

Research on Green Finance Empowering Rural Revitalization under the Target of "Double Carbon"

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Abstract

With the continuous enrichment of the connotation of rural revitalization strategy, carbon neutrality and peak carbon dioxide emissions, which are closely related to rural development, are gradually integrated into it. On September 15th, 2020, the 75th session of the United Nations General Assembly was held. China proposed that carbon dioxide emissions should reach the peak by 2030, and strive to achieve carbon neutrality by 2060. On October 24th, 2021, the Opinions of the State Council, the Central Committee of the Communist Party of China on Fully, Accurately and Comprehensively Implementing the New Development Concept and Doing a Good Job of Carbon Neutralization in peak carbon dioxide emissions proposed to actively develop green finance, accelerate the green development of agriculture, and promote carbon fixation and efficiency improvement in agriculture. At present, China is in the historical period of continuous transformation of old and new kinetic energy, and the traditional extensive industries can no longer meet the needs of energy saving and emission reduction under the goal of double carbon, which not only puts forward higher requirements for rural revitalization, but also poses new challenges for green financial innovation. Therefore, under the goal of "carbon neutrality and peak carbon dioxide emissions", developing low-carbon life's finance is not only an inherent requirement to realize rural revitalization, but also an effective way to solve the problems of agriculture, countryside and farmers. Rural green finance should carry out green financial activities that meet the needs of rural economic development around rural revitalization to ensure the comprehensive, coordinated and sustainable development of rural revitalization strategy.

Keywords

Green Finance; Rural Revitalization; Carbon Neutrality; Peak Carbon Dioxide Emissions.

1. Introduction

Rural revitalization is an important historical task that runs through the whole process of building a socialist modern country. The report of the 19th National Congress of the Communist Party of China pointed out that the issue of farmers in agriculture and rural areas is a fundamental issue related to the national economy and people's livelihood, and we must always take solving the "three rural issues" as the top priority of the whole party's work[1]. The Opinions of the Central Committee of the Communist Party of China and the State Council on Promoting Rural Revitalization in an All-round Way and Accelerating the Modernization of Agriculture and Rural Areas issued on February 21st, 2021 proposed to strengthen the investment guarantee for the priority development of agriculture and rural areas, and continue to regard agriculture and rural areas as the priority areas of the general public budget. The investment in the central budget is further tilted towards agriculture and rural areas. Adhere to the purpose of serving agriculture and continue to deepen rural financial reform. The Central Rural Work Conference held in Beijing from December 25 to 26, 2021 proposed that we should focus on industries to promote rural development, further promote the integration of primary, secondary and tertiary industries in rural areas, vigorously develop county-level industries to

enrich the people, promote the green development of agriculture and rural areas, and let farmers share more industrial value-added benefits.

With the continuous enrichment of the connotation of rural revitalization strategy, "carbon neutrality and peak carbon dioxide emissions", which are closely related to rural development, are gradually integrated into it. On September 15th, 2020, the 75th session of the United Nations General Assembly was held[2]. China proposed that carbon dioxide emissions should reach the peak by 2030, and strive to achieve carbon neutrality by 2060. On October 24th, 2021, the Opinions of the State Council, the Central Committee of the Communist Party of China on Fully, Accurately and Comprehensively Implementing the New Development Concept and Doing a Good Job of Carbon Neutralization in peak carbon dioxide emissions proposed to actively develop green finance, accelerate the green development of agriculture, and promote carbon sequestration and efficiency improvement in agriculture. At present, China is in the historical period of continuous transformation of old and new kinetic energy, and the traditional extensive industries can no longer meet the needs of energy saving and emission reduction under the goal of double carbon, which not only puts forward higher requirements for rural revitalization, but also poses new challenges for green financial innovation[3].

Therefore, under the goal of "carbon neutrality and peak carbon dioxide emissions", developing low-carbon life's finance is not only an inherent requirement to realize rural revitalization, but also an effective way to solve the "three rural issues"[4]. Rural green finance around rural revitalization to carry out green financial activities that meet the needs of rural economic development, to ensure the comprehensive, coordinated and sustainable development of rural revitalization strategy. Specifically, green finance can promote the development of green agriculture and agricultural technology research and development, promote rural revitalization and rural green and low-carbon development, encourage farmers to start businesses, and become a new economic growth point to stimulate the rural market. At present, green financial instruments have been put into use in rural areas, and they are constantly innovating according to the characteristics of rural economy, providing financing channels for rural green industries. At the same time, by coordinating social capital to support rural green industries, we will build an efficient mechanism of government guidance, market operation and social participation, give play to the functional role of financial services to the real economy, and promote the comprehensive revitalization of rural areas. Moreover, in order to develop the agricultural industrial economy, green finance provides financial guarantee for the value-added of the whole industrial chain by supporting new rural business entities who start their own businesses, gives full play to the advantages of large amount and long term of green financial products, meets the capital demand for rural infrastructure construction and agricultural industrial development, and effectively solves the "three rural" problems.

2. Theoretical Analysis of Green Finance Serving Rural Revitalization Strategy

2.1. Internal Mechanism of Green Finance Serving Rural Revitalization

Green finance strengthens the protection of the environment through financial innovation, and is the hub connecting finance and the environment. It supports the government, investors, enterprises and other stakeholders to ensure the economic development to be eco-friendly by means of financial investment. At present, China is in a historical period of vigorously promoting rural revitalization, and green finance should conform to the reality of rural areas in China according to local conditions[5]. Therefore, green finance emphasizes the harmonious development of economy, ecology and environment, and through green investment and financing activities, it cultivates the awareness of environmental protection of the whole society and achieves the green ecological development of the whole society.

The key point of rural revitalization is to develop rural finance. Because the financial and credit constraints limit the ability of small farms to make full use of resources in order to achieve optimal performance, the availability of rural agricultural financing directly affects the level of rural revival. Liao Cairong and Chen Meiqiu pointed out that the rural revitalization strategy is the new strategy, new deployment and new requirements of the CPC Central Committee's work on agriculture, countryside and farmers in the new era. The core of the rural revitalization strategy is "strategy", the key is "revitalization" and the target is "countryside". To grasp its scientific connotation, we need to accurately grasp the essence, overall requirements, main objectives and main contents of the rural revitalization strategy. To implement the rural revitalization strategy, it is necessary to adhere to the top-level design and scientifically formulate the rural revitalization plan; It is necessary to strengthen institutional supply and promote the construction of "five in one" in rural areas as a whole; It is necessary to promote the structural reform of agricultural supply side and accelerate the modernization of agriculture and rural areas; It is necessary to adhere to the people's dominant position, closely rely on and for the broad masses of farmers; It is necessary to grasp the three key elements of people, land and money to promote a stable and far-reaching strategy. Ye Xingqing pointed out that under the background that the dual structure of urban and rural areas is still obvious, to promote the modernization of agriculture and rural areas to keep up with the pace of national modernization, we must firmly grasp the two principles of giving priority to the development of agriculture and rural areas and integrating urban and rural areas. It is necessary to grasp the three keys of "people, land and money", promote the decline in the proportion of rural population and agricultural employees, optimize the structure, accelerate the establishment of a land guarantee mechanism for rural revitalization, and establish and improve the institutional mechanisms conducive to the flow of various funds to agriculture and rural areas.

As an important innovation and driving force of rural green sustainable development, green finance can greatly help the implementation of rural revitalization strategy by mobilizing social capital to support rural green industries[6]. To serve rural revitalization, green finance should explore the long-term mechanism of "government guidance, market operation and social participation", clarify and balance the relationship among government, market and society, and unify and coordinate their functions. At the same time, due to the diverse, gradual and phased demand for green finance in rural revitalization, it is necessary to gradually improve the supply of green finance system. Specifically, governments at all levels use green bonds for agricultural industry construction to create high-quality and beautiful livable rural areas. Put sufficient financial funds into rural areas, guide the market to set up rural green industry funds, promote the organic combination of private capital and government capital, provide a source of funds for the development of rural green industries, and form a pattern of benign operation of green capital in rural areas. At present, rural revitalization has achieved initial results through the help of green finance. As far as industrial prosperity is concerned, the investment and financing quota of low-carbon industries has been increased through carbon financial innovation, and carbon financial derivatives suitable for rural areas have been developed, which has promoted financial innovation and industrial prosperity; Rural cultural innovation and industrial cultural innovation began to be combined, and the integrated development of rural leisure tourism was promoted according to local conditions, and farmers who actively inherited rural culture and protected ecological civilization were rewarded, ensuring rural civilization; The carbon trading mechanism has been improved, making use of the rich carbon sink resources in rural areas, transforming the government-led into the financial market-led, optimizing the allocation of green finance, and promoting the ecological livability of rural areas with energy conservation and emission reduction. The purpose and destination of developing rural green finance is to increase farmers' income and realize farmers' affluent life. At present, farmers' professional cooperatives and family farms have integrated the concept of green development in order to

obtain the support of green finance, which embodies Lucid waters and lush mountains are invaluable assets in practice[7].

At the same time, China has a vast territory, and the level of economic development in different regions presents the characteristics of imbalance, differentiation and diversity. Therefore, the promotion of green finance to rural revitalization is also heterogeneous due to different levels of regional economic development. Specifically, Shanghai, Zhejiang and Chongqing have made great efforts to promote the reform of green securities and used economic means and policies to influence market behavior; Guangdong and Chongqing focus on green insurance pilots; Tianjin and Beijing actively carry out carbon emissions trading pilot projects and develop energy-efficient products trading[8]. China's green total factor productivity presents a spatial pattern of "high in the east and low in the west, high in the south and low in the north". As far as the level of rural revitalization and development is concerned, the level of rural revitalization and development indicators in the eastern region is higher than that in the western and northeastern regions, especially in three aspects: industrial prosperity, ecological livability and affluent life.

From the perspective of mechanism, green finance cannot play an isolated role in the process of empowering rural revitalization. Rural areas must have a good financial ecology and realize public order and good customs under the guidance of the government. In a certain sense, green finance and rural revitalization promote each other. Only when rural revitalization is in a state of coordination among government, countryside, farmers and financial institutions can green finance really play its role in empowering rural revitalization.

To sum up, green finance empowers rural revitalization, which is directly manifested in the solution of rural ecological problems, the benign development of rural emerging economic formats, and the effective governance of the three rural issues. At the same time, influenced by location factors, the empowerment of green finance in rural revitalization in areas with different levels of economic development presents unbalanced and multi-level characteristics.

2.2. The Importance of Green and Low-Carbon Financial Services for Rural Revitalization

The Opinions of the Central Committee of the Communist Party of China and the State Council on Promoting Rural Revitalization and Accelerating Agricultural and Rural Modernization clearly points out that it is necessary to further improve the long-term mechanism of overall planning and integration of agricultural funds. Support local governments to issue general bonds and special bonds for the construction of modern agricultural facilities and rural construction. Give play to the leading role of financial input, support the establishment of rural revitalization funds in a market-oriented way, incite financial capital and social forces to participate, and focus on supporting the development of rural industries. Green and low-carbon finance is an important way to realize rural revitalization, which is embodied in:

First, give green kinetic energy to the construction of ecologically livable villages. In the process of realizing peak carbon dioxide emissions and carbon neutrality, agriculture and rural areas not only face the pressure and task of "emission reduction", but also play an irreplaceable role in "carbon fixation", which is one of the important main parts of the carbon financial market. By optimizing the allocation of resources, green finance will focus on the green field and realize the transformation of rural industries to green and low carbon; Using green finance in rural areas, we can create a good financial ecology and rural customs, and realize rural revitalization and ecological livability.

Second, green low-carbon finance is the need for the rapid growth of emerging agricultural formats and the inevitable requirement for industrial prosperity. In recent years, the supply of rural financial market is insufficient and the development of financial format is slow. "Difficult, expensive and slow financing" has become the core problem restricting the development of

rural economy. The development concept of green low-carbon finance is helpful to promote the development of agricultural green industry, realize the industrial transformation and upgrading of the whole rural area, improve the industrial efficiency of rural areas and promote the formation of a resource-saving and environment-friendly new rural economic format.

Third, promoting green and low-carbon finance is conducive to consolidating the source of funds and comprehensively managing the environment. Specifically, the carbon trading market in rural areas has great potential. According to the provisions of the JD.COM Protocol, the project CO₂ can be deducted, and rural areas can take advantage of the unique forest advantages. Under photosynthesis, this part of carbon dioxide enters the international carbon trading market, which can bring sufficient capital flow to rural areas. At the same time, the ecological environment in rural areas, as an organic whole, plays a decisive role in regulating the ecological environment, absorbing carbon dioxide and releasing oxygen.

3. Problems in Rural Revitalization through Green Finance

3.1. The Innovation Capability of Green Financial Products Needs to be Improved

At present, the use of financial instruments such as policy finance, green insurance, green bonds and green PPP is obviously insufficient in rural areas. The long-term funding gap of large-scale green infrastructure construction in agriculture and rural areas is large, which can not meet the financing demand and promote green development. Financial institutions tend to lend funds to large-scale environmental protection and energy-saving enterprises with good operating conditions, and there are few green financial products for small and medium-sized environmental protection and energy-saving enterprises and individuals. It is more difficult for rural fund demanders who lack mortgage and guarantee to obtain credit support, which makes it difficult for green finance to penetrate in rural areas, especially in underdeveloped rural areas. With the development of rural finance, the data security of green finance needs to be highly valued. On the one hand, big data, artificial intelligence, cloud computing and blockchain give great convenience to farmers, on the other hand, it is necessary to prevent farmers' related information from being maliciously leaked or hacked. Financial institutions need to further improve the security level of data networks, strengthen the protection of user data, and avoid unnecessary losses to customers.

3.2. The Policy and Legal Environment Need to be Further Improved

Green finance in China, especially in rural areas, started late and developed for a short time, and the policy system and legal environment related to green finance are not perfect. In terms of policy support, the current policy system and laws and regulations on green finance lack maneuverability and pertinence, which can not meet the practical needs and lack corresponding policy support and incentive mechanism for environmental protection industry loans; Financial institutions, especially rural financial institutions, lack corresponding compensation policies such as financial discount, tax relief and bad debt provision for possible risks in supporting the development of environmental protection industry, thus affecting the development of green finance. In the construction of the rule of law, there is a lack of a complete legal system to guide the development of green finance, especially rural green finance, so as to regulate the rights, obligations and responsibilities of all parties.

3.3. Lack of Overall Planning

At present, in supporting rural revitalization, we mainly rely on policy promotion and financial subsidies. Once the risk of default occurs, there is a lack of rules and regulations to clarify the regulatory responsibilities and losses of the government and financial institutions. The current green financial development mechanism is still at the macro guidance level, and the superior

bank lacks a systematic green financial business assessment system and target requirements for the subordinate banks. Some local financial institutions believe that the bank's income from developing green business is insufficient, and the government needs to establish a more perfect incentive mechanism to play the role of green finance in promoting agricultural transformation and upgrading.

3.4. Green Financial Regulatory Risks Highlighted

Green finance has changed the traditional rural financial system, and new financial risks have emerged. Traditional data security problems, such as information transmission interruption, data loss and password loss, still exist. Green finance relying on big data and cloud computing has iterated over the rural financial system. The current regulatory system cannot meet the new financial regulatory requirements, so the risk of rural financial supervision has increased significantly.

4. The Path of Green Finance Empowering Rural Revitalization

4.1. Improve the Policy and Legal Environment of Green and Low-Carbon Finance

Establish a unified green industry identification system in the form of law, so that farmers can have laws to follow and protect the rights of agricultural business entities from infringement. As a new financial tool, green finance enters the market. On the one hand, it brings green financial development dividends, and makes use of policy advantages to obtain rural green development benefits. On the other hand, the corresponding legal control measures need to be iteratively updated and improved through practice to prevent legal loopholes from increasing new financial risks.

4.2. Enrich Green Financing Channels

Local governments should improve the reserve work of high-quality projects, support rural industrial construction by issuing general or special bonds, and ensure that green financial instruments can exert their maximum benefits, so as to meet the demand for green funds for rural revitalization and diversity. At the same time, the long-term mechanism of green financing will be implemented in rural areas, and green finance will give financial support to green industries that meet the policy with the advantages of large amount and long term. Specifically, through the financing credit business of green finance, financial institutions give higher credit to farmers' planting and breeding and agricultural cooperatives to carry out green industries, simplify the guarantee process, exempt farmers with good credit information from guarantor requirements, and ensure farmers to obtain stable and long-term capital flow.

4.3. Building a Complete Green and Low-Carbon Financial System

Realize government guidance and social capital to participate in the common development of rural green industries. Introduce relevant preferential policies to attract financial institutions to transform into green and sustainable development, and constantly improve the rural green financial market. Formulate a special talent introduction policy and strengthen the talent reserve of rural green finance. Deepen the research on green industry and rural revitalization strategy, and enhance the innovation ability of green financial products.

4.4. Using Digital Technology to Improve the Risk Control Ability of Commercial Banks

Using cloud computing and big data to capture information, online and offline joint due diligence can reduce the subjective assumption of offline due diligence on the credit subject, more accurately identify the customer's solvency and the credit level of the guarantee subject,

and ensure that the credit line is within a reasonable range. On the other hand, with the help of digital technology, identify customers who meet the standards of green industry. For market players who meet the standards of green and low-carbon industries and have good credit status, we will give higher loan amount support to help rural areas achieve green and low-carbon development.

4.5. Building a Financial Regulatory Framework that is Compatible with Rural Finance

The financial supervision department should create conditions for low-carbon life financial entities and farmers to fully understand green finance, so that farmers can choose appropriate financial products according to their actual needs. Rural financial institutions can strengthen contact with government departments and financial regulatory agencies, discuss the financial risks faced by low-carbon life's finance in the actual development, and put forward policy suggestions to avoid and prevent rural financial risks in the big data environment. The financial legislature can find out the different influences of low-carbon life's finance on them by extensively investigating the relevant stakeholders of the green industry, and adjust the laws and regulations according to the actual situation.

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