Research on Domestic and Foreign Experiences of Green Finance Promoting Rural Revitalization

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Abstract. At the United Nations General Assembly in 2020, The objectives of "carbon peak" and "carbon neutrality" were developed by China, guiding the way of green economic development in China. In the rural revitalization strategy, green development is also a very important content, therefore, the growth of green finance is crucial for the regeneration of rural areas. This paper undertakes a comprehensive analysis of the existing literature pertaining to the research on the growth of rural green finance, both domestically and internationally, in light of the current circumstances, analyzes the current research status in this field, summarizes the major conclusions of the research literature, and puts forward the problems to be solved to provide reference for further research. The findings demonstrate that the growth of green financing helps to foster rural rehabilitation, however there are still certain gaps in this development, which needs to be continued to develop in the future to get out of the predicament.

Keywords: Green finance, Industrial upgrading, Policy mechanisms, Rural economy, rural revitalization.

1. Introduction

The concept of green finance in current finance refers to an economic activity that promotes efforts to prevent climate change, enhance the environment, and optimize resource utilization [1]. During the 2020 United Nations General Assembly, the Chinese government put out a proposal to achieve the objective of reaching a "carbon peak" by the year 2030 and attaining "carbon neutrality" by the year 2060. Compared with traditional finance, green finance combines ecological protection with financial development, focusing on the social and ecological benefits generated. China introduced the relayed policies on green credit in 2007. China has started the policy, system, and product service innovation of green finance compared with the developed countries. Moreover, green finance development scale, product types, and system construction differences in China and developed countries are widening [2]. General Secretary Xi Jinping pointed out in the reports of the 19th and 20th CPC National Congress: the implementation of rural revitalization continues to be a major decision and deployment, and rural revitalization is also an indispensable step in building a moderately prosperous society. However, there are still many problems in China's rural development, such as insufficient rural infrastructure construction, rural hollowing, and agricultural industry technology laggard. The State Council of China proposed the strategic goal of rural revitalization, increase and diversification of rural financing channels, and complete the shortcomings of rural construction in the Opinions on Comprehensively Promoting the Key Work of Rural Revitalization by 2022. Government policy investment is insufficient to improve the shortcomings of rural construction. China needs to enhance more green investment and green financial products such as green insurance to achieve the goal of rural revitalization [3].

This essay divides and categorizes the pertinent literature on the subject of green finance's contribution to the growth of rural areas both domestically and overseas into the following two groups: this paper examines the use of green financing to encourage rural economic development, delves into the historical performance of such efforts, and highlights the limitations associated with existing rural green finance programs. The study literature on the use of green finance to support rural economic

development comes to the following key conclusions: the extent of rural digitalization and economic growth significantly influences the amount of development [3], which can promote agricultural carbon emission reduction, promote technology progress in agriculture, optimize the industrial structure, and contribute positively to the promotion of economic growth in rural areas. The existing body of literature mostly focuses on the deficiencies of government and financial institutions in the context of rural green finance growth. And also proposes various approaches to enhance these limitations [2, 4, 5].

This article explores the influencing mechanism of green finance on rural revitalization, reviews relevant literature from different countries, and explores the effect of green finance development mechanism in addressing the issues of agriculture, rural areas, and farmers. The aim is to address the following issues. (1) How the government, market, and individuals jointly influence the essence of green finance to maximize its effectiveness; (2) Can green finance have a diffusion effect in rural areas of China; (3) How to further enhance the social impact of green finance. This article explores the impact mechanism and solution path of green finance development on rural development by studying the above issues, in order to provide certain reference for subsequent research. The conclusion of this article is mainly narrates from following several aspects: firstly, previous research has mainly focused on the influence of green finance on cities and enterprises, and this article focuses on exploring the auxiliary role of green finance in rural revitalization. Secondly, this article summarizes the experience of previous research and supplements and improves the research directions that are lacking in this field, which is of great significance for green finance to support rural industrial upgrading and achieve sustainable development.

2. Green Finance Development Trends

The utilization of green finance has been crucial in facilitating the advancement of rural enterprises, with the primary objective of attaining low-carbon development targets. The concept of rural rejuvenation is intricately linked to the agricultural sector's pursuit of green development and the objectives of achieving "carbon neutrality" and "carbon peak". Under the guidance of the carbon peak and carbon neutrality goals, actively developing green finance and expanding the intersection between green development and revitalization the rural economy is not only an inherent requirement for rural revitalization but also an effective way to address agricultural-related issues.

Finance is the core of a modern economy, and financial institutions are important participants and enablers in achieving comprehensive green transformation of the society and economy. Therefore, Lee proposed five development trends regarding financial institutions in green finance [6] . Firstly, more and more investors are using sustainable development goals as benchmarks and have increased demand for sustainable development bonds. Market will enable investors to make more personalized options and diversify other labelled bonds. Secondly, in accordance with the adoption of the amended EU Directive on Institutions for Occupational Retirement Provision (IORPs), also referred to as IORP II, member countries must consider ESG factors related to investments, as well as the investment policy statement outlining ESG factors. This provision will lead to the emergence of more diversified green funds.

Investors are exerting pressure on corporations to transition towards a low-carbon economy in response to policy and regulatory mandates outlined in the Paris Agreement (as enforced by the OECD), the European Commission's Technical Expert Group on Sustainable Finance, and other national institutions. This transition is expected to necessitate significant changes to the companies' existing business models. Simultaneously, investors will augment their demands for enhanced transparency regarding corporate ESG ratings in order to gain a more comprehensive comprehension of the environmental, social, and governance concerns encountered by those companies. The final report of the EU Commission's Technical Expert Group on the establishment of an EU sustainability taxonomy was published in March 2020. This report aims to establish the EU Taxonomy for sustainable activities, with the goal of addressing the disparity between current market practices and

the increasing investment in sustainable initiatives. The implementation of the EU Taxonomy is expected to result in increased costs for bond issuers in the short term. Over the course of an extended period, the establishment of a robust green finance market can lead to the development of pricing advantages. Possessing proficiency and competencies in the analysis and assessment of environmental, social, and governance (ESG) impacts, including climate-related risks and opportunities. The primary sources of competitive advantage for banks and asset managers are anticipated to be human capital, artificial intelligence, and big data respectively.

3. Literature Review

3.1. Practice and Experience of Green Finance in Promoting Rural Economic Development

Regarding the role of green finance in rural economic development, this paper draws the following major conclusions by reviewing relevant literature. The relevant research mainly focuses on two aspects: one is the practice and experience of green finance in promoting rural economic development; the other is the shortcomings of rural green finance development.

Green finance can have influence on rural economic development and rural revitalization from three aspects: agriculture, rural areas, and farmers.

The research on green finance to promote agricultural development mainly focuses on the transmission mechanism and role. Some researchers believe that the development of green finance to agriculture direct effect is to reduce the carbon emissions of agriculture, by guiding social capital to invest in rural areas, the implementation of green financing in agricultural production and operations facilitates the process of standardization and modernization, and reduces carbon emissions in China's agricultural activities, mainly urea fertilization, rice planting, soil management and other agricultural activities in the planting industry, the indirect effect is to improve the agricultural industry structure optimization, and guide the agricultural technology progress [7]. Green finance can play a crucial role in channeling funds towards rural enterprises that possess advanced levels of science and technology. Simultaneously, the imposition of loan restrictions on firms operating in rural areas with high pollution and emissions, coupled with limitations on the expansion, serves to foster the development of the industrial centre towards a service-oriented direction. This approach not only promotes rural economic development but also significantly reduces China's agricultural carbon intensity. Other scholars believe that green pratt &whitney finance can promote rural enterprise's ability to cope with risks [8], increasing the resilience of agriculture to natural disasters that affect harvests and climate change through risk guarantee.

Research on green finance promote rural development, mainly focused on the role and adjustment factors. Certain experts suggest that there exists a strong positive correlation between the degree of economic development in rural areas and the advancement of digitalization, as well as the progress of rural green finance development [2]. Also, there is overwhelming research on the positive effects of green finance on rural economy and ecology. The implementation of green finance has the potential to facilitate the reduction of carbon emissions in rural areas and safeguard the ecological environment of these regions, and can also promote agricultural progress and economic development [7]. Regarding the research on green finance promoting the improvement of farmers' living standards, some scholars believe that farmers are more likely to benefit from the support of government green finance policies [9]; With the help of green inclusive finance of financial institutions, farmers' income is less affected by natural disasters, and their income growth is more stable [8].

3.2. The Shortcomings of Green Finance in Promoting Rural Revitalization

Green finance plays a significant role in promoting rural economic development, but there are also some shortcomings in the current process of promoting rural revitalization. Based on relevant research, this paper concludes from two aspects: firstly, the external policies and regulations are not strong enough, and secondly, the internal mechanism of green finance lacks motivation.

The research on government policies that support green finance needs to be improved mainly focuses on the perspective of comparing developed countries with domestic ones. Some scholars believe that the main reason for the relatively mature development of green finance abroad is the relatively complete policies and regulations. In the 1990s, the United States had already issued policies such as green subsidies and agricultural taxes to farmers, established specialized policy institutions, and built a complete green financial system [2], thus becoming the most developed country in agriculture in the world. In contrast, China's green finance started relatively late and has not developed for a long time, and relevant policies to promote the development of green finance need to be improved. Not only is there a problem of insufficient support and incentive policies, but there is also a lack of corresponding compensation policies for the risks that relevant financial institutions may face in supporting the development of green finance, such as tax reduction and exemption, which limits the further development of green finance.

Regarding the lack of motivation for the internal development mechanism of green finance, some scholars believe that although China has continuously launched green finance products related to energy conservation and environmental protection. But most green credit tends to flow towards projects with market scale and economic benefits, due to the problems of small scale, low returns, high risks, and long investment cycles in rural markets, which are expected to generate good environmental and social benefits, and still not in the key support areas of green credit support and have not yet formed a large-scale market in rural areas[4]. In addition, rural farmers still lack awareness and understanding of financial services, and the rural farmers understanding and tolerance of green finance are poor, which restricts the promotion of green finance products in rural areas of China [3].Some scholars believe that financial institutions tend to prefer "high carbon" enterprises, but these enterprises are highly polluting enterprises and will difficult for commercial banks to increase their enthusiasm for green loans [10]. China's agricultural industry structure is relatively traditional. If financial organizations support energy saving and environmental protection industries and significantly reduce manufacturing customer loans in the short term, the organizations will face a longer investment cycle and higher loan risks. As a result, the financial structure tends to favor high polluting enterprises with high investment returns, which restricts the expansion of green credit scale.

In summary, the development of green finance can drive the development of rural economy. However, in order to further assist in rural revitalization is necessary to start from the political, economic, and social aspects, improve relevant policies and regulations, increase support for agriculture, optimize the internal development mechanism of financial institutions, innovate environmentally friendly financial products in rural areas, and improve the understanding and awareness of green financial services among rural farmers. While cultivating relevant professionals in the financial field, China should also learn from the development experience of green finance in other countries, optimize the rural industrial structure based on our own national conditions, and fully promote the modernization of rural development.

4. Policy Recommendations

Green finance is recently in a phase of fast development, lots of issues have not been fully exposed, resulting in a lack of forward-looking results and insights[8]. After reviewing the relevant literature comprehensively, the difficulties faced by green finance can be divided into three aspects: government, economy, and society.

Regarding the government aspect, research has shown that the support provided by the Chinese government for agriculture is limited, and relying solely on the market and social participation cannot form a complete mechanism. The government's investment in agriculture is insufficient, the expenditure structure is unreasonable[3]. At the same time, the annual demand for rural green finance in China is approximately 1 trillion CNY. However, government financial input only meets 20% of this demand, resulting in a significant supply gap for green funds. Additionally, rural green projects face a series of challenges such as small scale, dispersed locations, long investment cycles, uncertain

returns, and a lack of credit information. Depending solely on the government's efforts is difficult to fundamentally resolve the supply-demand contradiction of green finance [4]. Moreover, the Chinese government's policy implementation capability is insufficient, and the governance system has a significant gap, lacking effective governance mechanisms. Therefore, increasing technological investment by government departments is important in the rural agricultural development. Scientific and technological innovation is the primary productive force. Increasing investment in scientific technological research and development is crucial for promoting China's scientific technological level and improving labor productivity.

Concerning the economy, green financial institutions in China are not evenly distributed nationwide, and there are difficulties in financing for farm enterprises[11]. China has not found suitable regional development areas to create demonstration zones for rural green finance to explore development experiences. Green loans and green insurance have a more important impact on rural revitalization. However, current development of such financial services in China is not mature. There are significant differences in rural information infrastructure in developing countries. In some rural areas, the development of rural digital finance and e-commerce is hindered by poor internet infrastructure, unstable power supply, and underdeveloped logistics networks [3]. Therefore, these unresolved economic issues require cooperation between the government, major corporations, and institutions to further develop green finance in rural areas.

Regarding the society aspect, there is a shortage of talents in green finance, and the financial sector lacks professionals and specialized institutions engaged in rural financial markets. Recruitment and promotion efforts are insufficient, resulting in low enthusiasm and overall staff quality[5]. Furthermore, the professional resources in the rural education system are also severely inadequate. Simultaneously, the promotion of the marketization of green finance intensifies competition, leading to uneven income distribution and polarization, exacerbating social conflicts and tensions[3]. Therefore, the presence of these unsolved social concerns has a significant impact on the progress of green finance in rural regions.

5. Conclusion

This paper critically examines the role and challenges associated with green finance in facilitating the regeneration of the rural economy. The analysis is conducted from three distinct perspectives. At present, challenges persist in the endeavour to facilitate rural rejuvenation in both China and developed countries. The literature exhibits a dearth of specialized study pertaining to the fundamental resolution of issues related to rural rejuvenation, encompassing the domains of governance, society, and economy. The successful achievement of rural revitalization will pose significant challenges if these difficulties are effectively addressed. Henceforth, scholars need to delve into the realms of green finance and rural rehabilitation, focusing on the identified deficiencies in three key dimensions (government, economy, and society), in forthcoming research endeavours. In the future, the establishment of an academic research area will hold significant importance due to the existing gaps and emerging trends in the field of green finance.

Authors Contribution

All the authors contributed equally and their names were listed in alphabetical order.

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