risk management focus on the qualitative analysis of credit risk.

Commercial bank credit risk results from two causes, namely, the borrower cannot repay the loans and is not willing to repay the borrowings (Song & Li 2008, 51). When the borrower due to natural, social, and economic risk caused by business failure, the borrower will not repay their loans; when the borrower is interested in obtaining bank loans for speculative or other normal operating activities, causing the bank suffered losses, expressed as borrower from the outset, unwilling to repay the borrowings. Specifically, the leading commercial banks of credit risk factors are policy factors, the law that the contract text factors, market factors, credit factors, analysis and evaluation personnel, as well as subjective factors and objective factors such as variable factors.

Song and Li(2008, 67) argues commercial bank credit risk identification aims at finding out the causes and effects of credit risk factors, thus lay a foundation for credit risk quantification and control through comprehensive customer information, financial information, account information and credit information. Its main approaches involve financial statements analysis, the risk tree of

search method, experts' prediction (Delphi method), filtering, monitoring and diagnostic method (Goodman method) and other methods.

2.3.2 Credit risk assessment

In terms of the commercial bank credit risk assessment, it includes two parts. First, estimate of the likelihood of certain credit risk; second is a measurement of extend of losses caused by credit risk. (Li 1996, 67).

5C Method is a tradition credit risks evaluation method. It has been defined by Gestel and Baesens (2009, 265) that according to the borrowers' character (for instance, their reputation, responsibility and credit record history those are the main criteria to determine the borrower characters), capacity (it refers the capacity of borrowers repay the loan, including the operating conditions of the borrowers enterprises, and their prospects of their investment projects), capital, collateral, condition (it means the industries' business environment and trends in the whole economy), continuity (refers to the operations prospects of the borrowers).

These factors can assess the creditworthiness and overall repayment ability, and provide basis to decide whether to issue loans, or in what way, what kind of conditions to issue loans.

2.3.3 Credit risk monitoring and early warning

Commercial bank's credit risk monitoring and warning aim at improving the commercial bank's credit risk management level. Through the scientific prediction and tracking of the credit risk of commercial banks and issue timely alarm signal for problem loan, enabling commercial banks to early detect problems and take measures to reduce or avoid losses.

2.3.4 Credit risk treatment

Disposal of credit risk means taking corresponding measures and methods according to the different types, probabilities and sizes of credit risk, so as to reduce the credit risk to a minimum level (Song & Li 2008, 54).

For commercial banks, after they finish the processes of credit risk identification, assessment and early warning, they have to choose the appropriate risk management method, in order to truly ensure the real credit risk management. Song and Li (2008, 54-59) explain commercial bank credit risk management methods consist of many types mainly include risk prevention, risk aversion, risk diversification, risk transfer, risk suppression and risk compensation shown as followings.

- Risk prevention refers to strengthening management, and taking the appropriate measures to prevent the occurrence of credit risk.
- Risk aversion refers to the commercial banks consciously take evasive measures to deny loans to those borrowers

who might incur a greater loss to the bank.

- Risk diversification refers to the banks to use portfolio theory and the model of the various credit risk characteristics of assets analysis, according to their different risk-return characteristics and to establish the correlation between risk return the best credit portfolio.
- Risk transfer refers to the commercial banks to take a variety of ways out of credit risk transfer, to avoid the loss of their own risk.
- Risk reduction refers to the commercial banks strengthen the supervision of credit assets after the loan, and strive to prevent the deterioration of the situation before the occurrence of loss or to take measures to reduce the risk of early losses.
- Risk compensation refers to the banks compensate losses with capital, profits, capital collateral auction incomes.

3. OVERVIEW OF CHINESE RURAL CREDIT UNION CREDIT RISK MANAGEMENT

3.1 The background of rural credit union

Rural credit union was established in the 1950s in the rural areas of China. In nearly six decades, the rural credit union has experienced ups and downs, gradually the union transformed into financial organizations to offer service to farmers, agriculture and rural economy whose shares are held by farmers, industrial and commercial households in rural areas, or variety types of economic organizations. Through a series of reforms, according to the different levels of economic development in different areas, rural credit union currently exist in three forms which are rural commercial bank, rural cooperative bank and rural credit union. (Jiang 2006, 16-18.)

Owing to the different property rights systems in different countries, rural credit union in risk management should also apply different management style. This thesis refers to rural credit union under the area of economically underdeveloped central and western of China in the sense of regional cooperation. Since the agriculture and agriculture-related financial institutions, banks and other financial businesses in the counties had gradually shrink and withdraw from the rural financial markets, rural credit union may take the advantages of a wide range of network coverage and the close relationship with farmers . It can offer agriculture, rural areas, farmer financial services, a principal form of rural financial service.

3.2 Characteristics of rural credit union

Rural credit union as foundation of rural financial system, it is not only a source of financial risk but also an economic institution to sustain financial risks. Rural credit union are characterized by participating in rural areas, serving agriculture, rural areas and farmers, the main business objects are the farmers, rural areas, the individual economy and small business enterprises; major business lines involves loads which are monotonous. (Jiang 2006, 10.)

Jiang (2006, 10) explains similar to other financial institutions, the credit risk of rural credit union can be divided into two situations: First, the so-called moral hazard, that is the ability to repay loans, but not to which bring the losses of uncertainty; second is the borrower unable to pay due to natural, social, economic and other factors of business failure, bringing the losses of uncertainty. Jiang (2006, 10) compared with commercial banks, the characteristics of rural credit union mainly reflected in the areas which are their own peculiarity, particularity of credit environment and other particularities.

3.2.1 Own peculiarity analysis

Jiang (2006,11) explains because of the nature and the peculiar system of rural credit union, its credit risks are mainly caused by rural credit union their own system defect and their lack of awareness of risk.

3.2.1.1 Own system defect

As mentioned earlier, it is not long after the rural credit union entering into the orbit of market operation; inevitably, there are various weaknesses for its operational systems. These institutional deficiencies are presented mainly in the following areas.

Its own rules and regulations are not yet fully formed, such as taking credit business as the main business activities, taking credit risk management as the core of the rural credit union operating; credit assessment, decision-making mechanisms are not perfect; lack of strict criteria for credit evaluation; credit decisions are subject to personal subjective wishes; credit risk accountability, incentive and restraint mechanisms have not been very well established; internal co-ordination among various departments to meet with the supervision mechanism is still not quite perfect, thus failed in establishing an effective operational mechanism which assumes independent responsibilities and balances mutually.(Jiang 2006, 11-12.)

3.2.1.2 Lack of the awareness of risk

The genuine process of commercialization of rural credit union has been only launched recently and takes long. In addition, owing to the state's progressive nature of financial reform and taking the social stability into consideration. It is impossible to allow market-oriented and commercial operations in full swing. Thus, while competition in the market is in dire straits, but the rural credit

union does not feel the tension because of this “unbreakable” stronghold — the government. Therefore, rural credit union is lack of the awareness of risk. (Jiang 2006, 12.)

Poor awareness of rural credit does not solely appear in rural credit union, more importantly, it appears in the specific employees who is responsible for the granting of loans. Due to poor awareness, both from the institutional design of rural credit union or from the credit activity of specific operations, it is impossible to strengthen the credit risk analysis and prevention at the time of lending, and strengthen loan or post-loan risk management. Therefore, a weak awareness of credit risk takes place in rural credit union.

3.2.2 Particular credit environment

Jiang (2006, 13) explains the main features of rural credit union are rooted in the rural areas, they are aim to serve three rural which are agriculture, rural areas, and farmers. The lender increases the particularity of the uncertainty of economic income, thereby increasing the credit operations of rural credit union credit risk.

3.2.2.1 Characteristics of rural economy make rural credit risk doubled

The agricultural economy, including planting and breeding industry, forestry, etc., is a weak industry, characterized by its long production cycle, constrained by natural, regional, seasonal

conditions, and the capital gains rate is low, agricultural products income elasticity is low, market expansion ability is poor, bearing the risk of natural conditions' impact.

Jiang (2006, 13) explains the agricultural enterprises or farmers, once they have been a client of rural financial institutions by loans or other forms, rural financial institutions has to bear the risk of pressure arising from the process of natural production. This particularity doubles the rural loan credit risk.

3.2.2.2 Rural financial information adverse asymmetries increase credit risk

Rural credit union serves mainly the development of town enterprises in rural areas and farmers engage in the agricultural activities, while most rural areas of China are still relatively backward and of low productivity levels. Jiang (2006, 13) explains these are presented in the followings. The residential areas are scattered in rural areas, and the remoteness of many rural areas, located in the end of the modern information transmission, information transmission was slow, and often distorted.

Offering financial service under this context, there is an "information asymmetry and reverse", may led to the weakening of rural credit concept and financial disorder and induces a financial risk

3.2.2.3 The obvious "herding effect"

Jiang (2006, 14) mentions the "herding effect" exists in rural areas, urban areas and all walks of life, but the farmers are the most prominent, this is so because of their poor access to information and a relatively low cultural quality. In rural economic activities, it is often led by the village cadres, eminent figures in planting and breeding industry, specialized households, and other craftsmen. In financial activities, the exemplary role of these people is very clear that performs a guiding role in deposits and loans.

3.2.3 Other characteristics

3.2.3.1 Large sporadic possibility

As the agricultural economy in rural areas influenced by natural conditions, such as in case of natural disasters, farmers and agricultural economic organizations would have been unable to return the loans of rural credit union which may result in unexpected credit risk.

3.2.3.2 Difficult to transfer risks

Jiang (2006, 14) explains due to the fact that the rural credit unions are limited to serve the agriculture, rural areas and farmers. And because of the incompleteness of various social security mechanisms, once the credit risk occurs, excepts the support and assistance of the people's bank of China to give limited support, it is difficult to transfer risk through other means.

3.2.3.3 The large numbers of loan objects and the small loan-scale

In particular, according to Jiang (2006, 14), having granted loans to a number of agricultural loans to farmers, due to the small amount of loans and unable to supply the appropriate mortgage, the losses caused by credit risk is magnified. Owing to the characteristics of large numbers of loan items and small amount for each item which increases the risk management cost and its complexity.

3.3 The importance of rural credit union credit risk management

For various reasons, in the rural credit union, non-performing loan rate has been high and generally higher than state-owned commercial banks and shareholding banks. The high credit risk has seriously affected the healthy development of China's financial system and the service level of the agriculture, rural areas, and farmers, and lowers the economic benefits of rural credit associations and its adaptation to the market economy.

3.3.1 Macro-level analysis

The popularization of rural credit network institutions of cities, for instance, in towns there are credit unions, a large workforce, powerful financial strength, the size of its deposits and loans in the national social credit account for a large proportion of state social credit.

Rural credit union is an important component of China's financial system, part of the basis of the rural financial system, a foundation of China's rural financial system. Hence, if the credit risk occurs in rural credit union, they may lead to a series of financial risks and ultimately affect the healthy development of China's financial system.

3.3.2 Micro-level analysis

Credit risk management of rural credit union is firstly connected to the safety of credit funds, the greater the credit crisis the greater possibility for credit funds to sustain losses. If the credit funds suffer losses, they will undermine rural credit union's capabilities to support agriculture, rural areas, and farmers as well as influence their development. Second, it is related to the promotion of economic benefits, for high-risk loans, it is difficult to retrieve loan principal and interest; moreover it will be very difficult to get the economic benefit. Finally it is related to the problem that whether rural credit union can adapt to the market economy. The rural credit cooperative has to become an autonomous, self-financing legal entity, if they are unable to repay their debts, they will have to declare bankruptcy. Therefore, the rural credit union under the context of market economy has to strengthen credit risk management of loans.

4. CASE STUDY: MIANZHU RURAL CREDIT UNION

4.1 Background of post-disaster rural housing reconstruction loans

4.1.1 Wenchuan earthquake May 12th

At 06.28 GMT, May 12th 2008, a world-shaking earthquake broke out in Wenchuan, Sichuan province, China which led to a total disaster area of 139 counties which was affected seriously, Wenchuan, Beichuan, Mianzhu, Shifang and other ten counties were the most severely affected area. That earthquake caused a large number of casualties and enormous property loss, a large number of houses be collapsed, the infrastructures suffered extensive damage, and great losses were brought to the industrial and agricultural production. (Gao & Ban 2009).

Mianzhu, which lies in the northwest of Sichuan basin, is one of the “top 10 prosperous” counties of Sichuan province and a prosperous city in the west of Sichuan. It has an area of 1,245 km² and consists of 26 towns. The population of Mianzhu totals up to 520,000, among which the agricultural population is about 405,900. Mianzhu was elected as the “top 10 counties” 10 years in a row. On May 12th there happened a devastating earthquake, Mianzhu suffered a heavy damage. It was among the twelve worst-hit areas which caused a large number of casualties and enormous property loss. After the earthquake, 11,117 people died, 37,209 injured, 251 missing. More than 180,000 households' houses collapsed or seriously damaged. Most of the roads, bridges, water conservancy facilities and agricultural facilities were destroyed, the systems of

electricity, communication, water supply and gas supply almost broke down, government, schools, and hospitals were seriously damaged. The earthquake brought Mianzhu a total economic loss of 142.3 billion RMBs (approx. 14.2 billion Euros). (Gao & Ban 2009.)

403,700 residents in the rural areas of Mianzhu were affected by the earthquake, taking up 99.46% of its total rural population. The houses in the hillside area, Hanwang area and in the mountain areas were almost laid flat by the earthquake in Mianzhu. The houses of 133,800 rural families collapsed or were destroyed, among which 129,057 permanent homes need reconstruction. (Deyang Government 2009.)

The quantitative research method used in this thesis was collected by interviewing with a questionnaire in the post-disaster rural housing reconstruction areas. The personal interviews made randomly with over 30 farmers during August 2009. The questions of interview are based on the questionnaire (see the appendix 1) which is involved with the borrowers' background information, current income situation, and pre-earthquake credit information, credit information as well as the housing reconstruction and loans situation, current repayment situation. Its aim is to figure out what are the current situation and thoughts of farmers who live in post-disaster rural housing reconstruction areas and their feedbacks for credit risk management in order to improve the level of controlling credit risk.

In the thirty households' surveys, there were two households'

houses had not been collapsed, occupied for 6.67%; twenty-eight households' houses were collapsed wholly or partly, occupied for 93.33%. As can be seen from figure 1, four households' total economic loss were less than 30,000 RMBs (approx. 3,000 Euros), accounted for 13.33%; ten households' total economic loss were between 40,000 RMBs (approx.4, 000 Euros) and 60,000 RMBs (approx 6,000 Euros), accounted for 33.33%; and sixteen households' total economic loss were between 60,000 RMBs (approx.6, 000 Euros) and 100,000 RMBs (approx 10,000), accounted for 53.33%.

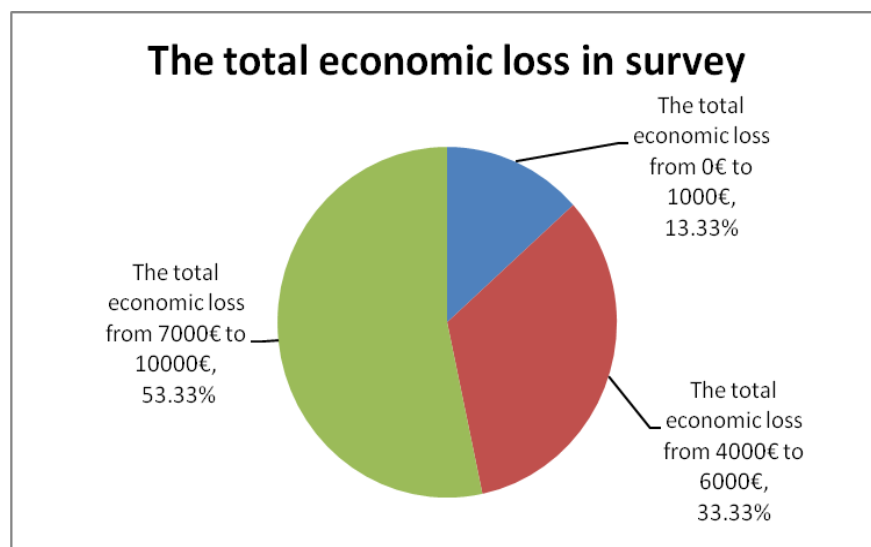


Figure 1 The total economic loss in survey

4.1.2 Relevant policies for the post-disaster rural housing reconstruction

4.1.2.1 Planning of the post-disaster rural housing reconstruction

After three months' earthquake relief work, the reconstruction work started in Mianzhu from August 2008, with the relevant policies and plans for the reconstruction coming out in succession, the

reconstruction work developed in full swing. Under the guidance of the regulations and policies of the central government (The central people's government of PRC 2008), Mianzhu government integrated the actual post-disaster reconstruction situation, they issued a reconstruction principle which is "unified planning and implemented step by step, organized by the government and farmers self-built, act according to different situations, make overall plans and take all factors into consideration, act under technical guidance and enhance the quality".

In the planning, farmers should act in accordance with government planning, building centralized in a new area or on the former address. The land for each family should be controlled within 200 m². Taking a family with three persons for example, 30 m² per capita, which means the family needs 90 m² of house area. Besides, take 20-30 m² of methane tanks into consideration, each family will need 100- 120 m². The cost of each square meter at that time was 600-700 RMBs (approx. 60-70 Euros), so the total cost of each family to build a 100 m² house would be 60,000-70,000 RMBs (approx. 6,000–7,000 Euros).(Mianzhu rural credit union 2008a.)

4.1.2.2 Government's financial subsidies for the post-disaster rural housing reconstruction

After Wenchuan earthquake, many affected farmers lived in urgent tents and prefabricated houses which were built by governments. In order to resume farmers' production and daily life rapidly, it was very important to speed up the houses reconstruction and repair

processes. However, in that particular situation, most of the farmers did not have the ability to afford it. Financial aids were urgently needed.

According to the documents issued by the Sichuan government (2008) and Mianzhu government (2008a), the standard subsidy of each family that government provided was 20,000 RMBs (approx. 2,000 Euros), however, varying according to different households' economic situations and the numbers of family members. Besides the funds which was supported by government and the funds that they raised by themselves. There would be 30,000 - 40,000 RMBs (approx. 3,000 - 4,000 Euros) for each family before applying for the loan from financial institutions. (Sichuan government 2008.)

4.1.3 Credit support for post-disaster rural housing reconstruction

According to the documents issued by the central people's government of PRC and government of Sichuan province, the post-disaster rural housing reconstitution is the priority of post-disaster reconstitution. It is said providing credit supports for the post-disaster rural housing reconstitution is the priority of the financial institutions in the whole Sichuan province. And also pointed out related regulations in the post-disaster rural housing reconstitution when financial institutions support loans, those were as follows. Financial institutions should actively fulfill their social responsibility to support the post-disaster rural housing reconstitution, at the same time be precautionous of financial risks and moral crisis. (The central people's government of PRC 2008.)

In Wenchuan earthquake disaster, the number of farm households need to rebuild was 129,057, and the numbers of farm households who need centralized rebuild planning were 88,114. (Mianzhu Rural Credit Union, 2008b) According to the statistics from civil affairs department, credit union and China banking regulatory commission, the number of households that met the requirements of applying for loans were 53, 000, the total demand of loan was about 1.6 billion RMBs (approx. 160 million Euros) (Mianzhu rural credit union 2008b).

According to the documents issued by Mianzhu rural credit Union (2008c), there are three financial institutions shared the financial supporting tasks for Mianzhu post-disaster rural housing reconstitution which are agriculture bank of China Mianzhu branch, postal saving bank Mianzhu branch and Mianzhu rural credit union. And then they based on each financial institution actual situations to distribute the service areas. Mianzhu rural credit union are responsible for Xinshi county, Xiaode county, Shidi county, Fuxin county, Yuquan county, Tumen county and other 16 counties' reconstruction loans, which the services areas allocated to the widest range, accounted for 76.2% of the total number of Mianzhu counties (there are 21 counties in Mianzhu). Those counties whose economic conditions are uneven, were the most severely hit areas in the earthquake, and those areas have the largest number of affected population. The demand loans for those counties' post-disaster rural reconstruction account for 80 % of Mianzhu's total demand amount. Therefore, Mianzhu rural credit union becomes the main lenders of post-disaster rural reconstruction.

4.2 General situation of Mianzhu rural credit union

Mianzhu rural credit union (MZRCU) is local nonbanking financial organization whose shares are held by farmers, industrial and commercial households in rural areas, or variety types of economic organizations. It was re-organized into unify juridical person reform based on the county unit on September 3rd 2007, which is to offer service to farmers, agriculture and rural economy. Its business scope includes adsorbing public deposit, issuing loans, handling domestic settlement, notes, acting for various bonds, insurance, and other businesses which are authorized by China banking regulatory commission. At present, MZRCU have one sales department, eight credit unions, and forty-two branches. The total number of employees is 286, and it has large organization nets throughout Mianzhu city and counties, the areas it affects ranking the No.1 among the various financial institutions. (Mianzhu Rural Credit Union 2008a.)

The goal of rural credit union is to serve three rural which is agriculture, rural areas and farmers. It is based on the county economy, and has a long history of development. It is the first choice of farmers to deposit and make loans in rural areas. Compared with other financial institutions, because it is unify juridical person reform , therefore it is more efficient and flexible and it is in the front part of the banking system in deposit and lending businesses. Till May 12th 2008, the balance of deposits in the union was up to 1,915,860,000 RMBs (approx. 190 million Euros), taking up 20% of all the deposits of Mianzhu, and that of

lending up to 1,396,110,000 RMBs (approx 140 million Euros), 46% of the total. The ratio of non-performing loans was 19.6% in five grades the system of classifying the quality of loans, making a profit of 8,930,000 RMBs (approx. 900 thousand Euros). Till June 2009, the balance of lending up to 4,109,180,000 RMBs (approx. 411 million Euros), having increased 2.33% compared with earlier this year, taking up 18.83% of the total ; the balance of lending up to 3,007,440,000 RMBs (approx 301 million Euros), 50.96% of the total. Because of the influence of Wenchuan earthquake and relevant policies, the capital assets quality declined and the amount of non-performing loans increased. According to the system of classifying the quality of loans into five grades, the non-performing loans ratio was 32.22%, which had an increase of 12.62 %, and the profit was 12,330,000 RMBs (approx. 1.23 million Euros). (Mianzhu Rural Credit Union 2009.)

4.3 Credit risks identification

In August 2008, a post-disaster rural reconstruction loans investigation working group led and organized by supervisory authorities which are China banking regulatory Deyang branch and the people's bank of China Deyang branch, was sent by MZRCU before issuing loans. Having the advantage of the long relationship of credit business with farmers they enquired the demands of every household's reconstruction funds door to door. Firstly, this investigation can lay a solid foundation for making plans of post-disaster rural housing reconstruction loans and funds preparation; secondly, they can understand the reconstruct farm households' living conditions, family situations, the demands of

reconstructions funds, ability to repay and the past credit records, in order to identify the credit risk of post-disaster rural housing reconstruction loans to lay a solid foundation of the management of issuing loans and preventing loan risks.

By a mass of investigation, they knew reasons for credit risk of post-disaster rural housing reconstruction loans are a large numbers of post-disaster rural housing reconstruction rural borrowers do not have the ability to repay the principal and interests because of post-disaster has not yet resume or the misunderstanding of loans and subsidies, the risk of "herding effect" caused by farmers who broke a promise do not want to repay the principal and interests may lead to increase the MZRCU's non-performing loan ratio, continually accumulated loan interest receivable and difficult to digest bad debts of receivables. Finally, those will cause great loss. The credit risks have common characteristics with the ordinary commercial banks' and other financial institutions' credit business; moreover, it also has its specialties on the background and borrows of issuing loans. The specialties mainly lie in the following two aspects.

4.3.1 Special background of loan issuing

On May 12th the devastating earthquake happened, Mianzhu was the worst-hit areas. A large number of rural housing had been collapsed or even razed to the ground. Therefore, post-disaster rural housing reconstruction concerns to solve affected people's basic living difficulties and social stability in stricken areas. In terms of fund resources of rural housing reconstruction, because

farmers suffered great losses of property in the earthquake, their own funds are limited, most of them depended on borrowing money from friends and relatives, besides the financial subsidies from government, each households still possible have ten to thirty thousand euro financial gaps need the credit support from financial institutions.

Under the special background of earthquake and the guidance of state department, China banking regulatory and the people's bank of China, MZRCU follows business sustainable and the principle of "serve agriculture, rural areas and farmers; feedback from rural areas and farmers ", fulfill their social responsibilities, strong support for the rural housing reconstruction in Mianzhu. During the period from December 2008 to September 2009, this was the comprehensively implement phase of the rural housing reconstruction in Mianzhu. There were a large numbers of farmer went to MZRCU to apply loans. Time of issuing rural housing reconstruction loans was limited; the task contained too much pressures.

4.3.2 Special lending objects situation

Firstly, the borrowers of rural housing reconstruction loans are the affected farm households who engaged in agriculture production and live in rural areas; their major incomes are from agricultural products income, business income and wage income. The productive operations and business activities were affected by the earthquake at varying degrees, income level and stability have not yet resume to pre-earthquake levels. Therefore, they have no

collateral and guarantee items. Second is that those who would choose to make loans always have no mortgage, and are usually in an old age. They have problems to repay the loans. Besides, the area and the amount are very large.

During the actual visit of interviewing thirty borrowers randomly and did a post-disaster rural housing reconstruction loan survey. The survey data (see figure 2) of the thirty borrowers showed that, the borrowers between 30 and 40 years old account for the total amount of 80 %, 40-50 years old accounts for 43%, and above 50 years old accounts for 39%. And there are 63% households with their income coming from working outside hometown, 34% income come from farming, and only 3% households' income gain from business. From this data, it can be seen that the age of the borrowers who have loans in MZRCU are slightly older. Therefore, they have limited production capacity and low repayment ability, worse financial situation.

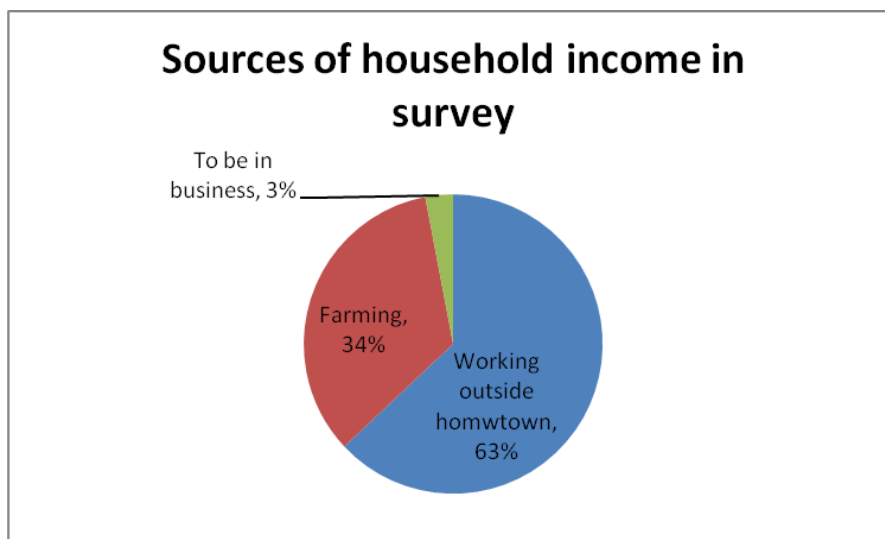


Figure 2 Sources of farm households' income in survey

4.4 Credit risk evaluation

5C Method is a traditional credit risks evaluation method. Because the inability of payment and dishonesty are the main causes for the credit risks, and the loan limit for one borrower is 20 thousand RMB (approx. 2 thousand Euros), MZRCU follows the 5C which are character (reputation, credit record history), capital (leverage, saving), capacity (age, education, skill, labor abilities—deformity, seriously sick or not) and collateral (guarantor, mortgage). During the investigations of borrowers one by one, MZRCU has classified the various borrowers based on their characteristics in order to quantify and evaluate the risk level: high, medium or low (see Table 1). (Mianzhu government 2008a.)

Table 1 Basic characteristics of the borrowers

Types of risks	Basic characteristics of the borrowers
High risks	Over 60 years old; disabled or seriously ill; no stable income; heavy family burden; no collateral; have bad credit records
Medium risks	45-60 years old; live on farming production; no deathly ill; normal family burden(old parents and children); no bad credit records
Low risks	Below 45 years old ;live on wage or business; no sickness; light family burden(old parents and children); temporary finance shortage; have collateral; no bad credit records

4.5 Credit risk treatment

According to the credit risk measurements and evaluation results, MZRCU came to the next process of credit risk management, and adopted different ways in different level of risks.

4.5.1 Credit risk avoidance

Commercial banks do not invest in products that are too risky. For credit risk management, avoidance does not mean that avoids all risks. A strategy may consist of selecting the good counterparts and not issuing loans to those counterparts with high default, loss or exposure risk (Li 1996, 68). Therefore, when MZRCU is making the rural housing reconstruction loan program, it is mainly in order to avoid the high risk.

4.5.1.1 Borrowers screening and identification mechanism

According to Mianzhu government (2008c) the target borrowers are those whose houses were collapsed, heavy damaged or severely damaged in the earthquake and in line with requirements of government housing reconstruction subsidies and government's reconstruction plans and also need to be the long-term rural residents of the disaster area (except the affected residents in cities and the affected residents who are the relief targets of civil department), and the following requirements must be met.

- Below 60 years old, who are in the government subsidy targets of housing reconstruction and the borrowers should have full capacity for civil conduct.
- The reconstruction address, construction standards, and construction methods have authorized by governments or the villages where the borrowers live.
- Farmers are volunteered apply for loan application; should have good health, production capacity, income, the ability to repay the principle and interest, and no bad credit record.
- Not in the relief target of civil department (relief target are including orphan, lonely old people, lonely disabled people, venerable age people, childless, on-productive capacity and no income people)

4.5.1.2 Special process of issuing loans

Because the loans for rural housing reconstruction belong to the credit support for affected farmers, it is a business which is high risk, high costs and low profits.

In order to avoid credit risks, MZRCU has added a procedure of issuing loans which is different from common process of issuing loans. This is to show the pre-earthquake income certification, the certification of the listed subsidy target of housing reconstruction issued by Municipal finance Bureau, and the reconstruction

address, construction standards, and construction methods authorized by governments or the villages where the borrowers live etc. and after lending officers verified and reported those information which was provided by borrowers are true, then MZRCU can issue loans to that borrower. If someone reported the information provided by borrowers are not true, then MZRCU cannot issue loans. (Mianzhu government 2008a.)

Since there are large number of borrowers, and distribute widely, through the process of providing documents and information publicity, these can efficiently improve the authenticity of borrowers' background information.

4.5.2 Credit risk transfer

According to Mianzhu government (2008a) rural reconstruction loan is preferential-style loans for affected farmers under the particular background of earthquake; it is the embodiment of MZRCU to fulfill the social and political responsibility. However, as a commercial operation of independent legal organization, need to follow the commercial principles, and to prevent and control the credit risk strictly. Therefore, MZRCU negotiated with Mianzhu government to establish a comprehensive security system based on guarantee funds, housing mortgage and so on to transfer credit risks.

4.5.2.1 The establishment of guarantee fund

According to the document of related matters of issuing rural reconstruction loans commitment issued by Mianzhu government on October 17th 2008 and the post-disaster housing reconstruction loan guarantee agreement between Mianzhu finance bureau and MZRCU on December 2008, Mianzhu government and Mianzhu finance bureau invested the full amount to establish a professional rural housing reconstruction bonding company, to guarantee the farm households' rural housing reconstruction loans as the professional bonding company's paid-monetary capital six-fold (upper limit). And bearing jointly liabilities, when the loans have problems, Mianzhu finance bureau will bear the 70% losses (Mianzhu government 2008a).

The professional bonding company's paid-monetary capital regards as the risk compensation deposit, and all this deposit stores in the rural credit union account, the interest settlement used by the demand deposit interest rate.

4.5.2.2 The introduction of insurance mechanism

The introduction of insurance mechanism will ensure the safety of loans. Cooperated with Pacific Life Insurance Company (one of the three largest insurance companies in China), the borrowers buy the "An Dai Bao" personal accident insurance, the expected premium is approx 1 Euro for the approx 1,000 thousand Euro loan per household per year. When the borrowers have accidents, the payment is pressed according to the grades of injury, all of the insurance payment are used to pay for principal and interest repayment of the loans of Agriculture Bank of China. Besides,

when the borrowers died accidentally or total disabled, the all remaining principal and interest of loans should be paid by insurance company. (Mianzhu government 2008a.)

4.5.3 Credit risk reduction

Because Mianzhu has not yet implemented the reform of rural property rights system, farmers' houses are not issued the "rural collective construction land use right certification" and "building droit card", those two certifications would issue by Mianzhu government, and government should coordinate and solve the above two certificates in order to apply for pledge, transfer, and farmers can have collateral mortgage when they apply for loans. During the processes of farmer housing reconstruction and the above two certificates are not completed before the collateral mortgage is not set, farmers should hand in the letter of commitment to commit when they cannot repay the principle and interests, the agriculture bank of China has the right of proposal their houses, and letter of commitment need to be notarized. (Mianzhu rural credit union 2009c.) In this way, MZRCU can sell the house to reduce the actual risk when borrowers are reneging.

4.6 Credit risk monitoring

According to the credit risk management principles, MZRCU take precautions against housing reconstruction loan credit risk of farmers.

4.6.1 Strengthening visiting and monitoring work

In order to reduce credit risks, MZRCU draw up a detailed list of measures of visiting and monitoring work. Special work groups are organized and sent to the countryside to visiting the borrowers one by one. By interviewing the borrowers, their neighbors and acquaintances, the special work group gets the borrowers' latest information about their life, work, incomes, and difficulties. If some farmers are in lack of money for their agricultural productions, MZRCU tries to help them develop their agriculture economy, such as animal husbandry and farming by offering their loan. (Mianzhu rural credit union 2009c.) Through these work, MZRCU can get any possible news for the credit risks reducing, such as the illness, death of the borrower. In this way, MZRCU will adopt some other measures to deal with the loss.

4.6.2 Credit propaganda work

The major cause for the rural housing reconstruction loan credit risk is the moral risk, which comes from the confusion of the post-earthquake reconstruction subsidy from the government with the housing reconstruction loan, and it is enlarged under the condition of earthquake. (Mianzhu rural credit union 2009c).

Therefore the core task for the credit risk management of MZRCU is to make the misunderstanding and confusion clear, strengthen the credit propaganda work. And they get great support from the government and the financial regulation supervising organizations,

like the local branch of people's bank of China. (Mianzhu rural credit union 2009c.)

4.6.2.1 Media propaganda movement

During the spring and summer, MZRCU in company with the financial sector of the local government and the local branch of the people's bank of China together, they have make several interpretation about the subsidy and the loan for the post-disaster reconstruction through *Daily Deyang*, and Deyang television station. (Mianzhu rural credit union 2009c.) The series of media propaganda activities help the mass farmers, especially those who join the reconstruction program and get loan from the financial sector to understand the loan is not a subsidy, and this debts need be paid.

4.6.2.2 Face to face policy interpretation

In order to strengthen the propaganda effect, MZRCU started a face to face policy interpretation campaign. Firstly, they set up many propaganda centers in their agencies, and on the streets, posting banners, they also distribute leaflets, in order to explain to the public that the loan is unlike the subsidy, the loan should be repaid. Secondly, they also explain to the public, especially the farmers, that if someone does not paid his debts, there will be a bad credit record in the system, and in reference of this bad record ,the bank will reject to lend any loan to the borrower in the future. Finally, they also make a detailed interpretation about the

rate and time limit period of this post-disaster rural housing reconstruction loan. (Mianzhu rural credit union 2009c.)

4.7 Credit risk implementation

Given the identification and quantification of the credit risks, MZRCU come to the core process of the risk management— risk implementation. Before issuing the loan, MZRCU devise risk avoidance and risk transfer measures, which are special loan plan and comprehensive loan guarantee mechanisms. After the loan is issued, MZRCU strengthen the collection for risk repression, and carry out the compensation process. (Mianzhu rural credit union 2009c.)

4.7.1 Strengthen the work of urging collection

According to the report of Mianzhu rural credit union (2009c) if the payment period which is 15 days overdue, MZRCU will call the borrower and urge them to repay the debts. If the payment period which is 30 days overdue, MZRCU will send lending officer to visit the borrower for collecting the debts, and get the information about the reasons for overdue.

4.7.2 Compensation of loans defaults work

When the loan is overdue and identified as bad debt, MZRCU will carry out the guarantee capital compensation measures. Firstly they inform the guarantee company, visit the borrower and confirm

the fact of bad debts, and then they can get the compensation according to the contract, which is signed among the government and guarantee before MZRCU issuing the rural housing reconstruction loan.

On the other hand, when a borrower has an expected accident, the insurance company will pay some insurance benefit to MZRCU for the loan. And according to the contract, the insurance company will pay the principal and the interest of the loan, when the borrower has an accidental death.

4.8 Conclusion

Because of the earthquake, thousands of farmers lost their houses; housing reconstruction is an important part of the post-earthquake reconstruction. In order to help the farmers reconstruct their home and have a better life, MZRCU gave the farmers housing construction loan.

Firstly, MZRCU made an investigation and identify the credit risks, then carry out the credit risks management processes--measuring, evaluating and quantifying the risks into three levels which are including high, medium and low risks. According to the evaluation results, MZRCU made a series of risk treatment methods to avoid and manage the credit risks (see figure 3).

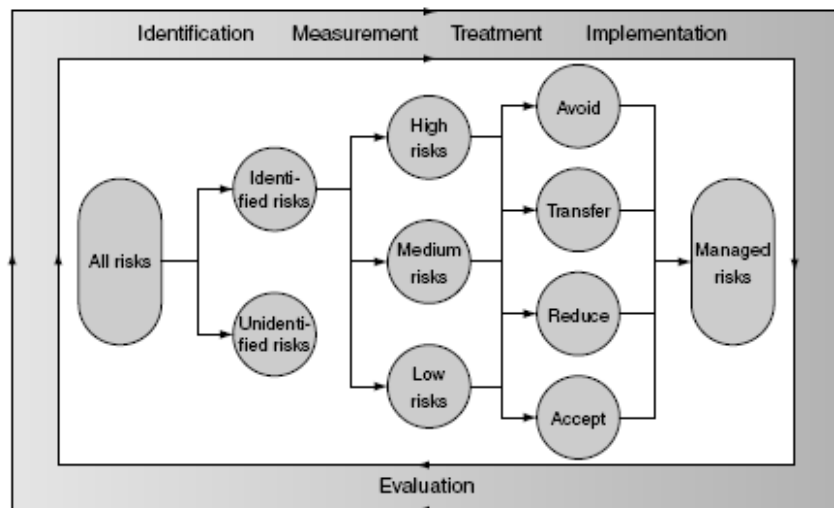


Figure 3 Steps of a continue risk management process (Gestel & Baesens 2009, 41)

5. POST-DISASTER RURAL HOUSING RECONSTRUCTION LOAN CREDIT RISK MANAGEMENT POLICY RECOMMENDATION

5.1 Rural housing reconstruction loans credit risk management

The rural reconstruction loan from Mianzhu credit union started from September 2008, reaching its climax in January 2009 and was basically brought to an end in September 2009. The issuance of farmhouse reconstruction loan, lasting for about one year, had met the needs of the financial requirements of 50,956 households, which was up to 1,044,930,000 RMBs (approx. 104,493,000 Euros)(Mianzhu credit union 2008b). The efforts had shown its business principle of serve the agriculture, rural areas and farmers.

At the same time, MZRCU followed the processes of “risk identification, quantitative assessment, monitoring and solution” to do the credit risk management, therefore, it made some progress in proving the ratio of collecting loan interests. That is, till September 30th 2009, MZRCU took a method of quarterly interest collection, and the ratio of which had reached 78%, total loans of 985,960,000 RMBs (approx. 98,596,000 Euros) for 49,287 households. (Mianzhu rural credit union 2009b.)

In general, the ratio is mainly influenced by the following two factors which introduced in Mianzhu credit union (2009c). Firstly, the circumstance of credit honesty is the key factor which influences the rural housing reconstruction loan ratio of collecting loan interests. Lack of proper publicity of the policies, there used to

be a misunderstanding among the borrowers in May 2009 that the reconstruction loans were the financial subsidies providing by the government and it need no repayment. Therefore, under the influence of “herd effect”, many borrowers refused to repay principle and interest. The ratio declined rapidly. Fortunately, the government and financial regulatory authorities together with the financial institutions explained those misunderstanding in time, clearing up the confusions, thus the interest collection ratio rose gradually.

Another key factor which affects the ratio is the income of the borrowers. According to the investigation, those counties that had bad economic conditions before the earthquake and were seriously affected, so they had a low ratio of collecting loan interests. Take Tumen county as an example. It located in a mountainous area; the town is in bad natural condition for agricultural production and has not enough economic production capacity. Few of the residents do their work outside their hometown. In that town, MZRCU had provided 4,120 families for more than 81 million RMBs (approx 8.1 Euros) while the ratio of collecting loan interests until the end of third quarter in 2009 reached only 48%(Mianzhu rural credit union 2009c).

The situation was much different in the areas that had a good economic condition before the disaster and locate in plain so as to have recovered better. The ratio of collecting loan interests is much higher. Take one village in Yuquan county for example. The Sanyuan village had a relatively better economic condition for most of the villagers live by planting agarics, greenhouse

vegetables or going out to work. MZRCU provided 3.13 million RMBs (approx. 313 thousands Euros) for over 200 families and the ratio of collecting loan interests reached 83% in the end of the third quarter of 2009 (Mianzhu rural credit union 2009c).

A survey of random 30 families' samples has shown that 16 families of them had a stable income. They had already paid the interests on time and will have the capacity to repay the loan on due date. Nine of them did not have stable in income and had problems in paying the interests completely on time. There were five families had no stable income and could barely pay for the interests. The ratio of each part in the surveyed 30 families was respective 53.3%, 30% and 16.7% (see figure 4).

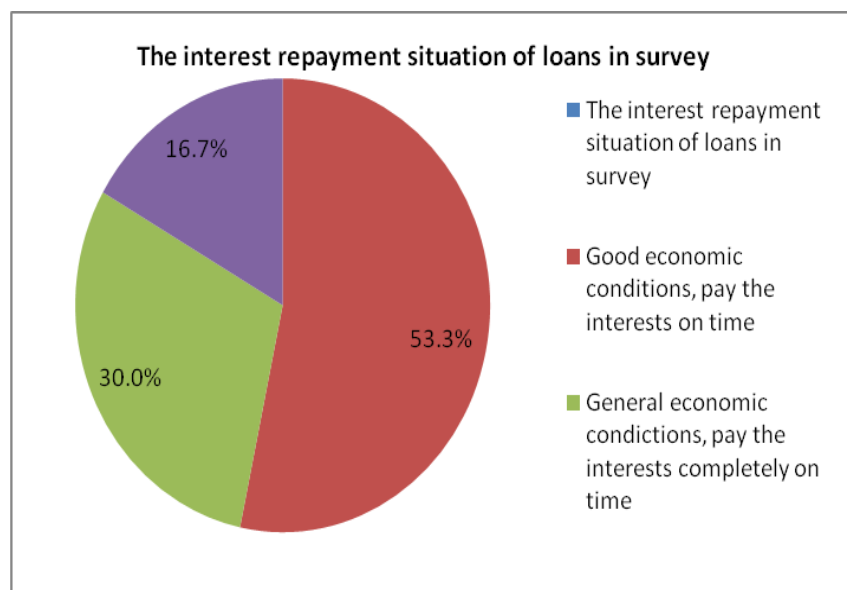


Figure 4 The interest repayment situation of loans in survey

5.2 Suggestions for the post-disaster rural housing reconstruction loan credit risk management

The rural housing reconstruction loan is specially designed for the farmers whose houses are destroyed in the earthquake. There are 49,287 borrowers spread among in 21 towns, and the whole amount of the loan is about 985, 96 million RMBs (approx. 98,596 million Euros), which is 30.81% of the total loan in MZRCU (Mianzhu rural credit union 2009b).

Firstly, I suggest that the government should promote the urban and rural development plan in order to raising the farmers' income, and help financial institutions build a good credit environment with farmers. Secondly, I suggest the financial institutions enhance the consciousness of risk prevention and internal control system building. And last but not the least I suggest the financial supervision and regulation departments strengthen financial supervision, control and the risk monitoring.

5.2.1 Strengthen the credit propaganda work, create better credit environment

Firstly, the financial sectors include the financial institutions, financial supervise and regulate organizations, build an integrated rural credit file system, which include all the information, such as the loss in the earthquake, post-disaster reconstruction, guarantee, and credit record history and so on. Moreover, this credit file system can help the financial institute identify, quantify and manage the credit risks; and also this will help improve the farmers' awareness of honesty.

Secondly, a communication platform should be built for the

government, financial institutions, media sector, and the farmers, in order to build a good credit environment. The selection of “good credit village” and “good credit family” can help establish credibility among the public, strengthen the public's recognition of credit and build good financial credit environment.

Finally, criminal justice-related departments should improve implementation of judicial decisions, penalize the behavior of contract breaching, and optimize the financial ecological environment.

5.2.2 Accelerate the pace of urban and rural development plan and raise the farmers' income

The key factor of credit risks is the lack of money; therefore, to increase the income of the farmers is the key method of preventing and defusing rural housing reconstruction loan credit risks. The government should promote the urban and rural development plan, develop modern agriculture and promote the agriculture industrialization. If the rural economic is well developed, farmers income will increase, thus, the credit risks are defused.

5.2.3 Improve the internal control mechanism and strengthen risk management awareness

Sound internal control mechanism, strict operating procedures help prevent and defuse the credit risks. Firstly, strengthening risk management awareness and establishing a strict constraint

mechanism for the loan management. Secondly, strictly enforce the loan business processes and standardizing the credit rating,

6. CONCLUSIONS

On May 12th 2008, Wenchuan earthquake happened, the Longmen Mountains, Wenchuan, Mianzhu, Beichuan and some other counties were severely damaged, a large number of rural houses had been collapsed. Those factors were resulting in that farmers were homeless. Therefore, the primary task in post-disaster reconstruction work is to do the rural housing reconstruction in the earthquake-stricken areas.

To provide credit support for the rural residents housing reconstruction is the currently primary task of banking institutions in Sichuan province. In the particular context of earthquake, the loans of rural housing reconstruction have very large quantities; however, farm families' economic power yet to resume, therefore, how to avoid and manage the credit risk is the key problem that financial institutions need to face.

The aim of this thesis was to analyse the rural financial institution's credit risk management and prevention in the particular context of an earthquake and to research how to control and prevent the credit risks in the particular background, finally, some suggestions and recommendations were given. Meanwhile in this thesis, a survey was applied to the case study. In order to research the methods for managing and control the credit risks in financial institutions, many more theoretical studies need to be conducted.

At present, there is not a consensus and unified definition for what

is risk or financial risk. Financial risk refers to the possibility and uncertainty of suffering losses for the principal party in financial transaction. Moreover, when commercial banks begin to perform its function as a credit agent, it is unavoidable for them to face one fundamental risk, or credit risk. Credit risk will have impact on either macro or micro economy, in addition, it will also influent the bank's performance, therefore, it is very necessary to manage and control credit risks in order to reduce losses.

Rural credit union as a foundation of rural financial system, it is not only a source of financial risks but also a financial institution to sustain financial risks. Compared with normal commercial banks, the peculiarities of rural credit union mainly reflected in the following areas, for instance, their own peculiarity, lack of awareness of risk, and the "herding effect" among farmers. These factors make the management of credit risk is urgent for rural credit union to improve.

Because of the earthquake, Mianzhu rural credit union give the farmers' housing construction loan help the farmers reconstruct their home and have a good life. In order to control the risk efficiently, Mianzhu rural credit union make some special processes different from commercial banks.

In this thesis, a rural households' questionnaire about post-disaster rural housing reconstruction loan was organized. The results revealed the background information of loan demand and repaid situation related to local context.

And in the end, some recommendations and suggestions are given. First is to promote the urban and rural development plan in order to raise the farmers' income, and to build good credit environment in the county with other financial institutions, government and farmers. Secondly, the financial institutions should improve their risk prevention and internal control system. Then the financial supervisions and regulation departments should strengthen financial supervision and control.

I believe in the near future credit risk management and control of Mianzhu rural credit union and other financial institutions will do more efficiently and successfully.

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APPENDIX 1

**Rural Households' Questionnaire about Post-disaster Rural
Housing Reconstruction Loan**

I. Background Information

1. The age of Borrower

A. Below 30	B. Between 30-40
C. Between 40-50	D. Above 50

2. Number of family member _____, _____ member(s) that can make money (student not included)

3. Number of family member that work as farmer _____, Number of family member work out of town _____.
Among them, age between 16- 30 _____, age between 30-55 _____, age between 55-65 _____, age above 65 _____.

4. The description of earthquake damage: the number of house was damaged _____, property loss _____RMB, other loss _____RMB, the sum of property loss _____RMB.

5. What kind of region does the county locate?

A. Mountain side	B. Hillside hills	C. flatland
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6. The economics status of the county compared to other counties of Mianzhu.

A. Very poor	B. Poor	C. Average
D. Rich	E. very rich	

II. The family income status

7. In your opinion, what is economic situation of your family compared to your neighbors
- A. Very poor B. Poor C. Average
D. Rich E. Very rich
8. The family farming production status nowadays.
- A. Very bad B. Bad C. Normal
D. Good E. Excellent
9. The current stable incoming source in family is
- A. Farming B. To do business
C. Working outside hometown D. other
10. Family income by farming products per year (exclude for chemical fertilizer, pesticide and other cost)
- A. Below 2,000RMBs B. 2,000 – 5,000RMBs
C. 5,000-10,000RMBs D. above 10,000 RMBs
11. Income by means of doing business per year
- A. Below 5,000 RMBs B. 5,000-10,000 RMBs
C. 10, 000 – 30,000 RMBs D. 30,000-50,000 RMBs E. other
12. Income by means of working outside of town per year
- A. Below 5,000RMBs B. 5,000-10,000 RMBs
C. 10, 000 – 30,000 RMBs D. 30,000-50,000 E. other
13. The expenditure of family within a year (exclude rural housing reconstruction loan)
- A. 0-5,000 RMBs B. 5, 000-10,000 RMBs
C. 10, 000 -20,000 RMBs D. 20,000-40,000 RMBs
E. above 40,000 RMBs

14. How much deposit do you have in your bank account?

- A. Below 1,000 RMBs B. 1, 000-5,000 RMBs
C. 5, 000 -10,000 RMBs D. 10,000-50,000 RMBs
E. Above 50,000 RMBs F. None

III. Pre-earthquake credit and credit info

15. The method of borrowing money before the earthquake.

- A. Rural Credit Union B. Banks C. Relatives and Friends
D. Usury E. Smaller sum of loans organization F. Others

16. Do you know it will affect your future loans if you will not repay loans?

- A. Yes B. No

17. Do you have the Letter of Credit authorized by Credit Union?

- A. Yes B. No

18. Did you apply for loans from credit union or banks?

- A. Yes B. No

19. What are the reasons that you did not get the enough loans that you apply for from credit union or banks before earthquake?

- A. Still have loans need to repay B. Lack of mortgaged property
C. Bad credit because of low income D. Others _____

IV. Housing reconstruction and loan situation

20. The area of housing reconstruction
- A. below 70 m² B. 70-90m²
 C. 90 m²-120m² D. Above 120m²
21. The investment of housing reconstruction ____RMB. Among it, self-financing ____RMB, government subsidy ____RMB, loan ____RMB, other way of fundraising ____RMB.
22. The category of housing reconstruction loan.
- A. Smaller sum of loan B. Guarantee loan
 C. Collateral loan D. Others
23. The total amount of loan ____RMBs, the term of the loan ____year. Means of repayment _____, A. repay interest quarterly, and repay the principle at maturity B. repay the same amount of principle and interest quarterly C. repay the same amount of principle and interest monthly
- The interest per issue ____RMB, the interest have already repaid ____RMB, the amount of interest still need to be repay ____RMB

V. Current repayment situation

24. Current repayment situation
- A. Stable income, repay on time
 B. Income unstable, cannot repay on time
 C. Not enough income, did not repay, apply for deferred repayment

25. If you cannot repay based on current income situation, do you consider to repay the loan in other way?
- A. By means of working outside of the town
 - B. Apply for postponing the repayment
 - C. Other way
26. If some villagers refuse to repay, what is your opinion concern to this?
- A. Must repay, it is duty, will continue to (or find a way) to repay the loan
 - B. Not repay the loan at the moment
 - C. Imitate others, refuse to repay
 - D. others
27. The urge collection of housing reconstruction loans situation
- A. financial organizations urge to repay
 - B. Village committee comes to urge
 - C. None