

Research on Performance of Modern Rural Financial Poverty Alleviation Based on Data Envelopment Method

Yu Zhenwei¹, Adiza Alhassan Musah²

Abstract

Rural poverty alleviation is the mainstream form of poverty alleviation in China. For a long time, the evaluation of the performance of modern rural financial poverty alleviation is relatively lacking. Based on the purpose of the project, this paper evaluates both economic and social aspects, and analyzes the poverty alleviation performance of 12 typical poor villages in Jilin Province, Hunan Province, and Inner Mongolia Autonomous Region from 2016 to 2019 through data envelopment method. According to the results obtained, it is further pointed out that in the rural poverty alleviation work, adjustments and optimizations should be made in terms of carrying out poverty alleviation in characteristic industries and improving the expenditure structure.

Keywords: *Data envelopment method, Modern rural, Financial poverty alleviation, Performance.*

INTRODUCTION

Financial support for poverty alleviation in modern rural areas has achieved remarkable results, however, in specific implementation process, there are still various practical difficulties in some areas. Problems such as the low economic starting point of the poverty alleviation target and improper poverty alleviation methods make the final poverty alleviation less effective than expected (Sun et al, 2018). During the critical period of poverty alleviation in rural areas, it is of great significance to evaluate the performance of modern rural financial poverty alleviation. By combing the existing research results of scholars, it can be found that the current research on this aspect is not sufficient, and the selection forms of research objects are mainly divided into two categories, one is to select directly in all provinces and cities of the country, the other is to select in typical poor villages near a city. There is no comparative study on the performance of modern rural financial poverty alleviation in different provinces. In this view, this paper selects 12 typical poverty-stricken villages in Jilin Province, Xiangxi Autonomous Prefecture and Inner Mongolia Autonomous Region as the research object, and uses the data envelopment method to carry out a comparative study of financial poverty alleviation performance, in order to help China's rural areas carry out poverty alleviation work efficiently and smoothly.

¹ Postgraduate Centre (PGC), Management and Science University, University Drive Off Persiaran Olahraga, 40100 Shah Alam, Selangor, Malaysia; Wuxi Institute of Technology, Wuxi, Jiangsu, China, yuzw@wxti.edu.cn

² Postgraduate Centre (PGC), Management and Science University, University Drive Off Persiaran Olahraga, 40100 Shah Alam, Selangor, Malaysia

LITERATURE REVIEW

Poverty alleviation in rural areas is one of the priorities of the Chinese government in recent years, which is conducive to reducing the gap between urban and rural areas and harmonizing the development of members in various regions and society. In the 2015 central poverty alleviation and development conference, Xi Jinping pointed out that we must win the battle against poverty and achieve all the poverty stricken areas in 2020. In order to further implement this work, the central and local governments at all levels have invested a lot of financial funds. According to statistics, in 2018, the central government's special poverty alleviation fund was 106.1 billion yuan, and the local government's poverty alleviation fund was 370.9 billion yuan. The total poverty alleviation funds reached 477.7 billion yuan, an increase of 46.6% over 2017. The total expenditure on poverty alleviation in 2019 also exceeded 400 billion Yuan.

While the poverty alleviation work is being carried out, the research on financial poverty alleviation performance is also underway. In 2008, Liu Ping and Li Hongxing pointed out that although the government's poverty alleviation work has invested a lot of money. However, there is very little comparative analysis of capital input and output. Therefore, the two scholars used data envelopment analysis to study the benefits of poverty alleviation funds (Liu and Li, 2008). On the basis of researching related theoretical literature, Huang Xinmei used principal component analysis and data packet network method to evaluate the poverty alleviation performance of Jiangjin District and pointed out the deficiencies in the poverty alleviation work of Jiangjin District (Huang, 2018). Liu Bin, Qian Li and others also used the data envelopment analysis method to measure the poverty alleviation performance of three national-level poverty-stricken counties in Fuyang City, Anhui Province from 2007 to 2016, and drew a conclusion on Fuyang City's overall poverty alleviation performance from three aspects. Firstly, there are spatial differences between the middle high and the low side. Secondly, Aging, disease and disability are the main causes of poverty in the local area. Thirdly, There is a problem of unreasonable allocation of poverty alleviation expenditure in Fuyang City (Liu et al, 2019). Chen Yin'e and Jin Runchu measured the efficiency of financial poverty alleviation in 31 provinces, municipalities and autonomous regions in China from 2009 to 2015, and decomposed the performance difference of modern rural financial poverty alleviation in China's eight comprehensive economic regions through the Theil index. The two scholars deeply analyzed the measurement results and found that the overall level of rural financial poverty alleviation efficiency in my country is low, and it shows uneven regional distribution, such as high in the east and low in the west, high in the south and low in the north. Moreover, the rural financial poverty alleviation efficiency has a spatial aggregation effect (Chen and Jin,2018). Meng Yaoxi, Song Haijun and others selected 8 poverty-stricken counties in Jilin Province as the research object and used DEA data envelopment method to evaluate the financial poverty alleviation performance level of these areas (Meng and Song, 2019). When constructing the performance evaluation system for precision poverty alleviation in Dingxi City, Wang Xinjie comprehensively considered the development level of economy, humanities, society and ecology, and carried out empirical research on the performance of precision poverty alleviation in six counties and one district in Dingxi City. According to the research results and the related theory, the scholar put forward optimization suggestions to improve the performance of targeted poverty alleviation in Dingxi City, that is, to balance the obvious differences between counties and improve the "green + red" poverty alleviation model. In addition to poverty alleviation in economy, attention should be paid to poverty alleviation in education (Wang Xinjie, 2019). Li Yi and Wang Rongdang pointed out that as the main poverty alleviation method in China, rural poverty alleviation has been lacking in evaluation of poverty alleviation performance for a single project. On this basis, the two scholars conducted empirical research on China's poverty-stricken rural community development projects from various perspectives such as sociality and economy (Li and Wang).

RESEARCH DATA AND METHODS

DATA

The performance evaluation system of poverty alleviation is based on the outline of China's rural poverty alleviation and development (2010-2020), comprehensively considering the relevant connotation of Inclusive Finance and the meaning of targeted financial poverty alleviation, so as to determine the evaluation indicators of this study. The direction and pace of poverty alleviation of the central government and the government are basically the same, but due to the different geographical location of the region, there is a gap between the poverty base and economic development, and the focus of work will be biased. This study mainly follows two basic principles when selecting indicators. On the one hand, it should be able to reflect the focus of modern rural poverty alleviation work, and the poverty alleviation way is mainly financial expenditure. On the other hand, index data should be available and authentic. Therefore, this study tries to avoid choosing relative indicators but choosing absolute ones when determining the evaluation indicators. Although the relative indicators can reflect the poverty alleviation effect of the poverty alleviation project, they cannot reflect the changes in the environment of the project. The difference in quota between two years is not only the meaning of the change in value, but also needs to reflect the connection between the environment in which the project is located. The actual meaning of the value is reduced due to changes in the environment in which the project is located. The data envelopment method is an analysis method that can handle multiple inputs and multiple outputs. Therefore, when analyzing the performance of modern rural financial poverty alleviation, multiple input and output indicators can be selected. After reviewing a large number of documents, the author finds that the input of poverty alleviation funds is one of the key indicators for evaluating poverty alleviation performance, so this study will choose a data-based indicator from this perspective. In addition, since the content of poverty alleviation projects includes not only economic but also spiritual support, the input indicators can be added to the indicators of the beneficiaries of the poverty alleviation projects in terms of production and operation inputs. At the same time, the implementation points of poverty alleviation projects usually have differences in natural social and human conditions. Through these objective conditions, the efficiency of poverty alleviation projects can be distinguished. When equal amounts of funds are invested, poor areas with better basic conditions can achieve better results. Therefore, indicators of natural environmental conditions should be added to the input indicators, such as some early input indicators. When determining the output indicators, you can choose from both economic and social perspectives. When the poverty alleviation project contains the goal of improving the ecology, some evaluation indicators that reflect the ecology need to be added. The economic indicators mainly include the income of beneficiaries of poverty alleviation projects and the extent of poverty alleviation. The scope of social indicators is larger, including health, education, culture, etc., so the evaluation indicators are selected around the ultimate goal of poverty alleviation projects.

METHODS

The data enveloping method first appeared in the enveloping thought in 1957. The author of this theory was Farrell. Then in 1978, A. Charnes, W.W. Cooper and E. Rhodes two operations research scientists formed a C2R model through continuous research to deal with related issues. The data envelopment method is usually used to deal with the problems in social activities and social production that require evaluation of similar units or departments. Each unit or department can be called a decision unit. The evaluation basis of the model is the quantity of resources needed to be input in production activities, as well as the output in the process of activities, that is, input index and output index. According to the research results of data envelopment method by Wei Quanling, the evaluation steps can be divided into the following processes. The first step is to define the evaluation objectives. The second step is to build the evaluation index system. The third

step is to collect and sort out the data. The fourth step is to calculate and analyze the data, and feed back the results to the evaluation index system. The fifth step is to analyze the evaluation results and put forward suggestions and countermeasures. It can be seen from the above description that DEA has the following advantages in building the model. It does not need to know the function formula of the model, nor does it need to deal with the data dimensionally. This shows that data envelopment method can effectively avoid errors and has a high value in economic analysis. In the process of research, there are two parts that are easy to produce errors: setting specific function formula and weight assignment. At the same time, due to some subjective factors, the experimental results will also produce errors.

The most commonly used models in the data envelopment method are C2R and BCC. Among them, the premise of the C2R model is that all decision-making units can run on the most effective scale, that is, the scale effect cannot be changed. The BCC model has no clear limitations in this regard, and can be used when the decision unit is not running on the most effective scale, which can effectively avoid the slight impact of scale efficiency on technical efficiency in the C2R model. This research model first assumes that there are n decision-making units, ($j = 1, 2, \dots, n$) each decision-making unit contains a types of input and b types of output. In the j -th decision unit, the i -th input is specified as X_{ij} ($X_{ij} > 0; i = 1, 2, \dots, a$). In the j -th decision unit, the r -th output is defined as Y_{rj} ($Y_{rj} > 0; r = 1, 2, \dots, b$). The input and output of the model can be expressed as $x_j = (x_{1j}, x_{2j}, \dots, x_{aj})^T$, $Y_j = (y_{1j}, y_{2j}, \dots, y_{bj})^T$. In addition, the non Archimedean infinitesimal perfect model needs to be added, and the relaxation variables of input and output are calculated respectively, which are expressed as S^- and S^+ , respectively. Therefore, the C2R model formed by the j_0 decision-making unit through the data envelopment method is as follows:

$$\left\{ \begin{array}{l} \min[\theta - \varepsilon(\hat{e}^T S^- + e^T S^+)] \\ s.t. \sum_{j=1}^n \lambda_j X_j + S^- = \theta X_0 \\ \sum_{j=1}^n \lambda_j X_j + S^+ = Y_{j_0} \\ \lambda_j \geq 0; 1, 2, \dots, n; S^- \geq 0; S^+ \geq 0 \end{array} \right.$$

In addition, on the basis of C2R model, BCC model can decompose the comprehensive

efficiency by setting $\sum_{j=1}^n \lambda_j = 1$ according to the constraints of linear programming. After the above settings, the comprehensive efficiency can be expressed in two forms: scale efficiency product and pure technical efficiency. Among them, scale efficiency represents the gap between the production frontier when the scale remains unchanged and the scale is variable, while pure technical efficiency represents the effective production frontier generated by the running point distance of the decision-making unit at this time. Therefore, the multi-stage data envelopment method with high accuracy is selected to calculate the relaxation variables. The specific operation method is to establish a series of radiation linear programming models to effectively identify and predict. The ultimate goal of prediction is to find out the possible difference between the measurement unit change and the farthest efficiency point in the two-stage data envelopment method, and then get more accurate calculation results.

RESULTS

The research object of this paper is 12 poor counties in Jilin Province, Hunan Province and Inner Mongolia Autonomous Region. The data of this study are all from the test reports of the poverty alleviation projects of each research object between 2017 and 2020, and the content includes the relevant data of the poverty alleviation project sites from 2016 to 2019. The economic development status and basic conditions of the poverty alleviation project counties before receiving poverty alleviation are different. The economic, social, and natural impacts faced during the poverty alleviation project are different. At the same time, many important indicators do not have detailed data statistics in the project investment content report, such as the amount of capital invested in education and medical care. This study is limited by the availability of data. When selecting input and output indicators, the performance of poor projects can only be evaluated from a broader perspective. In order to evaluate the performance of financial poverty alleviation in poverty-stricken counties at the end of the four-year period, this study selected Jilin Province, Hunan Province, and Inner Mongolia Autonomous Region poverty alleviation project sites from 2016 to 2019. A total of four years of data were used for performance evaluation. A total of 12 decision-making units, and then accurately measure the poverty alleviation performance at the end of each year. According to the availability of data, the final input and output indicators are determined as shown in Table 1.

Table 1. Performance Evaluation System of Modern Rural Financial Poverty Alleviation

Input indicators	Output index
Per capita poverty alleviation fund to households (ten thousand yuan)	per-capita net income (ten thousand yuan)
Per capita cultivated land (mu)	Per capita expenditure excluding food consumption (ten thousand yuan)
Family operating expenses (ten thousand yuan)	Proportion of natural villages through highways (%)
Education expenditure (ten thousand yuan)	Enrolment rate of school-age children (%)

The input and output index data are shown in Table 2. There are four input indicators in this study, which are per capita poverty alleviation (10,000 Yuan), per capita arable land (mu), household operating expenses (10,000 Yuan), and education expenditure (10,000 Yuan). The above input indicators can measure the most important input production factors in poverty alleviation projects and the improvement of the poverty alleviation beneficiaries in terms of operation. Education expenditure always accounts for a large proportion of fiscal expenditure, and is an important means to stop the persistence of poverty. There are four indicators in the output indicators, namely, per capita net income (ten thousand yuan), per capita food consumption expenditure (ten thousand yuan), the proportion of natural villages connected to highways (%), and school-age children enrollment rate (%). The above four indicators can reflect changes in beneficiaries' income and expenditures in poverty alleviation projects, changes in the environment they are in and poverty alleviation potential in poverty alleviation project areas. In this study, the data of each indicator is calculated through the C2R and BCC models established by each indicator. The results are shown in Table 3. By calculating the relaxation variables input to the output indicators, we can know how to turn the suboptimal decision unit into the optimal decision unit. The specific calculation results are shown in Table 4.

Table 2. Performance Input and Output Index Data of Modern Rural Financial Poverty Alleviation

Input indicators					
Particular year	Province	Per capita poverty alleviation fund to households (ten thousand yuan)	Per capita cultivated land (mu)	Family operating expenses (ten thousand yuan)	Education expenditure (ten thousand yuan)
2019	Jilin Province	1375	0.8341	759.2	173.4
2019	Hunan Province	1892	1.0652	1037.2	163.2
2019	Inner Mongolia Autonomous Region	1623	1.5375	983.7	153.4
2018	Jilin Province	843	0.9547	788.5	133.2
2018	Hunan Province	1583	1.1252	839.4	139.4
2018	Inner Mongolia Autonomous Region	1374	1.3266	773.4	125.5
2017	Jilin Province	482	0.9925	639.4	103.5
2017	Hunan Province	933	1.0948	722.6	104.5
2017	Inner Mongolia Autonomous Region	902	1.4743	593.3	98.3
2016	Jilin Province	196	1.1032	501.6	73.4
2016	Hunan Province	665	1.1142	586.5	80.2
2016	Inner Mongolia Autonomous Region	672	1.5176	400.1	63.2
Output index					
Particular year	Province	per-capita net income (ten thousand yuan)	Per capita expenditure excluding food consumption (ten thousand yuan)	Proportion of natural villages through highways (%)	Enrolment rate of school-age children (%)
2019	Jilin Province	2833.4	1398.3	89.3	96.4
2019	Hunan Province	2644.5	1033.4	70.3	84.3
2019	Inner Mongolia Autonomous Region	2388.4	988.2	93.4	92.3
2018	Jilin	2756.9	1298.3	83.2	95.3

	Province				
2018	Hunan Province	2399.5	893.2	65.2	86.7
2018	Inner Mongolia Autonomous Region	2098.2	782.3	90.2	90.2
2017	Jilin Province	2583.4	1003.2	79.3	96.2
2017	Hunan Province	2066.3	893.2	63.4	89.9
2017	Inner Mongolia Autonomous Region	1723.4	643.2	86.3	87.5
2016	Jilin Province	2298.3	853.4	76.3	94.3
2016	Hunan Province	1828.3	735.6	62.2	85.4
2016	Inner Mongolia Autonomous Region	1500.2	586.4	83.6	85.4

Table 3. Results of C2R and BCC Models of Modern Rural Financial Poverty Alleviation Performance

Particular year	Province	C ² R model score	BCC model score	Scale benefit score	Status
2019	Jilin Province	1	1	1	Unchanged scale
2019	Hunan Province	0.822	0.883	0.846	Decreasing scale
2019	Inner Mongolia Autonomous Region	0.735	1	0.735	Decreasing scale
2018	Jilin Province	1	1	1	Unchanged scale
2018	Hunan Province	0.913	0.961	0.939	Decreasing scale
2018	Inner Mongolia Autonomous Region	0.834	1	0.834	Decreasing scale
2017	Jilin Province	1	1	1	Unchanged scale
2017	Hunan Province	0.868	0.935	0.897	Decreasing scale
2017	Inner Mongolia Autonomous Region	0.759	1	0.759	Decreasing scale
2016	Jilin Province	1	1	1	Unchanged scale
2016	Hunan Province	1	1	1	Unchanged scale
2016	Inner Mongolia Autonomous Region	1	1	1	Unchanged scale

Table 4. Calculation Results of Input and Output Index Relaxation Variables of Poverty Alleviation Projects

Particular year	Province	Per capita poverty alleviation fund to households	Per capita cultivated land	Family operating expenses	Education expenditure	Per-capita net income	Per capita expenditure excluding food consumption	Proportion of natural villages through highway	Enrollment rate of school-age children
2019	Jilin Province	0	0	0	0	0	0	0	0
2019	Hunan Province	459.32	1.283	357.8	57.2	0	45.73	18.34	8.53
2019	Inner Mongolia Autonomous Region	0	0	0	0	0	0	0	0
2018	Jilin Province	0	0	0	0	0	0	0	0
2018	Hunan Province	341.50	1.665	0	0	0	105.2	15.76	6.35
2018	Inner Mongolia Autonomous Region	0	0	0	0	0	0	0	0
2017	Jilin Province	0	0	0	0	0	0	0	0
2017	Hunan Province	0	0.619	0	0	0	230.53	13.47	5.17
2017	Inner Mongolia Autonomous Region	0	0	0	0	0	0	0	0
2016	Jilin Province	0	0	0	0	0	0	0	0
2016	Hunan Province	0	0	0	0	0	0	0	0
2016	Inner Mongolia Autonomous Region	0	0	0	0	0	0	0	0

According to the principle of data envelopment method, the decision unit calculated as 1 by C2R and BCC model is a relatively effective result, and there is no waste in investment. Because the data envelopment method belongs to the relative evaluation method, it should be noted that the decision-making unit whose evaluation result is 1 is not necessarily the best, but the best resource allocation is achieved compared with other decision-making units. Compared with the result 1, the decision-making unit which is not 1 can be improved. According to the final calculation results, Jilin Province has been rated as the best decision-making unit in 2016-2019, while Hunan Province and Inner Mongolia Autonomous Region have been rated as the best in 2016. The reason may be

that Jilin Province has already had a good development foundation when it started the poverty alleviation project, and because it is close to the sea, it has a more convenient export base. In addition to national policy factors, it is also affected by resource distribution, geographical location, distribution of poverty-stricken areas and other factors. However, in the performance evaluation of modern rural financial poverty alleviation, it is difficult to show differences in social, natural and human environment, and the data of indicators are missing and inexhaustible, so the above evaluation results are only of reference value.

In general, this study compares the financial poverty alleviation performance of 12 poor counties in Jilin Province, Hunan Province and Inner Mongolia Autonomous Region by data envelopment method. Combining with the theory of poverty alleviation performance evaluation, this paper analyzes the performance of a poverty alleviation project in detail, and the results are more scientific and effective. The results show that this study can not only effectively evaluate the performance of poverty alleviation projects, but also put forward specific improvement data, which provides a theoretical basis for later poverty alleviation projects. However, there are some shortcomings in this evaluation method, that is, it can only compare and analyze the subjects in the optimal state among multiple objects, but it can not directly measure whether a single subject reaches the optimal state.

DISCUSSION

GRASP LOCAL RESOURCES AND CARRY OUT POVERTY ALLEVIATION WITH SPECIAL INDUSTRIES

The key content of modern rural financial poverty alleviation is to carry out industrial poverty alleviation. Only when local industries are truly prosperous can we fundamentally avoid the phenomenon of "returning to poverty". If we want to do a good job in poverty alleviation, we must grasp local resources and take the line of characteristic industries. Specifically, the first is to analyze the local resource endowments in poverty-stricken areas, including human resources and natural resources. On this basis, accurately locate the local characteristic industries and assess whether the industry has enough development potential. Second, we need to further refine and improve the supporting system of financial support related to industrial support. The third is to strengthen the skills training of poor farmers, so that they can have a skill in local industrial construction.

ACCELERATE THE CONSTRUCTION OF SOCIAL SECURITY SYSTEM IN POOR AREAS

In any country or region, poverty alleviation cannot be eliminated by 100%, especially for some disabled people. Therefore, it is necessary to accelerate the construction of the social security system in China's poor areas and provide a basic guarantee for the lives of poor households. First, the government should expand the scope of medical cooperation and old-age security in poor areas on the existing basis, strengthen the investment in public medical and pension insurance in poor areas, and completely solve the problem of difficulty and expensive medical treatment in modern rural areas. Secondly, the Ministry of civil affairs, Poverty Alleviation Office and other departments should strengthen the connection between the rural minimum security system and poverty alleviation policies, file and register the severely disabled people who are unable to establish their own households and depend on their families, and the poor people who have lost their labor force completely, and increase the efforts to provide basic security. Finally, according to the basic situation of local development, local governments can set up special relief subsidies for the poor to ensure the basic life of the extremely poor and orphans.

STRENGTHENING POVERTY ALLEVIATION FUND MANAGEMENT AND IMPROVING EXPENDITURE STRUCTURE

To a great extent, the improvement of poverty alleviation performance depends on whether the structure of poverty alleviation expenditure is reasonable. When carrying out the work of poverty alleviation in modern rural areas, the local governments should do the following. The first is to strictly implement the special management of special funds, strictly distinguish the poverty alleviation funds from other special funds, and avoid mixing and embezzlement. The second is to strictly implement budget management. The government needs to allocate its own funds for poverty alleviation in accordance with the principle of “no budget overrun, no budget no expenditure” to increase the binding power of the budget. This does not mean that the budget cannot be adjusted. On the contrary, one of the purposes of budget management is to ensure that the poverty alleviation funds in key areas and directions are actually in place. Finally, the government should regularly monitor the specific project arrangements and use of poverty alleviation funds, and conduct monthly and quarterly public relations to guide the masses to participate in social supervision and improve the transparency of poverty alleviation work.

BUILD A PLATFORM FOR SMART GOVERNMENT AFFAIRS TO EMPOWER POVERTY ALLEVIATION WITH SCIENCE AND TECHNOLOGY

The work of poverty alleviation in modern rural areas is still inseparable from the support of science and technology. Local governments need to speed up the construction of smart government platform, and do a good job in the docking work of the main body closely related to poverty alleviation. On the one hand, the local natural resources, finance, rural agriculture and other management departments should strengthen cooperation to achieve data connectivity, so as to form an online public service ecosystem. On the other hand, the government needs to provide the rural poor residents with multi scene socialized comprehensive services, such as agricultural management and information docking, to help the poor farmers find their own development direction. In addition, with the help of smart government, the government should actively introduce high-quality medical resources such as cloud diagnosis and treatment, so that residents in poor areas can enjoy high-quality medical services online.

References

- Liu P., Li H.X. (2008) Data Envelopment Analysis of Rural Poverty Alleviation Funds. *China Administration*, 15 (01),79-80.
- Huang X.M. (2018). Research on Poverty Alleviation Performance Evaluation Based on DEA Method-Taking Jiangjin District of Chongqing as an Example. *Tax Payment*, 12 (29),173 + 175.
- Liu B., Qian L., Zuo Y.T. (2019). Poverty Alleviation Performance Evaluation and Countermeasures Based on DEA Model—Taking Three National Poverty Counties in Fuyang City as Examples. *Journal of Jixi University*, 19 (06),59-65.
- Chen Y.E., Jin R.C. (2018) Regional Differences and Spatial Distribution of Rural Financial Poverty Alleviation Efficiency in my country. *Fujian Forum, Humanities and Social Sciences Edition*, 35 (04),28-38.
- Meng Y.X., Song H.J, Huang Y, et al. (2019). Research on the Performance of Jilin Provincial Financial Precision Poverty Alleviation under the Background of Rural Revitalization. *Jilin Financial Research*, 11 (11),34-39.
- Wang X.J. (2019). Performance Analysis of Precision Poverty Alleviation Based on Fuzzy Evaluation Method ——Taking Dingxi City of Gansu Province as an Example. *Journal of Jingchu University of Technology*, 25 (2),79-87.

- Li Y., Wang R.D., Duan Y.L. (2012). Research on Performance Evaluation Model of Rural Poverty Alleviation Project Based on Data Envelopment Method. *Project Management Technology*, 9 (09),49-55.
- Sun J.B., Li Z.M., Peng X. (2018). Evaluation and Analysis of the Effect of Targeted Poverty Alleviation in Rural E-commerce——Taking Jiangxi Province as an Example. *Journal of Gannan Teachers College*, 39 (06),129-134.
- Chen C.M., Liu Y.H. (2017). Shaanxi Credit Poverty Alleviation Efficiency Evaluation and Countermeasures. *Financial Theory and Practice*, 30 (6). 66-69.
- Ma A.N. (2018). Empirical Research on Realizing Accurate Poverty Alleviation Relying on Microfinance——Taking Buchang Village, Weinan City, Shaanxi Province as an Example. *Journal of Agricultural Banking*, 21 (02),41-46.
- Ruan R.P., Liu L.L, Yu M. (2018). Empirical Study on Poverty Alleviation Performance In Concentrated Contiguous Poverty-Stricken Ethnic Areas——Based on The Perspective of Absolute Income, Income-Increasing Ability, Relative Income and Subjective Welfare. *Journal of China Yanan Cadre College*, 11 (05),130-138.