Green Financial Services for Rural Revitalization in Xinjiang —— Taking Changji Prefecture as an Example

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Abstract. In the report of the 20th National Congress of the Communist Party of China, it is emphasized that efforts should be made to solve the urgent problems of the people and promote common prosperity. To solve the problem of rural development and achieve common prosperity, we must continue to promote the strategy of rural revitalization. Under the dual-carbon vision of "carbon peak, carbon neutralization", green finance, which has dual functions of green ecological function orientation and economic development, has become an important driving force for rural revitalization. In 2017, Changji Hui Autonomous Prefecture, Hami City and Karamay City in Xinjiang were approved as green financial reform and innovation pilot areas. Among them, Changji Prefecture is a national demonstration area of rural governance, with 17 demonstration villages of Rural Revitalization in autonomous regions, and the demonstration of Rural Revitalization is representative. Therefore, taking Changji Prefecture as an example, this paper studies the current situation of rural revitalization of green financial services, and on this basis, puts forward reasonable and effective suggestions from three levels of government, financial institutions, agricultural operators and rural green industry enterprises for future development. This paper provides a theoretical basis and reference for the development path of rural revitalization of green financial services in remote rural areas of Xinjiang and the whole country.

Keywords: Green finance; rural revitalization; Xinjiang; Development path; Changji; Policy

1. Introduction

Rural revitalization is to promote the economic development of rural areas, and finance, as the core of the economy, is undoubtedly an important tool to implement the strategy of rural revitalization. Green finance, as the core technology route in the path of realizing green development market, has dual functions of green ecological function orientation and economic development, and plays an important role in rural revitalization. The state attaches great importance to the development of Xinjiang. Since 2017, the three cities in Xinjiang have been established as green financial reform and innovation pilot areas, and the development level of green finance in Xinjiang has made rapid progress. However, compared with other regions in China, the development is still lagging behind, and it is difficult to meet the multi-level and diversified green financing needs of the Rural Revitalization Strategy. In addition, Xinjiang is a large agricultural and animal husbandry region in China, so the task of Rural Revitalization is arduous, and there must be higher requirements for the development of green finance.

Taking Changji Prefecture in Xinjiang as an example, this paper studies the current situation of rural revitalization of green financial services, and on this basis, puts forward reasonable and effective suggestions for future development. The study shows that the development of green finance in Xinjiang has greatly promoted the process of rural revitalization.To further promote the rural revitalization of green financial services in Xinjiang, it is necessary to build a long-term mechanism of "government guidance, market operation and social participation", clarify and balance the relationship among government, market and society, and coordinate the functions of the three.

At present, most of the existing literature is about the relationship between inclusive finance and rural development, and there is a lack of research on the relationship between green finance and rural revitalization. Generally speaking, traditional finance can optimize the allocation of capital market resources and maximize profits, thus promoting economic growth and accelerating the development of rural areas. If financial development also takes into account environmental issues, can it also have

a positive impact on the economic development of rural areas? Therefore, it is of great significance to study the relationship between green finance and rural revitalization.

The marginal contributions of this paper are as follows: First, in theory, it enriches the relevant literature of green financial services for rural development in border areas. There is a lack of literature on green finance for rural development in border areas, while this study provides a theoretical basis and reference for the development path of green financial services for rural revitalization in remote rural areas of Xinjiang and the whole country. Secondly, in practice, it initially provides micro-empirical evidence for the feasibility of developing green finance under the background of double-carbon policy and the feasibility of serving rural revitalization. This paper has enlightening significance for giving full play to the financing service function of green finance in the process of rural revitalization and realizing the relevant policies of green and sustainable development of rural agriculture.

2. Literature review

2.1 Green Finance Level

The research on green finance was first analyzed from the perspective of economic growth and risk management. For example, Cowan analyzed that the focus of green finance is the synergistic realization of environmental protection and economic growth from the perspective of economic growth. Labatt & White analyzed that green finance can effectively disperse and transfer environmental and resource risks from the perspective of risk management. With the theory of sustainable development being put forward, a large number of studies on how green finance can promote sustainable economic development have emerged. Zheng et al. (2021) showed through empirical results that the dimensions of green finance are related to the economic, social and environmental aspects of sustainable development goals. Zhou et al. (2022) believe that green finance has a significant role in promoting green economic growth. The development of green finance in different regions of China is not the same (Wang & Jiang, 2006). Wang et al. (2022) believe that the overall level of green finance and ecological efficiency are negatively correlated with non-linear "U" characteristics, and from a regional perspective, the impact of green finance on the ecological development of the central and western regions is a "U" relationship, and the impact on the central region is stronger.

2.2 Rural development dimension

There are many factors affecting rural development. Korsching (2009), based on the survey and analysis of the data of the United States and Canada Township Community Development Alliance, believes that multi-community collaboration will promote rural development. Greene (2014) believes that the government has an important impact on rural development after an in-depth analysis of agricultural diversification development initiatives. Peng et al. (2014) believed that there was a significant positive correlation between the level of rural infrastructure development and the level of economic development. Sumaryanto et al. (2021) found that among the variables that determine rural development, improvements in basic services and inaccessible basic infrastructure have a positive impact on the opportunities for farm households to rely on non-agricultural work as their source of income. Guo & Liu (2021) analyzed the relationship between land and rural development, and discussed the mechanism of land capitalization poverty alleviation (PALA).

2.3 Rural Revitalization Level of Financial Services

From the perspective of serving rural revitalization, scholars mostly discuss the role of traditional finance or inclusive finance. For example, Jeannenry (2011) and others found that the more developed the finance is, the better the economic situation of farmers is. Farmers can also increase their income by participating in financial investment and promote local economic development. Zou (2021) analyzed the significance of micro-credit business of rural financial institutions to the strategy of rural

revitalization, and pointed out that the micro-credit business of rural financial institutions in China has made great contributions to actively solving the problem of difficult and expensive financing for farmers. Zhang (2022) believes that in order to realize the structural reform of agricultural supply side and the innovative development of rural finance, it is necessary to encourage the establishment of agricultural service institutions, establish and improve the rural financial organization system, vigorously develop new rural financial products and strengthen the supervision of financial market risks.

Scholars at home and abroad mostly study the relationship between finance and rural development, but pay less attention to the relationship between green finance and rural revitalization, and even green finance and rural revitalization in border areas. Under the background of "double carbon" policy, the development of green finance has become a trend, and it is more meaningful to study the service situation of green finance for rural revitalization. This paper will study the service of green finance for rural revitalization from the perspective of Changji Prefecture, a typical green financial demonstration area in Xinjiang, which not only enriches the relevant theoretical research, but also has more practical research value.

3. Mechanism of Green Financial Services for Rural Revitalization

3.1 Green finance promotes industrial prosperity

Green finance has obvious industry-driven effect and is an important grasp to promote the revitalization of rural industry. Green finance can provide financial support for small and medium-sized green agricultural industries in rural areas in the form of green credit and other services. Most of the enterprises in rural areas in Xinjiang are small and medium-sized green agricultural enterprises. Due to the limitations of operation scale, profitability and return cycle, financial institutions in the past were reluctant to lend to such enterprises. However, with the support of green finance policy, the central bank and local branches of large state-owned banks will pay more attention to such enterprises and give them credit support at lower interest rates, so that they can continuously obtain the "green" funds needed in the growth cycle, thus driving the prosperity of green agriculture industry in rural areas of Xinjiang.

3.2 Green finance promotes ecological livability

The sustainable development characteristics of green finance have a significant role in promoting ecological livability. Under the call of "double carbon" policy and green sustainable development strategy, green finance has given full play to its green effect in rural areas and promoted low-carbon emission reduction in agriculture. Firstly, with its unique resource allocation function, green finance provides financial support for the construction of agricultural infrastructure (such as biogas, sewage, etc.) And the prevention and control of agricultural pollution at the source (such as pesticide spraying, fertilizer increase, etc.), aiming at improving the utilization rate of agricultural waste and strengthening the control of agricultural pollution. Secondly, Xinjiang has a vast territory and abundant resources, which has great potential to develop green agriculture and clean energy. With the policy support of green finance, not only the geographical resources are fully utilized, but also the goal of coordinated development of ecology and economy is achieved.

3.3 Green finance promotes rural civilization and effective governance

The development of green finance has the effect of social norms, which will greatly promote the construction of rural culture and the effective process of governance. The social regulation effect of green finance can be reflected in two aspects: improving the quality education level of green finance and perfecting the local laws and regulations of green finance. Firstly, the vigorous implementation of green financial policy will enable financial institutions to strengthen staff training and green financial education, and enhance the green financial literacy and service ability of relevant staff in financial institutions. Service personnel can also sink more deeply into the green financial business,

so that more agricultural operators can more clearly understand the service form, service content and related policies of green finance. Secondly, the improvement and perfection of local green financial laws and regulations can also create a good operating environment for the operation of rural green finance, help to maintain a good financial order, prevent and curb financial crimes.

3.4 Green Finance Promotes Affluence

Green finance can improve rural per capita income in many ways, which is a key link to promote prosperity. Xinjiang has great potential to develop rural tourism industry, rural green industry and new energy industry because of its geographical advantages. The development of green finance will meet the financing needs of these industries and give them credit support. At the same time, the rapid development of such enterprises will inevitably increase more employment opportunities, thereby enhancing the level of human capital of rural residents and increasing the per capita income of rural residents.

3.5 Rural revitalization provides a platform for green financial development

The development of green finance can serve the strategy of rural revitalization, and the implementation of the strategy of rural revitalization will also fully stimulate the vitality of all elements of the "three rural" system, providing a platform and opportunities for the development of green finance. The introduction of a series of institutional arrangements to support rural revitalization provides an opportunity for the development of green finance, and the emergence of a large number of financial products focusing on the control of rural environmental pollution and the development of green industries will further accelerate the development of the green financial market.

4. Current situation and practice of green financial services for rural revitalization in Xinjiang: taking Changji Prefecture as an example

4.1 Development status of green finance

The Xinjiang government actively responds to the relevant policies of national green finance, and the growth rate of green finance development in Xinjiang has been in the forefront of the country. Relevant data show that in terms of green credit, as of June 2022, the balance of green loans in clean energy industry, green upgrading of infrastructure, energy-saving and environmental protection industry in Xinjiang is 324.19 billion yuan. In terms of carbon finance, the development of CDM projects in Xinjiang is in a good state, and the number of projects ranks seventh in the country.

The development of green finance in Changji Prefecture is embodied in the following three aspects: (1) Expansion of green financial ecosphere. Changji Prefecture constructs a new development mode of "green project + financial institution + foreign cooperation and exchange", which implants green financial blood for the development of green industry and greatly promotes the development of green industry; (2) "tailor-made" promotes green development. In order to further strengthen the service ability of green finance to the rural real economy, Changji innovates green credit, green bonds and other green financial products, and meets the characteristic needs of the rural real economy through a diversified green product system; (3) adds impetus to green development. The green re-lending policy of financial institutions in Changji Prefecture has effectively solved the financing difficulties and expensive problems of green development of small and medium-sized enterprises.

4.2 Development Status of Rural Revitalization

By consulting the EPS database, we know that by 2021, the per capita disposable income of rural residents in Xinjiang has reached 15575. 3 yuan, and the per capita consumption expenditure of rural residents has also increased from 8712.5557 yuan in 2017 to 12821. 4 yuan in 2021. The total power of agricultural machinery has increased from 26.3884 million kilowatts in 2017 to 29.958753 million kilowatts in 2021, with an increase of 3.570353 million kilowatt, which provides a prerequisite for

the mechanization and modernization of agriculture in Xinjiang, increases the convenience of agricultural production, and provides a driving force for the revitalization of rural areas in Xinjiang.

By the end of 2020, the monitoring households returning to poverty and the marginal households causing poverty in Changji Prefecture had been dynamically cleared, and the per capita disposable income of rural residents had also increased from 17316 yuan to 206.4 million yuan, an obvious increase. In March 2023, the Agricultural and Rural Development Bureau of Changji Prefecture decided to grant a total of 14.21 million yuan in subsidies for the purchase and application of agricultural machinery to Hutubi County, Manas County, Qitai County and Jimsar County. In addition, the total revenue and expenditure budget of Changji Rural Revitalization Comprehensive Guarantee Center in 2023 is also as high as 3.0898 million yuan. Changji Prefecture has made great efforts to support the development of Rural Revitalization and achieved remarkable results, which will be presented from the five dimensions of industry, talent, ecology, culture and organization.

4.3 Summary of Current Situation and Practical Cases of Rural Revitalization of Green Financial Services

4.3.1. Current Situation of Green Financial Services for Rural Revitalization

(1) Green finance concentrates on supporting regional development. By the end of June 2022, the green credit balance of rural credit cooperatives in Xinjiang was 7.749 billion yuan, an increase of 3.333 billion yuan, or 75.48%, compared with the end of 2021, according to China Daily. Since the "double carbon" goal was put forward, the innovative credit products of Changji Agricultural and Commercial Bank have also landed one after another. Xinjiang Chuangxing Agricultural Products Development Group Co., Ltd., benefiting from 132 million yuan of green credit support from Changji Agricultural and Commercial Bank, has developed into a key leading agricultural industry enterprise in Changji Prefecture, which mainly focuses on agricultural and sideline food processing, production and sales. Changji Agricultural and Commercial Bank has also issued two issues of green financial bonds to provide financial support for enterprises actively engaged in the development of green industry.

(2) Green finance helps to create a new business card for green industry. In 2018, Changji Prefecture successfully handled the first 200 million yuan green agricultural loan business in Xinjiang and established a 10 billion yuan new energy industry fund, breaking through the difficult and expensive financing dilemma of enterprises. As of 2021, the Research Bureau of the People's Bank of China shows that Changji has completed 34 innovative services of characteristic green finance, 13 of which have been included in the National Green Finance Reform and Innovation Experience and Typical Case Collection, and 6 typical cases have been widely promoted while providing reference experience for the whole country.

4.3.2. Practice of Green Financial Services for Rural Revitalization

(1) Rural Commercial Bank's Green Farmers' Micro-credit builds Farmers' Harvest Dream.

Case·1:·The·pilot·project·of·micro-credit·for·green·farmers·has·achieved·remarkable·results,·with·160·million·yuan·to·build·farmers'·dream·of·a·bumper·harvest.

China·News·Network·shows·that·as·of·October·2021,·104·POS·machines·have·been·installed·in·the·whole·state,·2700·pilot·credit·households,·190·million·yuan·of·credit·granted·by·Changji·Agricultural·and·Commercial·Bank,·1886·households·and·160·million·yuan.·In·2021,·the·annual·interest·rate·of·the·green·farmer's·micro-loan·business·issued·by·the·Agricultural·and·Commercial·Bank·is·generally·only·5.75%,·which·is·about·4·percentage·points·lower·than·that·of·the·ordinary·agricultural·loan.·The·green·farmer's·micro-credit·of·200000·yuan·can·save·4000-5000·yuan·of·interest·expenditure·for·farmers·every·year,·and·the·water-soluble·fertilizer·purchased·in·this·way·is·200·yuan·cheaper·than·that·sold·on·credit·in·the·past.·The·cost·of·farming·is·greatly·reduced.

(2) The People's Bank of China Central Branch Insists on Green Inclusive and Coordinated Development to Promote Rural Revitalization

Case 2: The Central Branch of the People's Bank of China Insists on Green, Inclusive and Coordinated Development to Promote Rural Revitalization

China Financial News Network shows that the Central Branch of the People's Bank of China guides Changji Agricultural and Commercial Bank to take Xinjiang Shouhe Agricultural Development Co., Ltd. as the central enterprise, develop the green financial business of the supply chain linked by banks, upstream and downstream customers and enterprises, build a 165000 mu high-yield and high-quality modern agricultural raw material base, and promote the development of agricultural products. More than 20 cooperatives and 200 administrative villages have been transformed into industrialization.

(3) The "green credit" of the branch of the Agricultural Development Bank stands up as the backbone of the development of the green gold reform area.

Case 3: Agricultural Development Bank Branch's "Green Credit" Upholds the Backbone of the Development of the Green Gold Reform Zone

According to the data of China Net, as of October 2022, the Changji Branch of the Agricultural Development Bank had accumulated 6.838 billion yuan in green loans, supported 25 green projects in stock, with a loan balance of 5.804 billion yuan, an increase of 2.227 billion yuan over the beginning of 2022, and achieved 104% of the annual loan growth target.

5. Policy recommendations

Government level: First, improve the rural green financial policy system. In the guidance of Rural Revitalization, the status, objectives and requirements of developing green finance are clearly defined, and the importance of green finance to the strategy of Rural Revitalization in Xinjiang is emphasized. Starting from the three aspects of government, financial institutions and agricultural operators, policy standards are formulated to urge all parties to perform their duties and cooperate with each other to promote development. Second, improve the policy system of financial interaction. In order to expand the coverage of agriculture-related financial institutions and guarantee the basic financial service needs of the main body of green financial demand in rural areas of Xinjiang with abundant agricultural production, it is necessary to combine fiscal policy and monetary policy tools to encourage commercial banks and state-owned banks to serve the rural real industry.

At the level of financial institutions: First, improve the rural green financial infrastructure. As the supplier of green finance, financial institutions have strong comprehensive strength. To serve the rural revitalization well, first of all, they should sink their business and set up a full-time "rural financial service department" according to the characteristics of the rural financial market, so as to provide targeted services for agricultural operators. Second, create a good environment for the operation of rural green finance. Combining with the national green agriculture definition standards, green technology application indicators and the characteristics of the financial market in the rural areas served, we should create a green financial service environment suitable for the institutions themselves and build a risk assessment index for serving the rural industry.

Agricultural operators and rural green industry enterprises:Enhance the "green" management concept. On the one hand, we should increase investment in green agricultural production factors, actively understand the preferential policies of the government or financial institutions in this regard, vigorously develop green industry, and increase the production and sale of green products. On the other hand, we should regularly disclose social responsibility and environmental information,

establish green and sustainable values, and focus on describing our "green image" so that financial institutions can rest assured of loans.

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