Establishment of Comprehensive Evaluation Indicator System for Sustainable Development of Micro-credit and Empirical Analysis

YANG Di-hang, LUO He-hua*

School of Economics, Hunan Agricultural University, Changsha 410128, China

Abstract We establish the comprehensive evaluation indicator system for sustainable development of micro-credit, constituted by the profitability ratio, financial constitution ratio, loan quality ratio and operating efficiency ratio. Taking the case of micro-credit of China Foundation for Poverty Alleviation, we measure the current situation of sustainable development of micro-credit. As far as we are concerned, the composite index of sustainable development of micro-credit shows the growth trend on the whole. Finally, in order to further improve the sustainable development of micro-credit, provide farmers with better financial services and enable more farmers to benefit from micro-credit, we put forth the following recommendations: strengthening technological innovation to reduce costs and improve operating efficiency and profitability of the micro-credit; strengthening risk control to improve the quality of loans; providing all-around non-financial services to lay the foundation for the sustainable development of micro-credit; setting an appropriate level of interest rates to improve the profitability of the institutions.

Key words Micro-credit, Sustainable development, Indicator system

1 Introduction and literature review

Micro-credit provides financial services for a large number of low-income farmers in the rural areas, who are neglected by traditional finance. It becomes an effective tool to improve farmers' income and alleviate rural poverty. The sustainable development of micro-credit means that the micro-credit institutions meet farmers' needs for financial services and achieve self-survival and development capability of institutions, without external funding. Only when micro-credit achieves its own sustainable development, can it provide farmers with continuous financial services, to meet the funding needs of " agriculture, countryside and farmers" and new socialist countryside building. According to the standard of United States Agency for International Development (USAID, 1995), the rural financial institutions can be divided into three types from the perspective of sustainability: (i) Unsustainability. The interest rate and the costs charged can not compensate for remuneration, loan losses, management expenses and other operating costs. (ii) Sustainability of operation. The income can compensate for the cost of implementation, but can not fully cover commercial capital cost. (iii) Sustainability of finance. Some profits can be obtained after the income fully compensates for various costs and risks[1]. He Guangwen and Li Lili (2005) believe that the premise for the micro-credit institutions to provide long-lasting financial services to the target group lies in the sustainability of the institutions[2]. Meyer (2002) also believes that the sustainability of micro-credit institutions is very important, which can be measured by two indicators, namely the sustainability of operation and the sustainability of finance of institutions[3]. Yaron (1992) holds that the sustainability of rural financial institutions determines whether the rural financial institutions are successful, and the indicator for measuring the sustainable development capacity of institutions is the subsidy dependence index[4]. Sun Ruomei (2005) believes that the sustainability of micro-credit institutions means that whether the institutions' financial performance can make up for total costs through interest and fees, is the key to sustainability[5]. Liu Renwu (2006) believes that the sustainable development of micro-credit includes the sustainability of organization, operation and finance. Ledgerwood (2000) believes that the sustainable development of small credit institutions can be measured by operating self-sufficiency and financial self-sufficiency[6]. Yang Xianyue and He Guanghui (2007) also believe that using operating self-sufficiency rate and financial self-sufficiency rate can measure whether the micro-credit institutions achieve sustainable development[7]. Zhou Mengliang (2009) believes that the sustainability of the financial institutions shows the institutions' ability to provide ongoing financial services, which is mainly reflected by financial indicators[8].

Morduch survey found that among 72 projects of micro-credit institutions submitted in 1998, there were 34 projects having achieved sustainability of finance. But this does not mean that there have been half of the projects in the world achieving self-sustainability. Some experts estimate that the proportion of all non-governmental micro-credit projects in the world at present that can achieve the sustainability of finance is less than 1%[9]. So, how is the current situation of sustainable development of micro-credit in China at present? We need to

Received: July 25, 2012 Accepted: August 30, 2012
Supported by Graduate Research Innovation Fund of Hunan Province (CX2010B311).
* Corresponding author. E-mail: dhyang1010@126.com

establish the indicator system to measure it. When measuring the indicators of sustainable development of micro-credit, the foreign scholars do not take into account the actual conditions of China; the domestic scholars at present mainly discuss it theoretically. On the basis of drawing on the existing indicators established by domestic and foreign scholars and consulting 20 related experts, we try to establish a scientific and effective comprehensive evaluation indicator system for sustainable development of micro-credit, and take the case of micro-credit of China Foundation for Poverty Alleviation for empirical research, in order to measure the current sustainable development of micro-credit in China, thereby promoting the micro-credit to better provide financial services to farmers.

2 Establishment of the comprehensive evaluation indicator system for sustainable development of micro-credit

2.1 Establishment principles of indicator system

(i) Systematicness principle. The setting of indicators must consider various aspects that the sustainable development of micro-credit involves and their internal relations. All indicators are required to be relatively independent and collaborative, but the repetition of the indicator information must be avoided. The integration of indicators comprehensively and systematically reflects the sustainable development of micro-credit.

(ii) Hierarchy principle. The setting of the indicator system should be hierarchical, which is continuation of the systematic principle, to ensure that the subsystem layer and indicator layer will not appear in the same level of system. In accordance with the connotation and characteristics structure of sustainable development of micro-credit, we can use a number of indicators to calibrate the sustainability, to distinguish the hierarchy between indicators, making the complicated problems hierarchical and simplistic.

(iii) Representativeness principle. The sustainable development of micro-credit covers a wide range of aspects, and the content contained is also comprehensive. As a matter of fact, it can not cover all the content involved, otherwise it may lead to the drawback of oversize indicator system, but the selection of indicators can not be too simple. We should choose those most comprehensive and representative indicators to accurately reflect the sustainable development of micro-credit.

(iv) Operability principle. The indicators selected should have clear meaning and integral concept. It is necessary to choose the relatively mature indicators that are accepted by various circles of society in the existing statistics as far as possible, which can comprehensively and truly reflect the sustainable development of the micro-credit. Given that the financial data of micro-credit are difficult to be obtained, we set the relevant indicators according to the existing data on micro-credit of China Foundation for Poverty Alleviation, in order to ensure that the data needed are quantifiable and easy to be collected.

2.2 Indicator determination On the basis of fully understanding the sustainable development of micro-credit, we follow the four principles for indicator selection, and the experts' collective discussion, we put forth three levels for measuring the comprehensive evaluation indicator system of sustainable development of micro-credit (target layer, subsystem layer and indicator layer). The target layer is the total comprehensive evaluation index for measuring sustainable development of micro-credit. The subsystem layer includes the indicator of profitability ratio, the indicator of financial constitution ratio, the indicator of loan quality ratio, and the indicator of operating efficiency ratio. Under the subsystem layer, 11 small indicators are set as follows:

2.2.1 The indicator of profitability ratio

(i) The sustainability of operation (X_{11}). The sustainability of operation is also called "Operation Self-sufficiency" (OSS), which is used to measure the salary of the financial income compensation staff in micro-credit institutions, the loan loss reserves, other management expenses and other operating costs. It reflects the ability of micro-credit institutions to use all financial income to compensate for all the operating costs in the profit statement in a given period.

The sustainability of operation = financial income/operating expenses(salary + loan loss reserves + other management expenses).

(ii) Financial sustainability (X_{12}). Financial sustainability is also known as the "Financial Self-sufficiency" (FSS), which is used to measure the extent of the institutions' operating income to compensate for all costs and expenses, reflecting the profitability of the micro-credit institutions. It can make the micro-credit institutions with financial sustainability provide continuous financial services for the farmers in the case of never receiving any donation. The ideal development of the micro-credit institutions is to first develop toward the sustainability of operation, then toward financial sustainability. Financial sustainability is essential for the sustainable development of micro-credit institutions, which can make the institutions achieve long-term sustainable development.

Financial sustainability = financial income /operating expenses + allowance + the cost of capital.

(iii) The rate of return on loans(X_{13}). The loans of micro-credit institutions reflect the use channels of institutions' funds, and the loan proceeds are the main source of financial income for micro-credit institutions. The higher the rate of return on loans in micro-credit institutions, the stronger the institutions' ability to earn a reward (namely profitability).

The rate of return on loans = financial income/average balance of loans.

2.2.2 The indicator of financial constitution ratio.

(i) Donation or contribution ratio (X_{21}). The lower the donation or contribution ratio of micro-credit institutions, the less the institutions' dependence on the external finance, the stronger the institutions' ability to survive, the more reasonable the financial constitution ratio of micro-credit institutions. Donation or contribution ratio = donation and contribution used for operation/the average operating assets.

(ii) The current ratio (X_{22}). The current ratio is the most basic indicator reflecting the liquidity of the assets, which can

be used to measure the short-term solvency of micro-credit institutions, and can also be used to measure the adequacy ratio of day-to-day operating capital. The liquidity conditions of the assets have an important impact on micro-credit institutions, which can not only reflect the quality of the operating environment, but also show the institutions' management capacity. The greater the value of current ratio, the higher the liquidity of institutions' funds, able to meet all kinds of liquidity needs at any time; but if the ratio is too high, it will affect micro-credit institutions' profitability.

Current ratio = current assets/current liabilities.

(iii) The total loan ratio (X_{23}). The total loan ratio is the ratio of balance of loans to assets. The total loan ratio is a positive indicator. The greater the value of the indicator, the more the potential loan proceeds obtained by institutions.

The total loan ratio = balance of loans/assets.

2.2.3 The indicator of loan quality ratio.

(i) Overdue loans ratio(X_{31}). Overdue loans ratio is the ratio of balance of overdue loans to outstanding loans. Overdue loans ratio indicates how many loans have expired, still outstanding, without considering all the outstanding loans at the actual risk. Therefore, it underestimates the risk of the loan, and also underestimates the potential seriousness of the overdue loans.

Overdue loans ratio = balance of overdue loans /outstanding loans.

(ii) The risk loans ratio(X_{32}). The risk loans are the balance of outstanding loans in total defaulted loans more than one day. The risk loans reflect the real risk of loan delinquency. If the quality of loan assets is poor, micro-credit institutions will not continue to provide financial services for farmers. The risk loans ratio measures the risk of default of the loan business, which helps micro-credit institutions to monitor the quality of loan assets.

The risk loans ratio = balance of outstanding loans /outstanding loans.

2.2.4 Indicators of operating efficiency ratio.

(i) The operating expenditure ratio(X_{41}). The operating expenditure ratio shows the effectiveness of the micro-credit institutions' operation. The lower the operating expenditure ratio, the higher the micro-credit institutions' operation efficiency.

The operating expenditure ratio = operating expenses/average balance of loans.

(ii) Loan officers' average loan balance (X_{42}). Loan officers' average loan balance refers to the ratio of institutions' balance of average loans to average number of loan officers, which can reflect loan officers' loan work efficiency.

Loan officers' average loan balance = average balance of loans/average number of loan officers.

(iii) Unit cost of each loan(X_{43}). Unit cost of each loan reflects the cost of credit on the basis of the amount of loans offered, which can show the micro-credit institutions' efficiency of offering loans from the long-term perspective. The lower the unit cost of each loan, the higher the probability that the micro-credit institutions use its resources to provide financial services for more farmers as far as possible.

Unit cost of each loan = operating cost/amount of loans offered.

2.3 Weight determination The comprehensive evaluation indicator system for sustainable development of micro-credit is 100%. The weight of each subsystem layer and indicator layer is determined based on the analytic hierarchy process. On the basis of the characteristics of sustainable development of micro-credit, combined with existing research results and consultation with relevant experts, we establish the judgment matrix Y of relative importance of each subsystem, according to the analytic hierarchy process, as is shown in Table 1.

Table 1 The judgment matrix of relative importance of each subsystem

Y	Y_1	Y_2	Y_3	Y_4
Y_1	1	0.33	2	0.5
Y_2	3	1	2	2
Y_3	0.5	0.5	1	0.5
Y_4	2	0.5	2	1

Through operation, we calculate the maximum eigenvalue of the judgment matrix Y λ_{max} = 4.20, and the corresponding characteristic vector is $(0.172\,1, 0.422\,7, 0.135\,1, 0.270\,1)^T$. That is, the weight of the indicator of the profitability ratio, the indicator of financial constitution ratio, the indicator of loan quality ratio, and the indicator of operating efficiency ratio is 0.172 1, 0.422 7, 0.135 1, 0.270 1.

According to the largest eigenvalue, we can calculate the consistency index CI = 0.067 4. After looking up the table, we derive that when the order of the matrix is equal to 4, the average consistency index RI = 0 90. Finally, we calculate the random consistency index CR = 0.0 749 (< 0.1), indicating that the judgment matrix Y has the satisfactory consistency, and the results calculated are reasonable and effective. Similarly, we can calculate the weight value of each indicator layer (Table 2).

3 Empirical analysis of the comprehensive evaluation indicator system for sustainable development of micro-credit—a case study of micro-credit of China Foundation for Poverty Alleviation

3.1 Data source We establish the comprehensive evaluation indicator system for sustainable development of micro-credit. Using the data from the micro-credit report of China Foundation for Poverty Alleviation in the period 2004 –2009 (Table 3), we can quantitatively understand the current situation of sustainable development of micro-credit, in order to provide the basis for further improving the level of sustainable development of micro-credit, and achieve better provision of financial services for farmers.

3.2 Standardization processing of the indicator data In order to unify the dimension of indicator and eliminate the external effects of differences in dimension on the evaluation results

so that the indicator data are comparable, we use the method of comparison with the base period to standardize the original data, and conduct reciprocal processing on the negative indicators. The standardization results of the original data can be seen in Table 4.

Table 2 The comprehensive evaluation indicator system for sustainable development of micro-credit and the weight value

Target layer	Subsystem layer	Indicator layer	Unit	The nature of indicators	Weight
The comprehensive evaluation indicator system for sustainable development of micro-credit(Y)	The indicator of profitability ratio (Y_1)	The sustainability of operation(X_{11})	%	Positive	0.310 8
		Financial sustainability(X_{12})	%	Positive	0.493 4
		The rate of return on loans(X_{13})	%	Positive	0.195 8
	The indicator of financial constitution ratio (Y_2)	Donation or contribution ratio(X_{21})	%	Negative	0.217 4
		The current ratio(X_{22})	%	Positive	0.284 9
		The total loan ratio (X_{23})	%	Positive	0.497 7
	The indicator of loan quality ratio (Y_3)	Overdue loans ratio(X_{31})	%	Negative	0.600 0
		The risk loans ratio(X_{32})	%	Negative	0.400 0
	The indicator of operating efficiency ratio (Y_4)	The operating expenditure ratio(X_{41})	%	Negative	0.422 1
		Loan officers' average loan balance(X_{42})	Yuan	Positive	0.223 4
		Unit cost of each loan(X_{43})	Yuan	Negative	0.354 5

Table 3 The original data of various indicators for measuring sustainable development of micro-credit

Indicator	2004	2005	2006	2007	2008	2009
The sustainability of operation	0.60	1.06	0.97	0.95	0.98	1.02
Financial sustainability	0.51	0.90	0.75	0.84	0.85	0.97
The rate of return on loans	13.40%	12.45%	14.02%	15.51%	18.17%	18.26%
Donation or contribution ratio	6.50%	9.61%	11.93%	7.41%	4.91%	3.52%
The current ratio	882.45%	924.94%	604.12%	906.55%	1009.05%	1108.01%
The total loan ratio	87.32%	79.36%	76.17%	92.60%	85.19%	90.44%
Overdue loans ratio	2.89%	1.78%	0.41%	0.18%	0.81%	0.05%
The risk loans ratio	6.73%	5.21%	1.83%	0.66%	1.16%	0.05%
The operating expenditure ratio	22.48%	12.79%	13.37%	9.63%	11.27%	13.12%
Loan officers' average loan balance	256 997	317 674	331 106	791 848	1 070 459	1 056 000
Unit cost of each loan	157.99	107.19	150.23	139.71	138.3	240.8

Note: Data are from the micro-credit report of the China Foundation for Poverty Alleviation in 2006, 2007, 2008, and 2009.

Table 4 Standardized indicator data for measuring sustainable development of micro-credit

Indicator	2004	2005	2006	2007	2008	2009
The sustainability of operation	1.00	1.77	1.62	1.58	1.63	1.70
Financial sustainability	1.00	1.76	1.47	1.65	1.67	1.90
The rate of return on loans	1.00	0.93	1.05	1.16	1.36	1.36
Donation or contribution ratio	1.00	0.68	0.54	0.88	1.32	1.85
The current ratio	1.00	1.05	0.68	1.03	1.14	1.26
The total loan ratio	1.00	0.91	0.87	1.06	0.98	1.04
Overdue loans ratio	1.00	1.62	7.05	16.06	3.57	57.80
The risk loans ratio	1.00	1.29	3.68	10.20	5.80	134.60
The operating expenditure ratio	1.00	1.76	1.68	2.33	1.99	1.71
Loan officers' average loan balance	1.00	1.24	1.29	3.08	4.17	4.11
Unit cost of each loan	1.00	1.47	1.05	1.13	1.14	0.66

3.3 Calculation of the composite index of sustainable development of micro-credit

3.3.1 Calculation of the evaluation index of each subsystem of sustainable development of micro-credit. The calculation formula is as follows:

$$Y_i = \sum_{i,j=1}^{n} X_{ij} K_{ij}$$

where Y_i signifies the evaluation index i in the subsystem layer; X_{ij} signifies the evaluation index i with j indicators; K_{ij} signifies the evaluation index i with j weight values; n signifies the number of indicators in the subsystem layer.

As a result, we can calculate the index of profitability ratio, the index of financial constitution ratio, the index of loan quality ratio, and the index of operating efficiency ratio in each subsystem of sustainable development of micro-credit (Table 5).

In the period 2004 – 2009, the index of profitability ratio, the index of financial constitution ratio, the index of loan quality ratio, and the index of operating efficiency ratio showed a growing trend on the whole, but the index of operating efficiency ratio declined slightly in 2009, mainly because the increase in the operating expenditure ratio and unit cost of each loan led to decline in operating efficiency. The index of loan quality ratio also showed a growing trend, but in 2008, it began to decline and in

2009, it began to increase significantly, mainly because the 2008 financial crisis made the prices of agricultural products fall, and loan farmers' income decrease, thereby affecting the repayment ability of some farmers, making the risk loans ratio and overdue loans ratio sharply rise, the quality of loans decline.

The year 2008 is defined as "risk management year" by China Foundation for Poverty Alleviation, but the policy-making is not effective enough in 2008, and the lag of policy effect makes the quality of loans in 2009 improved greatly. At the same time, in 2009, the China Foundation for Poverty Alleviation achieved the strategic transformation from "project-based micro-credit" to "institution-based micro-credit", and the institutions paid more attention to the quality management of micro-credit loans, improving the quality of loans.

Table 5 The index of each subsystem of sustainable development of micro-credit in the period 2004 – 2009

Indicator	2004	2005	2006	2007	2008	2009
The index of profitability ratio (Y_1)	1.000	1.602	1.433	1.531	1.595	1.734
The index of financial constitution ratio (Y_2)	1.000	0.898	0.748	1.011	1.099	1.275
The index of loan quality ratio (Y_3)	1.000	1.491	5.700	13.712	4.461	88.520
The index of operating efficiency ratio (Y_4)	1.000	1.541	1.370	2.074	2.177	1.874

3.3.2 Calculation of the composite index of sustainable development of micro-credit. The calculation formula is as follows:

$$Y = \sum_{i,j=1}^{n} Y_i T_i$$

where Y signifies the composite index of sustainable development of micro-credit; Y_i signifies the evaluation index i in the subsystem layer; T_i signifies the weight value; n signifies the number of the subsystem layer.

From the data in Table 5, we can derive the composite index of sustainable development of micro-credit in the period 2004 – 2009 and its development trend, as is shown in Fig. 1 (1.000 in 2004; 1.471 in 2005; 2.058 in 2006; 3.705 in 2007; 2.179 in 2008; 16.649 in 2009). Overall, the composite index of sustainable development of micro-credit showed a growing trend, but relative to 2007, 2008 is a step-backward year, mainly arising from the decline in the loan quality index. Substantial increase in the composite index of sustainable development in 2009 was also largely caused by substantial increase in the loan quality index.

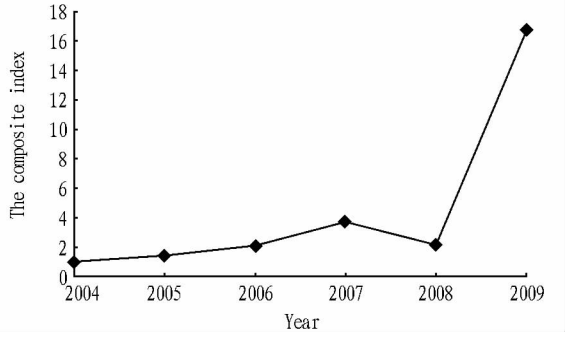

Fig.1 The development trend of the composite index of sustainable development of micro-credit in the period 2004 – 2009

4 Countermeasures and recommendations for further improving the sustainable development of micro-credit

4.1 Strengthening technological innovation to reduce costs and improve operating efficiency and profitability of the micro-credit Through group joint guarantee, transformation of loan technology, installment payment and other innovative technical means, micro-credit institutions can reduce the costs of provision of financial services for vulnerable groups in rural areas. At the same time, through the introduction of advanced technology and management concepts, micro-credit institutions can reduce the day-to-day management costs and operating expenses, improve the operational efficiency and profitability, not only achieving the goal of providing services for agriculture, farmers and countryside, but also achieving the goal of sustainable development of institutions. United States Agency for International Development (USAID) and Consultative Group to Assist the Poor (CGAP) also believe that the micro-credit institutions have institutional and technological innovation capacity, which will make the institutions continue to reduce service costs, and achieve the sustainable development of the institutions.

4.2 Strengthening risk control to improve the quality of loans The quality of the loans is important for the sustainable development of micro-credit institutions. Due to defects in the management mechanism of micro-credit institutions, some staff do not operate according to the rules, and the risk management is insufficient before and after loaning, posing a high risk to the loans offered by institutions. Considerable risky loans and overdue loans will make the institutions fail to continue to operate, seriously affecting the sustainable development of the institutions. The micro-credit institutions should strengthen the training for the staff, improve the staff's awareness of risk prevention, and implement the lending risk prevention decision-making and management mechanism, to strengthen risk control, reduce non-performing loan ratio, improve the quality of loans, and ensure the sustainable development of institutions.

4.3 Providing all-around non-financial services to lay the foundation for the sustainable development of micro-credit

In accordance with the actual situation of farmers' production and development capital needs, the micro-credit institutions should provide professional agricultural technology training, financial education, product market information, management capacity training and other non-financial services for the borrowing farmers, to help farmers to better carry out income-generating production activities, which will greatly enhance the farmers' self-development ability, income-generating capacity, anti-risk ability, and repayment ability, laying foundation for the sustainable development of micro-credit.

(To page 114)

tablishing security system for risk guarantee of land circulation. It is proposed to use part of government subsidy to prevent and solve risk problem of rental collection. (ii) Establishing evaluation mechanism for land grading. It is required to improve land consolidation, maintenance and supervision services. (iii) Establishing accident and dispute settlement mechanism. Land banks should pay rental to farmers on a regular basis, and adopt re-renting and subleasing to achieve sustainable operation of land resources.

5 Conclusions

In the long run, Yangling Model land banks should gradually be changed from government orientation to market orientation, and from centering on construction demand of Yangling Demonstration Park to demand of transactional parties. At present, the construction of Yangling Demonstration Park project is mainly stressed on its model significance to promoting agricultural modernization, large-scale and intensive development. Under the condition of market economy, to realize wider coverage of agricultural modernization, it also needs effective allocation of resources. Besides, in view of fundamental position of agriculture and public characteristic of agricultural technical extension, government should design and formulate reasonable laws and policies, and guide and guarantee normal circulation of contracted management right of land. As intermediaries, land banks should orient toward market and focus on demand of service objects, to become sincere and lawful third-party of benefit, correctly determine their roles, bring into full play their functions and benefits, and start their own survival and development space.

References

[1] ZHOU XL, LUO WB. Inspiration of foreign land bank operation mode to China rural reform[J]. Rural Economy, 2009(6): 127 –129. (in Chinese).
[2] ZHANG CG, SHAO CL. Rural land circulation mode based on perspective of land bank[J]. Gansu Finance, 2009(7): 14 –16. (in Chinese).
[3] QIAN ZH. China rural land system change and innovation[M]. Beijing: Social Science Literature Press, 2005. (in Chinese).
[4] Construction Management Center for Yangling Modern Agriculture Demonstrated Park. Document compiling for standard production in modern agriculture demonstrated park in Yangling[Z]. 2009. (in Chinese).
[5] SUN SC. The Analysis of policy implementation and supervision of village committee under village autonomy[J]. Rural Economy, 2009 (12): 8 –11. (in Chinese).
[6] ZHU JF. From the democratic principle of paris commune to the thought of democracy in power of CCP[J]. Studies on Socialism with Chinese Characteristics, 2005(3): 34 –36. (in Chinese).
[7] GAO PY. Public economic science[M]. The 2nd ed. Beijing: China People's University Press, 2003. (in Chinese).
[8] SHU T, ZHONG ZB, QING P. Empirical analysis on farmers' land circulation psychology[J]. Science & Technology Progress and Policy, 2006(6): 92 –94. (in Chinese).
[9] BIAN QJ, ZHOU SD, GE JH. On influencing factors for agriculture land circulation in develop area based on farmers data in Zhejiang Province[J]. Journal of Agrotechnical Economics, 2010(6): 28 –36. (in Chinese).
[10] LIU ZK, QIANG CW. Discussion on intermediary organization in rural land circulation[J]. Theory Construction, 2009(4): 58 –61. (in Chinese).

(From page 110)

The micro-credit institutions can charge certain service fees by providing a variety of non-financial services, which can increase the sources of financial income and profitability for the institutions, so as to promote the sustainable development of micro-credit. In addition, these non-financial services can also consolidate and strengthen the relationship between staff in micro-credit institutions and farmers, laying a solid foundation for the sustainable development of institutions.

4.4 Setting an appropriate level of interest rates to improve the profitability of the institutions The micro-credit advocates the mode of collecting certain interest by developing appropriate level of interest rates, to help the poor farmers who can not obtain loans from the traditional financial institutions obtain funds. By the loans, the farmers can carry out income-generating activities, which will improve their standard of living and help them cast off poverty and set out on a road to prosperity.

At the same time, the micro-credit institutions collect certain interest to compensate for the cost of providing financial services for farmers, improving institutions' ability to obtain profit, achieving sustainable operation and expended scale of the institutions, so that they can continuously provide a variety of financial services for more farmers and make the farmers benefit from the micro-credit.

References

[1] CHEN J, CAO YZ. Rural financial deepening and development analysis[M]. Beijing: China People's University Press, 2008(2): 109. (in Chinese).
[2] HE GW, LI LL. Normal financial institution small-amount loan operation mechanism and performance evaluation[M]. Beijing: China Financial and Economic Publishing House, 2005(11): 85 –87. (in Chinese).
[3] MEYER RL. Track record of financial institutions in assisting the poor in Asia[J]. ADB Institute Research Paper, 2002(49): 23 –25.
[4] YARON J. Successful rural finance institutions[J]. World Bank Discussion Paper, 1992(150):18 –20.
[5] SUN RM. Small-amount credit loan and farmers' income[M]. Beijing: China Modern Economics Publishing House, 2005(10): 10 –12. (in Chinese).
[6] LEDGERWOOD J. Small-amount credit loan manual—perspective and forecast of finance and corporation operation[M]. Translated by MA XD, ZHU JM. Beijing: Chinese Business Press, 2000(1): 103 –105. (in Chinese).
[7] YANG XY, HE GH. International new trend of small-amount financial institution sustainable development[J]. Studies of International Finance, 2007(12): 11 –21. (in Chinese).
[8] ZHOU ML, ZHANG GZ. The research on new method of rural finance reform in China: based on inclusive finance perspective[J]. Journal of Central University of Finance & Economics, 2009(6): 37 –43. (in Chinese).
[9] MORDUCH J. The microfinance promise[J]. Journal of Economic Literature, 2005, 37(4): 1587, 1569 –1614.