

# Integrated development of inclusive finance and green finance promotes rural revitalization

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**Abstract.** In 2016, China put forward the topic of green finance and inclusive finance at the G20 Summit in Hangzhou. Since then, more and more scholars in China have paid attention to the possibility and influence of the integrated development of green finance and inclusive finance. In recent years, China has gradually established a domestic green financial market system through a series of measures such as issuing green financial standards, disclosure requirements and encouraging green financial product innovation. According to data from the National Statistical Bulletin, by the end of 2021, the loan balance of major rural financial institutions (rural credit cooperatives, rural cooperative banks, rural commercial banks) was 2.42496 trillion yuan, an increase of 2.6607 billion yuan compared with the beginning of the year. From the perspective of Liaoning Province, at the end of 2020, the balance of loans in domestic and foreign currencies of banking financial institutions in Liaoning was 520.94 billion yuan, an increase of 262.68-billion-yuan year-on-year, an increase of 5.3% year-on-year. The growth rate slowed down, with a decrease of 4.9 percentage points compared with the previous year. Firstly, we select a series of indicators and use entropy method to calculate the weight of each indicator. According to the analysis and processing of historical data, the quantization results of core explained variables, core explained variables and control variables are obtained. Descriptive statistics are made according to China Rural Statistical Yearbook and Peking University Digital China GSP Financial Index (2011-2020). Then, four spatial econometric models, namely spatial Dubbin model, spatial autoregression model, spatial correlation model and spatial error model, were applied to analyze the development relationship between digital inclusive finance and rural revitalization. Based on the evaluation system of rural revitalization, the development level of rural revitalization was obtained by combining the relevant data of 30 provinces in China from 2011 to 2021. Finally, the application of LR inspection, LM test to verify the reliability of the regression results, and considering the effect of partial differential decomposition method is used to the calculation results are decomposed, the weights in different space under the condition of digital Pratt & Whitney directly influence to the time of rural financial revitalization policy and policy space spillover effects, further analysis Pratt & Whitney financial relationship with the revitalization of the development of the rural.

**Keywords:** Inclusive finance; Green finance; Rural revitalization; Agricultural modernization; Rural finance

## 1. Introduction

### 1.1 Research Background

In the report of the Nineteenth National Congress, the party pointed out that the agricultural and rural peasant issues are fundamental issues related to the national economy and the people's livelihood, and solving the "three rural" problems has always been the top priority of the whole party's work, and the implementation of the rural revitalization strategy. Since the strategy of rural revitalization was proposed, China's rural economic, social and cultural development has made great progress. However, how to make better use of financial resources, improve the efficiency of financial resource utilization, and promote the development of the rural real economy is still an important issue for rural revitalization. As an important part of the structural reform of the agricultural supply side, rural finance is of great significance for revitalizing rural resources, promoting the industrialization and scale of agricultural production, and realizing agricultural modernization. At present, due to the relatively backward and imperfect rural financial system,

some rural areas still have problems such as difficulty in financing and expensive financing for agricultural entities, which seriously restricts the scale and production efficiency of agricultural production and restricts the growth rate of rural economy. At the same time, with the development and utilization of rural natural resources, the rural natural environment is also facing serious threats, and the problem of development and protection is becoming more and more acute. Although the state has always attached great importance to rural construction, and rural financial services have gradually developed and gradually become systematic, problems such as the backward social credit reporting environment, the unreasonable allocation of rural financial resources, and the environmental pollution and damage caused by rural construction still need to be solved urgently. Liaoning Province is located in the northeast plain, its superior natural geographical conditions are very suitable for the development of agriculture, as one of the main grain producing provinces in the country, its primary industry development is of great strategic significance to the country's food security. In the face of the fact that its economic development growth rate is lower than the national average, agricultural development is also constrained by certain financial resources. The insufficient supply of formal financial resources, the lack of financial innovation, and the high rate of non-performing loans have seriously affected the steady development of rural finance in Liaoning Province.

#### 1.1.1 Rural financial development has achieved phased results

##### 1.1.1.1 Rural finance is highly valued by the Party and the government

As the foundation of the national economy, the primary industry is an important guarantee for the stable and safe development of the country. Not only out of the consideration of the national security strategy, but also in order to effectively protect the happiness and satisfaction of rural residents, the party has repeatedly stressed at major meetings that it is necessary to attach great importance to the work of "three rural areas". The party has repeatedly emphasized that the "three rural areas" issue is the focus of the work of the whole party, which is related to the happiness and sense of gain of all farmers and the development of the rural economy. The Sixth Plenary Session of the Nineteenth Central Committee of the Communist Party of China also clearly pointed out that it is necessary to improve the construction of the rural financial service system and drive the development of the rural economy with innovative financial service models. According to the instructions of the CPC Central Committee, the State Council also pointed out in the opinions on comprehensively promoting the key work of rural revitalization in 2022 that it is necessary to increase policy guarantees in the field of agricultural finance and improve relevant institutional mechanisms. Among them, article 30 of the Opinions, "Strengthening Rural Revitalization Financial Services", clearly points out the important direction of the construction of the rural financial system from the aspects of implementing more preferential financial policies, accelerating the reform of rural credit cooperatives and deepening the construction of the rural credit system, and provides strong policy support for construction.

In June 2017, Liaoning Rural Credit Cooperatives focused on improving the existing credit environment in rural areas and optimizing the rural financial ecological environment, providing a series of guiding opinions to solve the problems of difficult and expensive financing in the "three rural areas". In May 2022, the Liaoning Banking and Insurance Regulatory Bureau issued a notice clearly pointing out that it is necessary to promote the Liaoning banking and insurance industry to comprehensively promote rural revitalization financial services. The circular mainly focuses on the "three rural areas" issue from the perspective of improving the quality of rural financial services, improving the construction of the financial system, and creating a good basic environment for financial development, and further deepens the structural reform of the financial supply side in Liaoning Province.

##### 1.1.1.2 Rural financial services are gradually becoming systematic

In recent years, the state has attached great importance to the construction of rural financial service capabilities and systems, and has enriched and covered the construction level.

We have continuously explored the extensive rural financial service system and promoted the optimization of institutional layout. (He Jiale, 2020). The existing agriculture-related financial institutions can be divided into four main types. Among them, policy finance, commercial finance and cooperative finance are the main forces in rural financial development. Policy finance is represented by the Agricultural Development Bank of policy banks, and the Agricultural Bank of China and the Postal Savings Bank of China among commercial banks are typical of commercial finance. Rural credit cooperatives, rural commercial and cooperative banks, as important components of rural cooperative finance, account for a very large percentage of rural cooperative financial institutions. In recent years, a large number of new rural agriculture-related financial institutions have also emerged. The new rural financial institutions, represented by village and township banks, loan companies and rural capital mutual aid cooperatives, meet the growing demands of rural financial needs. As of January 2021, as the main force of local rural finance, Liaoning Agricultural Credit Cooperatives Union has 20 departments, 6 regional audit centers, 12 municipal liaison service offices, and 2 municipal rural commercial banks, 28 county-level rural commercial banks and 30 county-level credit cooperatives in Shenyang and Dalian. The development of rural credit cooperatives in Liaoning Province has begun to take shape on a certain scale. At present, the rural financial field in Liaoning Province has formed a cooperative, commercial and policy-oriented financial institutions as the main body, new financial institutions as a supplement, and agricultural insurance and guarantee companies as the auxiliary relatively complete rural financial system to ensure the stable operation of the economy and society in rural areas. (Xing Wenyan, 2019)

#### 1.1.1.3 Financial products and financing channels are gradually diversifying

In 2013, the central bank and the China bank attached great importance to the improvement and innovation of agriculture-related financial products and services, and agriculture-related financial institutions implemented the innovation instructions and launched a variety of financial products and service innovations, including forest rights mortgages, microfinance, "company + base + farmers", etc. This has greatly broadened the sources of rural financing and promoted the further innovative development of rural finance. In 2020, the Agricultural Development Bank of China launched a series of agriculture-related credit products, such as loans for the reconstruction and construction of agriculture-related shantytowns, urban-rural integration loans, rural land circulation and scale operation loans, further providing credit support for agricultural construction. In 2021, Hubei region launched credit models such as "whole village credit" and "micro-loan star granting" in view of the credit characteristics of rural areas and farmers, which to a certain extent solved the problems of information asymmetry between rural enterprises and financial institutions, lack of enterprise credit information, and insufficient collateral, and introduced financial living water into the countryside. It is worth noting that rural financial innovation similar to that of Hubei Province is still in the stage of regional pilots and has not yet been promoted to the whole country. Liaoning Province urgently needs to introduce a similar innovative credit model to reduce the constraints on financial resources caused by information asymmetry and imperfect credit reporting system.

#### 1.1.1.4 The scale of rural financial business continues to expand

According to the Data of the National Statistical Bulletin, by the end of 2021, the balance of RMB loans of major rural financial institutions (rural credit cooperatives, rural cooperative banks, and rural commercial banks) will be 242496 billion yuan, an increase of 2,660.7 billion yuan over the beginning of the year. From the perspective of Liaoning Province, in terms of inclusive financial loans to help agriculture, at the end of 2020, the balance of local and foreign currency loans of banking financial institutions in Liaoning Province was 5220.94 billion yuan, an increase of 262.68-billion-yuan year-on-year, an increase of 5.3% year-on-year, and the growth rate slowed down, down 4.9 percentage points compared with the previous year.

### 1.1.2 There are still some problems in rural finance

#### 1.1.2.1 Lack of laws and regulations specifically targeting rural finance

With the goal of rural revitalization and rural agricultural modernization, a large number of rural finance-related support policies have emerged. However, in the field of laws and regulations, the legal provisions on agriculture-related finance are not perfect. Most of them are related to agriculture finance

The regulations in the field are still at the stage of the CBRC issuing relevant notices and management measures, and there is a lack of higher legal effect, formal and unified rural financial legislation to guide the orderly development of related fields. The imperfect legal environment not only makes the development of rural finance lack the unified guidance of legal provisions, but also makes the rural financial business in the gray area chaotic

#### 1.1.2.2 The problem of financing difficulties for rural enterprises remains unresolved

The continuous advancement of agricultural modernization has spawned the demand for funds from many small and medium-sized agricultural enterprises. However, due to the small scale of enterprises and imperfect information disclosure, financial institutions need to bear higher costs and risks when providing credit to them. On the one hand, the financial services required by agricultural enterprises have the characteristics of "small amount, high frequency and urgent time", and it is difficult for financial institutions to achieve standardization and scale when providing financial services to farmers, so the cost of providing credit to agricultural producers is relatively high. On the other hand, due to the small scale of enterprises, imperfect accounting systems and information disclosure systems, and imperfect rural social credit reporting systems, it is more difficult for financial institutions to obtain the financial status and credit information of enterprises, which further increases transaction costs. High transaction costs have led to serious resistance among rural financial institutions to providing credit resources to small-scale farmers and small and micro enterprises.

#### 1.1.2.3 There is a regional contradiction between supply and demand in rural finance

At present, the distribution of agriculture-related financial institutions in the country is not even, and some large agricultural production provinces do not have agricultural financial resource support that matches the scale of agricultural production. Taking the three northeastern provinces as an example, although they have rich arable land resources and forest resources, and are the largest and most stable commodity grain bases in the country, insufficient financial institution coverage makes their agricultural modernization and development lack strong financial resource support. If the unique natural conditions of the three northeastern provinces can be fully supported by rural financial services, their agricultural development potential is immeasurable. On the contrary, Sichuan Province, as the province with the largest total agricultural output value, not only has superior soil and climate environment, but also has a large number of agriculture-related financial institutions, and the development of rural finance has helped its agricultural production significantly.

## 1.2 Purpose and significance of the study

This paper takes the rural revitalization strategy as the background and focuses on the importance of financial development to rural economic development and industrial prosperity. On the basis of inclusive finance, the concept of green finance is integrated, which helps rural industries to prosper and live a prosperous life, and better ensure the achievement of the goal of ecological livability.

### 1.2.1 Use financial resources to empower agricultural development

The promotion of inclusive finance in rural areas has profoundly implemented the requirements of the financial industry to "move from virtual to real", and provided sufficient financial resource support for the modernization and development of the rural economy. For agribusiness, limited

funding limits the purchase of large-scale agricultural production equipment and the application of advanced agricultural technologies. The promotion and development of inclusive finance in rural areas will effectively alleviate agricultural financial constraints, especially credit restrictions for small and micro enterprises and small-scale farmers, introduce capital into the field of agricultural production, and further stimulate the development of productive forces. The injection of financial resources has enabled some small-scale enterprises and farmers to have the opportunity to use large-scale machinery and equipment, promote more advanced agricultural production models, and further promote the development of productive forces. At the same time, the introduction of inclusive finance has greatly broadened the financing channels of rural enterprises, which is conducive to the introduction of high and new technologies in the field of agricultural production, thus achieving a further improvement of total factor productivity in agricultural production (Wang Bo, 2021).

### 1.2.2 Improve the problem of agricultural weakness and reduce agricultural risks

Due to the characteristics of agriculture being greatly affected by natural disasters, low self-accumulation ability, and small elasticity of demand, there are obvious problems of weak quality in China's agriculture. Once there is a relatively harsh natural disaster or an unfavorable external market environment, the impact on agriculture is very significant. However, with the introduction of financial resources, agricultural insurance, futures and other financial products can transfer external environmental risks to agriculture-related financial institutions to a certain extent, which greatly reduces the losses that agricultural producers need to bear.

### 1.2.3 Inclusive finance and green finance support each other

With the promotion of the concept of inclusive finance, more and more financial service products for small and medium-sized enterprises have poured into the capital market. However, some small and micro enterprises have the characteristics of high energy consumption and high pollution, and although inclusive finance emphasizes the principle of equal opportunity, it does not mean that the principle of commercial sustainability can be ignored. In this regard, the environmental protection and conservation concept of green finance coincides with the sustainable development principle of inclusive finance. The deep integration and coordinated development of inclusive finance and green finance are the trend of the times, and the two penetrate and promote each other. On the one hand, inclusive finance provides richer financing channels and resources for green finance, which can further improve the coverage of green finance and achieve the universal distribution of green finance. On the other hand, green finance will better support the sustainable development of inclusive finance, ensure the quality of inclusive finance, achieve equal distribution of financial resources and opportunities under the premise of environmental friendliness, and improve the efficiency of financial resource allocation.

## 1.3 Literature review

### 1.3.1 Research on rural revitalization

Compared with China, some developed countries abroad have started earlier in economic development, and urban and rural problems have appeared relatively early, so foreign research on the field of rural revitalization is much earlier than at home. Back in the late 1980s, Gladwin et al. (1989) studied the important role of rural entrepreneurship in rural revitalization in the United States. Knight (1994) followed Japan's rural revival movement and concluded that its rural revitalization depended on government encouragement of support and immigration. Onitsuka & Hoshino (2018) focuses on the role of rural community leaders in rural revitalization and analyzes the functioning of communication networks between leaders and communities. Most foreign scholars are more inclined to study the role of cultural governance on rural revitalization, while ignoring rural finance, an important driving force for rural revitalization. In 2017, the rural revitalization strategy was first proposed at the 19th National Congress, and since then a large number of scholars in China have carried out research on the topic of rural modernization and

development. Wang Yahua and Su Yiqing (2017) pointed out the importance of abandoning old and backward ideas and abandoning backward rural development concepts for rural revitalization. From the perspective of human geography, Liu Yansui (2018) emphasized the role of the construction and development of urban-rural integration system in promoting rural revitalization. Longhualou et al. (2018) focused on the activation effect of land consolidation and land transformation and utilization on rural development factors. Wu Financial Management and Xie Shengli (2019) explored the revitalization of rural culture reconstruction and the construction of modern rural cultural system from the perspective of cultural governance. Tu Shengwei (2020) focuses on the organic connection between poverty alleviation and rural revitalization, and studies the development path of rural agricultural modernization from the perspectives of sustainable industrial development, community governance modernization, and how to efficiently use poverty alleviation assets. Based on the above scholars' research, it can be found that most of the current scholars' research on the topic of rural revitalization focuses on the field of geography, and explores the path of rural revitalization from the perspectives of urban and rural systems and cultural governance in human geography. Few scholars focus on the field of rural finance and use quantitative analysis to analyze the positive effects of the development of agriculture-related financial services on rural revitalization.

### 1.3.2 Research on Financial Inclusion and Green Finance

As early as the 18th century, a small number of micro-financial service institutions appeared in foreign countries, which became the prototype of today's inclusive finance. European scholar Corrado (2017) highlighted that financial inclusion provides fair and affordable financial products to households and businesses, especially marginalized family businesses, achieving inclusive economic growth and enhancing social well-being. Hasan & Hoque (2021) conducted an empirical analysis using data from rural Bangladesh to prove that the development of inclusive finance can help eliminate the use of financial services and improve living standards. With the deepening of the concept of green environmental protection, green finance has become an increasingly hot topic in the world. Some foreign scholars have paid attention to the important development direction of green finance and have conducted a lot of research on it. Desalegn & Tangl (2022) raised the problem of a large investment gap in green finance, which seriously restricts the inclusive development of green finance, and gave a series of measures to alleviate the financing gap, including incentivizing private investors to invest. There are relatively few foreign studies on the integrated development of green finance and inclusive finance, and more literature focuses on the development of two single financial types of inclusive finance or green finance. In 2016, at the G20 Summit in Hangzhou, China raised the issue of green finance and inclusive finance, and since then more and more scholars in China have paid attention to the possibilities and impacts of the integration and development of green finance and inclusive finance. Political Commissar Lu and Tang Weiqi (2017) put forward the development direction of green finance and inclusive finance, and emphasized the impact of coordinated development on the "three rural areas" and small and micro enterprises. Meng Gang (2017) emphasized innovation in the financial field from the perspective of the Belt and Road Initiative, focusing on the role of the three major financial types of local currency finance, green finance and inclusive finance in promoting the construction of the Belt and Road. Wei Changjiang (2017) comprehensively compares the similarities and differences between green finance and inclusive finance, and analyzes the role of the integrated development of the two in the tertiary industry and the field of green consumption of residents. Ma Jun et al. (2021) focused on the field of green agriculture, emphasized the role of the integrated development of green finance and inclusive finance in promoting the development of green agriculture, and focused on the specific problems of green finance in the field of rural agriculture. At present, most of the research on green finance by domestic scholars is still at the theoretical level, and very few really use actual data for empirical analysis, which has a lot to do with the late start of green finance in China. At the same time, only a small number of scholars have focused on the role of the integrated development of inclusive finance and green finance in the field of agricultural production, and have

not been able to use quantitative analysis to prove the significance of the integrated development of the two to the rural economy.

## **1.4 Research Content and Methodology**

### **1.4.1 Research content and structure**

This paper studies the important role of rural financial development in rural agricultural modernization and rural revitalization, and focuses on the impact of the integrated development of inclusive finance and green finance on agricultural development. From the qualitative analysis and quantitative empirical analysis of theoretical research to providing specific suggestions for the development of rural finance in Liaoning Province, this paper is divided into five chapters, and the specific structure is as follows:

Chapter 1, Introduction, introduces the current situation and policy background of rural financial development, and then leads to the research topic of promoting rural revitalization through the integrated development of inclusive finance and green finance. After the introduction of the topic, the purpose and significance of the research topic were clearly pointed out, and papers in the field of rural finance were reviewed, highlighting the research gaps in this subject area.

Chapter 2, Related Concepts and Mechanisms of Influence, specifically explains and defines the important concepts related to the topic, and clarifies the impact of rural financial development on rural revitalization and the internal relationship between the two, and discusses the tangible positive impact of rural inclusive finance and green finance on the modernization and development of rural agriculture from multiple perspectives.

Chapter 3, Development Recommendations, combines the empirical analysis of the development status of rural finance, inclusive finance and green finance in the first two chapters, and between the development of rural inclusive finance and rural revitalization, and gives a series of rural financial development suggestions for the specific conditions of rural areas in Liaoning Province.

### **1.4.2 Research Methodology**

In this paper, the paper generally adopts the method of combining qualitative research and empirical analysis, first of all, the use of text theory to analyze the important role of rural finance, especially the integration and development of inclusive finance and green finance, on rural economic development and rural revitalization, and secondly, the empirical analysis is carried out using second-hand data, and the conclusion that rural financial development has a positive effect on rural revitalization is drawn. In addition to qualitative research and empirical analysis, before writing the paper, the team members also conducted a literature search to find research gaps in the field of rural revitalization, and locked in the field of rural finance. Subsequently, a survey was conducted on the current situation of rural financial development, and a new trend of integrated development of inclusive finance and green finance was discovered in the survey, and the topic of promoting rural revitalization was finally determined.

## **1.5 Thesis Innovation Points and Deficiencies**

### **1.5.1 Innovation Points**

This paper focuses on the role of the deep integration of inclusive finance and green finance in promoting rural revitalization, and takes Liaoning Province as an example, focuses on the analysis of its rural financial development status and environment, and provides practical and feasible development suggestions for it. There may be innovations in this paper in the following areas. The first is to focus on the integration and coordinated development of inclusive finance and green finance, and analyze it from the perspective of rural revitalization and rural agricultural modernization, while improving the quality of inclusive finance, expanding the breadth of green finance. Second, in terms of research objects, unlike the traditional rural finance that only discusses the whole country, this paper focuses on Liaoning Province, making the development proposal more targeted. Third, in terms of research methods, not only the qualitative analysis method is used,

but also the empirical analysis method is adopted to demonstrate the important role of rural finance in rural revitalization, and the conclusions reached have certain mathematical support and are more reliable.

### 1.5.2 Insufficient

There may be the following deficiencies in this paper, one is that due to the difficulty of obtaining regional data, the data used in the empirical analysis part are still national, and there is no targeted analysis of Liaoning Province. Second, because the concept of green finance was introduced late in China, it has not yet been fully developed, and most of the analysis of green finance stays in theoretical analysis. Third, limited by the ability of the team, theoretical research and empirical analysis are still not profound enough, and more field investigation data are needed to be further enriched and improved.

## 2. Purpose and significance of the study

The combination of green finance and inclusive finance is to use the means of green finance to benefit the masses by improving the environment and empowering the ecology, and to implement the combination of green and inclusive finance to vigorously promote the development of the economy and the environment. The Report of the Third Plenary Session of the Eighteenth Central Committee put forward the "Decision of the Central Committee of the Communist Party of China on Several Major Issues Concerning the Comprehensive Deepening of Reform", which for the first time clearly put forward the basic direction of the reform of China's financial system in the future, that is, to vigorously innovate and develop efficient and inclusive green finance, and to promote the deep integration of inclusive financial system and innovative green finance, so as to vigorously promote the development of the environment and economy. At the G20 Summit in Hangzhou, China raised the issue of the integration of "green finance" and "inclusive finance", which attracted global attention. At the same time, this has also become an innovative content of the "China Plan" in terms of global financial governance. The State encourages the development of inclusive finance and green finance, and uses this as an important starting point for promoting financial "from virtual to real" and supporting the development of the real economy. On the issue of the integrated development of green finance and inclusive finance, many literatures have made research and guidance programs, and then because the general development of rural areas is slower, the economic level is lower than that of cities, the development of green finance and other services may be more difficult, for how to vigorously develop green finance in rural areas, few literature uses empirical evidence to combine rural and green finance.

This paper analyzes the current problems in loan financing in these villages by investigating the real situation of 105 villages in Liaoning Province, and deeply investigates the number and operation of financial institutions in rural areas, and studies the future direction of green finance development through survey data. At the same time, it analyzes the advantages of green inclusive finance and the current situation of green finance integration into market economic activities such as small and micro enterprises and "three rural areas", and puts forward suggestions and strategic analysis on the many difficulties that green inclusive finance will face at the moment of the epidemic and in the future, and green inclusive finance may face sustainable development issues, environmental friendly issues, pollution and other issues in the future. For the way and path of multi-integration of green finance and inclusive finance, this paper proposes the research objectives and research significance, which are specifically divided into the following aspects.



## 2.1 Purpose of the study

### 2.1.1 Integrate inclusive finance with green finance and develop the concept of in-depth development

On the one hand, if only green finance is highlighted, it will easily lead to the lack of strong follow-up power support in the green financial system. No matter what kind of enterprise is engaged in, whether it is large or not, no matter what kind of business organization or enterprise entity with a special production nature, its operation and production will be very likely to produce environmental pollution. However, if this kind of green financial services are proposed separately and then developed, it means that a large number of small and micro enterprises, especially those ecological economies with narrow geographical distribution and poor environmental protection awareness, will be more difficult to obtain these green financial supporting services, and it will not be possible to further achieve financial service inclusion, and ultimately the effective services of green financial products can only be limited to some small advantage enterprise systems, which then violates the real original intention of financial service development and reform, resulting in "green but not universal". On the other hand, only emphasizing the prominence of inclusive finance will make it difficult to achieve a new model of domestic inclusive financial economic development. Inclusive Internet financial services are mainly concerned about service objects, especially for small and micro economies, low income capacity and other service groups, to fully take into account the legal costs and corresponding rights of these service recipients when they obtain financing services in accordance with the law, the reason why China strives to develop green finance is to better enable financial institutions to maintain a balance in the cost of providing various financial services. Since most of the traditional Internet financial enterprises are currently interested enterprises in the market, for these enterprises, the pursuit of maximizing the profit margins of the future market is a major commercial attribute required for their development. Although in recent years, under the basic concept and guidance of the construction of the new economic financial concept system such as financial inclusion in China, a large number of state-owned and private financial institutions have gradually begun to strengthen the implementation of the government's support policies for the credit needs of rural poor households. However, for state-owned private enterprises and small and micro individual financial enterprises that rely on existing funds to maintain their operations, it may eventually lead to difficulties in obtaining loans from farmers and the phenomenon of "universal but not green". The innovation of inclusive finance is a high degree of cross-integration with the development of green finance in modern society, innovation and collaborative development and innovation are the main development and trend of the new era of development of the financial industry, and it is inevitable that we must strive to develop into a modern new type of green inclusive finance. The trend of integrated and coordinated development of inclusive finance and green finance is bound to develop green inclusive finance. Building a bridge between green and inclusive, and promoting the integration and coordinated development of green finance and inclusive finance in a certain field and at a certain level with the concept of green inclusive finance, is conducive to expanding the breadth of green finance development and improving the quality of inclusive financial development.

### 2.1.2 Combine the rural areas in the province to study new channels for the development of green finance

For the villages of Liaoning Province, due to the relatively single development structure of the province and with the transitional development of the economy in recent years, the enterprises rely too much on investment and manufacturing, and the original heavy industry is gradually biased towards investment, which will lead to the original heavy industry production will lose more and more working groups, resulting in a large number of unemployed groups, resulting in a significant increase in low-income and even incomeless people in society, especially in the villages of the province, because the level of education generally received by the rural population is not high. The level of education is worse than the average population, and the number of people who have lost

people will be more, and this part of the population will face the problem of no living security in the future, and urgently need the support of social people and the help of social institutions. This paper provides an in-depth analysis of the changes in population income in 100 rural areas in Liaoning Province in recent years and the degree of demand for financial institutions to help these unemployed people improve inclusive finance so that they can truly benefit the people. In addition, due to the rapid development of the financial industry in recent years, the types of new green financial institutions have increased significantly, and many small and medium-sized green financial institutions have come into being, but many small and medium-sized green financial institutions are still facing the problem of relative difficulties in financing in the process of rapid transformation and growth. Especially for rural areas, there is no way to get more start-up capital to help green financial institutions run. And for small and micro enterprises, financing difficulties are also one of the troubles and problems that block their development in the financial field. Therefore, there is an urgent need for inclusive finance to play a role in providing some assistance to green industries, investment projects and small and micro enterprises to help them solve the problem of insufficient funds.

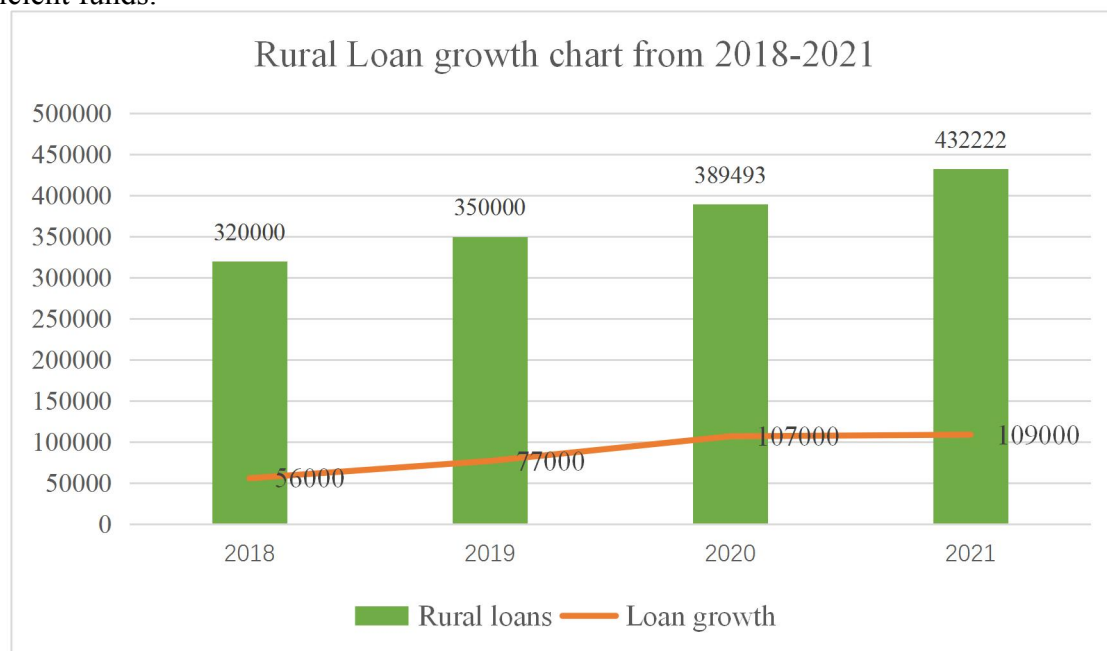


Figure 2018-2021 Rural Loans

Source: China Finance Press

As can be seen from the above statistical chart, the rural loan situation has increased year by year since 2018, but the growth rate of loans has slowed down since 2020, possibly due to the epidemic and environmental pollution, the general income level in rural areas is low, and some financial institutions have suffered serious losses due to the impact of the epidemic, resulting in poor rural loans. Therefore, the development of green inclusive finance to revitalize rural development is indispensable, green finance should meet the needs of rural areas, to solve the problem of difficult loans, financing difficulties.

### 2.1.3 Integrate green finance to improve the ecological environment and promote inclusive development

The development of heavy industry in Liaoning Province is more prominent, so the regional pollution is more serious, especially in some villages, due to the lack of environmental awareness and the government's environmental publicity is not large enough, resulting in serious environmental pollution in the countryside, the awareness of the countryside in environmental governance, ecological restoration and green transportation is not strong enough, all regions, especially in the countryside due to climate, environment, economy Factors such as a large number of people flow to other provinces every year, and the lack of talents and population flows are

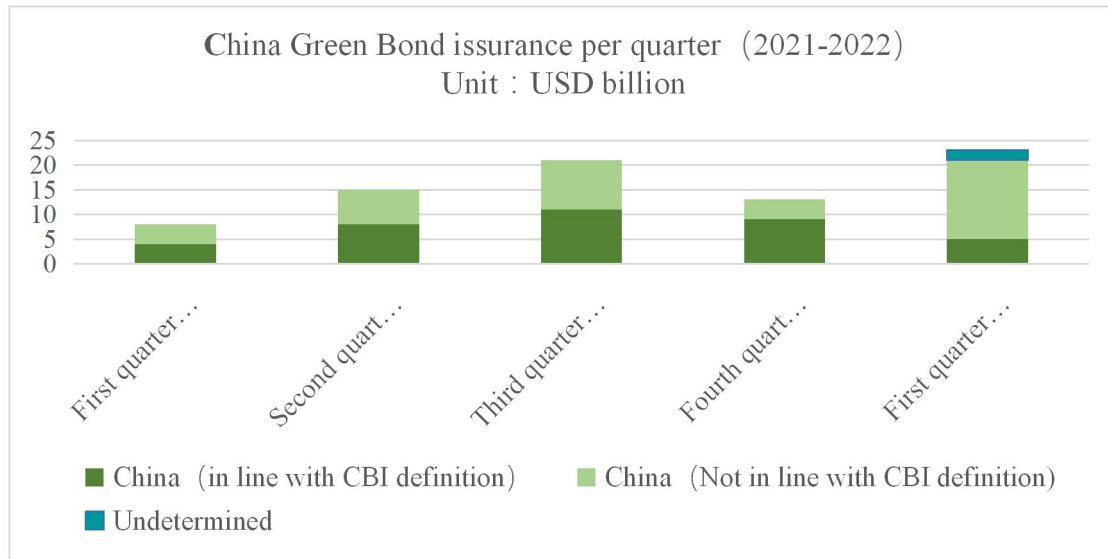
extremely serious. And in the cold winter period, the rural industry had to be idle or even stagnant. Compared with the south, Liaoning's rural industry cannot complete the high-quality industrial situation, which seriously affects the output of products, thereby affecting the sales price and the fluctuation of the sales price. Thus affecting the income level of villagers in the countryside, the low income level of villagers has led to the inability to have sufficient funds to improve the rural environment, so that the rural economy of Liaoning has fallen into a vicious circle. Therefore, Liaoning region urgently needs green inclusive finance to solve the problem of low rural income, poor environment and weak environmental awareness. Based on this purpose, this paper analyzes the current problems of 105 rural areas in Liaoning through investigation and analysis, and gives policies and countermeasures in combination with green inclusive finance, so as to make up for the losses and impacts of the economy and ecological environment on the rural areas of Liaoning, improve the rural income level and environmental awareness, and pursue green development.

## 2.2 Research significance

2.2.1 Green inclusive finance is conducive to the development of rural enterprises and strengthens the role of risk protection

Green finance can carry out certain risk avoidance and control, and strengthen the construction of the guarantee system. In view of the problems of relatively backward rural economy and insufficient collateral, green finance can play a role in the risk protection of green insurance and the role of guarantee for agricultural production organizations and farmers' mutual assistance in village collectives. For rural areas with less developed economic levels, we can improve risk resistance by creating a "three rural" insurance system that covers a rich range of categories and a variety of protection methods, innovate comprehensive services such as price index insurance and income insurance, and improve risk resistance by providing risk protection for service recipients and paying insurance compensation. At the same time, the mutual aid guarantee fund, the source of funds is mainly farmers' mutual aid funds, supplemented by social donation funds, mainly used for project loan guarantees for members of the mutual insurance fund.

The development of green finance will cover more small and micro enterprises and more rural activities. So far, small and micro enterprises still do not have enough ability to carry out a series of truly green entrepreneurial projects with formal operation due to the reality of insufficient capital chain and generally small scale of enterprises. Therefore, the cross-integration and development of green and inclusive financial industries for many small and micro enterprises need to establish a green enterprise definition and standards, regardless of whether they have innovative projects or whether their own enterprise development is green or not, they will adopt a set of clear and clear standards. For some rural areas, rural economic activities in the countryside also need to have clear and clear green standards for agricultural products, so that financial institutions can better identify green agricultural activity organizations and various types of green rural consumption experience activities, so as to better extend green financial products and supportive policies to the countryside. Go in the field.



Source: Climate Bonds Initiative

From the above statistical chart, it can be seen that in the first half of 2021, China's green bond market showed a sharp upward trend and reached a peak in the third quarter of 2021, which shows that the credit protection role of green finance has been strengthened, and with the continuous strengthening of the bond market, it is expected that more and more green investments will occur in the future. For rural areas, we should also seize the opportunity of green finance, and the state should steadily develop green financial services to achieve the purpose of benefiting the people.

### 2.2.2 Green finance can help increase rural employment and improve rural economic backwardness

To a certain extent, green inclusive finance can increase employment opportunities and increase the employment level of villagers. The development of green finance has a large impact on the hourly wage rate, working hours and work autonomy of workers. Since green inclusive finance is an emerging industry, the state vigorously encourages the development of green finance industry, so green inclusive finance can promote entrepreneurship, thereby improving income levels and work autonomy, and improving work efficiency and reducing working hours. Second, green inclusive finance can be used to make up for the shortcomings of traditional finance, so that vulnerable groups and regions can share financial services, while improving the rural environment and attracting a larger number of tourists to come to visit and vacation. At the same time, green financial products can also take a low-cost approach to risk assessment of enterprises and reduce corporate financing costs.

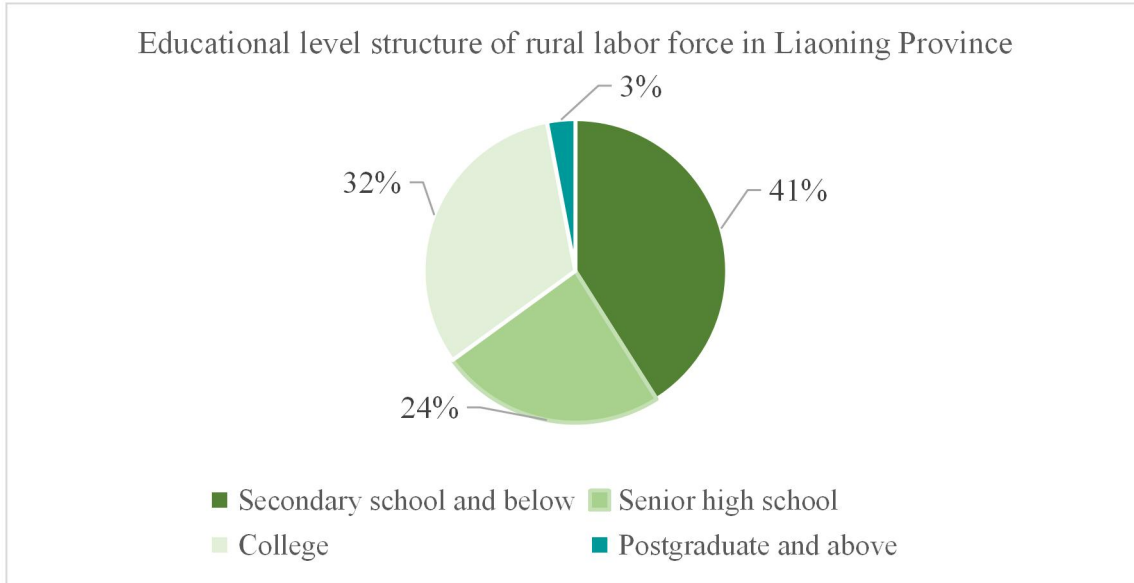


Figure of the academic hierarchy of rural labor force in Liaoning Province

Source: Liaoning Provincial Bureau of Statistics

According to the academic level of rural labor force in Liaoning Province, the general education in rural areas is secondary school and below, and the degree of graduate school and above is at a rare level, so the general level of knowledge in rural areas is low and cannot receive higher education. For rural areas, it is crucial to find jobs that are suitable for the cultural level of the countryside. At the same time, through the development of green finance, encouraging rural youth and outstanding talents to return to their hometowns for employment and entrepreneurship is also a feasible way to solve the lack of rural construction subjects and promote the flow of rural talents. Green inclusive finance should adapt to rural needs, improve the rural environment and increase rural employability to a greater extent.

### 2.2.3 Green finance will help increase incentives and improve publicity

Because climate or environmental changes are uncontrollable factors, especially as environmental pollution becomes more and more serious, a good ecological environment is the foundation of people's good life. Green inclusive finance is an important component of a modern financial system with high adaptability, competitiveness and inclusiveness, and is also an inevitable requirement for the construction of a modern economic system. Therefore, the construction of a green inclusive financial system is conducive to better internalizing the externalities of ecological and environmental impacts, and providing theoretical support for market-oriented means to reduce polluting economic activities. At the same time, green finance is a new type of economic activity in recent years, the state and the government strongly support the production of green financial services, so green finance can integrate the existing incentive mechanism of inclusive finance with the incentive mechanism, and at the same time use it for green inclusive economic activities, so that there is a double preference, and these economic activities may produce greater incentives. Business activities such as guarantees, interest rates and loans in the green field also have similar service tools in the inclusive field, so it is necessary to make efficient use of the overlapping parts of the two areas, exert policy support, and effectively integrate green finance and inclusive finance, thereby increasing incentives and increasing publicity. At the same time, the development of green finance should also guarantee project loans for rural areas by encouraging social donation funds, increase incentives, and promote the development of green finance.

### **3. Suggestions for Supporting Rural Revitalization and Development under the Integration of Inclusive Finance and Green Finance**

#### **3.1 Increase the frequency of rural use of digital inclusive financial products**

Increasing the penetration rate of digital financial products has solved the breadth of their development, but according to the survey, the most urgent problem to be solved is the depth of use of digital inclusive financial products. Therefore, rural areas in Henan Province should strengthen the frequency of villagers' use of various digital financial products and improve the depth of digital development of inclusive finance. First, financial institutions should change the goal of digital development of financial products, and expand the installation task of the mobile banking APP from the beginning to "installation +." Using the "task", professionals can be deployed in crowded shopping malls and squares, and reward training can be conducted on the spot to guide villagers to use and trust the numbers. Financial products, thereby increasing the frequency of villagers using mobile banking, should also make them understand the convenience of mobile banking and the advantages of other functions in this process. Second, villagers do not use credit digital financial services very often, and they should increase the frequency of use of credit business, build a safe and reliable credit product system, and build a credit data sharing platform to the government. As the center, integrate non-bank financial institutions, public institutions, tax bureaus, industry and commerce and other related parts, create a first-class information flow platform, and strengthen digital credit. The standardization and security of financial service products enable villagers to better contact and enjoy more advanced credit financial services, thereby increasing the frequency of use of credit digital financial services. Third, the digitization of inclusive finance and the simple science and technology of finance have essential differences, through digital development, can effectively promote the convenience of residents' lives, and some high-tech companies and financial institutions in order to seek high interests. Confusing the two concepts and earning market share and residents' interests has seriously damaged the public image and hit the villagers' confidence in the digital development of inclusive finance. In view of such situations, the scope of supervision should be strengthened and the punishment should be increased.

#### **3.2 Strengthen the integration and innovation of rural inclusive finance and digital technology**

There is an uneven development and inconsistent degree of digitization in the rural areas of Liaoning Province. Therefore, when realizing digital inclusive finance, we should reasonably implement differentiated digital inclusive financial policies according to the characteristics of rural areas. For example, for villages where development is lagging behind, infrastructure construction should be improved, the awareness of inclusive finance among villagers should be raised, and economic resources should be introduced. For the rural areas with rapid development, we should continue to increase investment in inclusive finance, introduce high-end talents and science and technology, and continuously improve the level of digital finance. Make good use of Internet channels and increase the construction of an Internet financial system. The use of big data to accurately analyze the needs of farmers, so that farmers can obtain good products that really help the poor and help farmers. Artificial intelligence, machine people, big data, 5G, digital and other technologies continue to impact the lives of modern people, and rural universal finance has also made a qualitative leap forward driven by the development of high and new technologies, and has entered a more critical golden period of development. Therefore, how to integrate technology and financial inclusion innovation is a difficult point. Innovation is the biggest driving force for technological progress, and how to strengthen the integration and innovation of inclusive rural finance and digital technology is the key at present. It is necessary to know how to learn and learn from some advanced experiences from abroad, expand the scope of digital development of inclusive finance, and deepen the content of digital development. One of the important indicators of the digital development of Universal Financial is digital financial management, and most of the financial management uses the way of allocating financial planners, but this cannot solve the

problem of small and medium-sized capital accounts, because the cost of financial planners is too high. It is not suitable for these small households, and digital financial management can be solved, and it should be embedded in digital financial management computer algorithms, big data technology, human intelligence and other technologies to improve the financial management effect and reduce low financial management costs, improve the income of the majority of small and medium-sized investors. Financial products are becoming more and more complex in today's rapid development, and the emergence of many derivative financial products makes it impossible for people to start, such as exchange rate swaps, option futures, forward contracts, fund hedging, etc. Only the digital development of inclusive finance, the integration of digital technology and innovation in inclusive finance is a good way, you can use the computer cluster concept, cloud concept, robot concept, etc., to develop lower-cost ETF products, such as RA System development is an advanced digital intelligent financial management software, with the help of artificial intelligence and mobile Internet to solve the problem of small and medium-sized financial managers.

### **3.3 Integrated development of green finance and inclusive finance**

Guided by General Secretary Xi Jinping's important thinking that "green water and green mountains are golden mountains and silver mountains", we will promote the integrated development of inclusive finance and green finance. The external characteristics of inclusive finance and green finance integration and development are obvious, so it is necessary to give clear policy signals, formulate relevant guidance on integrated development, improve fiscal and taxation financial support policies, and clarify the relevant standards and definitions of green inclusive finance at the same time. In particular, the standard identification system is given in terms of subject qualifications, project definition, product standards, and information disclosure. Judging from the results of the research, the regional development of Liaoning Province is uncoordinated and digital inclusive finance has a spatial spillover effect on rural revitalization. Financial inclusion in the region not only promotes the development of its territory, but also drives the development of the surrounding region. Therefore, it is imperative to take full advantage of this effect. The government should increase macro-control and formulate relevant policies so that the surrounding regions are closely linked and promote each other, which can greatly reduce the differences in the range. At the same time, areas with better development can provide experience to backward areas and form a closed-loop inclusive financial exchange platform. In addition, we should improve the regulatory system of inclusive finance, and conduct layers of screening and inspection of products to ensure the economic benefits of farmers.

Integrate the existing inclusive finance division and green finance division of commercial banks into one department, take the whole process management of green inclusive financial services as the starting point, and form a joint force to promote integration through the establishment of organizational systems, service systems, evaluation systems, etc. Ensure the organic integration of inclusive finance and green finance.

### **3.4 Promote the green environmental protection industry first**

Infiltrate green finance under inclusive finance, and achieve the organic unification of inclusive finance and green finance. Adhere to the development concept of green environmental protection, and encourage financial institutions to give priority to supporting funds in green and pollution-free rural industries. In order to reduce the use of pesticides and fertilizers in agriculture, we can combine green finance with agricultural technology, develop pollution-free green products, combine the risk avoidance efficiency of green finance with the high efficiency of agricultural technology output, and effectively promote technology-intensive Type intensive agricultural process. Give full play to the role of green finance as a diversified and innovative tool, and its funds not only need the support of the government on a single side, but also the support of people from all walks of life. The government has introduced relevant policies to suppress high-polluting

enterprises in rural areas and improve villagers' awareness of environmental protection, which in turn can increase the financing needs of villagers.

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