Difficulties and opportunities for green finance to help rural revitalization

Yuanhan Sun[1*]

Hong Kong University of Science and Technology, Kowloon, Hong Kong, China

[1*]yuhan_suen@163.com

Abstract. Over more than four decades since the initiation of China's reform and opening-up policies, significant transformations have occurred in the dynamics between rural and urban regions. The process of industrialization and urbanization has given rise to a range of challenges in rural areas, including heightened ecological pollution, an imbalanced industrial structure, and the outflow of skilled individuals. Hence, the 19th report of the Central Committee designates the resolution of the "agriculture, rural areas" issues as the foremost priority in the overall agenda of the Party's endeavors. Simultaneously, green finance assumes a crucial role as a significant financial instrument in facilitating the revitalization and advancement of rural regions, effectively stimulating the inherent drive for development within these expansive rural areas. This paper aims to examine and explore the challenges and prospects encountered by green finance in facilitating the revitalization of rural areas.

Keywords: Green finance, Rural revitalization, Opportunities and challenges

1 Introduction

The achievement of poverty alleviation in China in 2020 has led to a shift in societal needs for rural areas, transitioning from addressing necessities such as food and clothing to a focus on the strategy of rural revitalization. The prioritization of decarbonization and green development has become imperative in China's "14th Five-Year Plan" development, following the adoption of the "double carbon" objective. The rural environment exhibits distinct characteristics compared to the natural landscapes found in urban areas. Additionally, the introduction of clean energy sources, such as wind energy, water energy, and solar energy, differs significantly from non-clean energy sources, and plays a crucial role in facilitating sustainable and environmentally friendly development. Hence, there is a pressing need to assist in the revitalization of rural areas.q

Simultaneously, China's reform and opening up over the past three decades have witnessed significant advancements. While the financial industry has played a pivotal role in bolstering the economy, its disregard for ecological and environmental considerations has resulted in an imbalanced allocation of resources. Using the lending market as an illustration, it is observed that high-energy-consuming enterprises, despite

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surpassing the standard carbon emissions due to their swift power generation and heating activities, frequently become the primary recipients of financial lending. This situation leads to an increase in environmental costs and poses a challenge to the current green development of rural industries in China. Hence, the financial sector exhibits a bias toward green development. Therefore, the issue of rural revitalization is currently a prominent subject that aligns with the specific circumstances of China.

However, due to the recent introduction of green finance for rural revitalization, there is a lack of specific measures that have been implemented. As a result, the development of green finance for rural revitalization is still in its early stages of exploration. Consequently, researching this matter holds significant practical importance.

2 Research status and main views

2.1 Green Finance

Currently, the prevailing discourse on green finance posits that it encompasses investment and financing endeavors that leverage financial instruments or combinations of financial products to address environmental pollution issues and safeguard the natural environment.

There exists a positive relationship between green finance and sustainable development (Scholtens, 2006)[1]. Additionally, the utilization of green finance tools has the potential to effectively address resource and environmental constraints. According to Yoshino and Hesary (2019)[2], the implementation of a green credit guarantee scheme, coupled with the allocation of a portion of the tax revenue generated by the spillover effect of green energy supply to investors, has the potential to mitigate green finance risks and enhance the rate of return for green energy projects. In their study, Jawad et al. (2023)[3] examined the impact of green finance on Chinese energy enterprises using data from 50 companies operating in the energy sector in China between 2012 and 2021. Through regression analysis, the researchers assessed the relationship between green finance and the indicator of electric energy, known as IRE. The findings of the study indicate that green finance has a statistically significant influence on Chinese energy enterprises. In their study, Shunsuke et al. (2023) [4]conducted data collection in 42 developing countries spanning the years 2000 to 2020. They employed panel fixed effect estimation techniques to establish a noteworthy and favorable association between green finance and the sustainable development of developing nations.

The concept of green finance is rooted in cultural promotion of environmental conservation (Liu, 2004)[5]. It is characterized by the adoption of green culture as the guiding principle within the financial industry. This approach is underpinned by the implementation of green management practices and reinforced by green marketing strategies. The ultimate objective is to foster the sustainable development of employees, the financial sector, the environment, and society as a whole. Based on an examination of the green economy in various domestic and international contexts, Ju Hongyu (2009)[6] asserts that the impact of China's financial industry on environmental concerns is notably limited. Consequently, Ju suggests that efforts should be directed towards the establishment of green policy banks, the implementation of environmentally conscious decision-making processes within banking credit systems, and the enhancement of the green financing framework. These measures are proposed to bolster the prominent role of green finance within the national economy. In their study, Han Liyan et al. (2010)[7] substantiated the efficacy of allocating green financial resources by positioning the government as the primary driver of the green financial market. They proposed the incorporation of green rating signals alongside existing price and quantity signals and provided policy recommendations regarding incentives for green finance. Zhang Ping (2013) [8]suggested that green finance exhibits superior quality and compound attributes when compared to traditional industries. However, the development of green finance in China faces a predicament characterized by a scarcity of skilled professionals and a limited range of financial products. According to Ma Jun (2016)[9], China has utilized the G20 Hangzhou Summit as an opportunity to advance the establishment of a green finance system. He asserts that green finance possesses transnational externalities and has the potential to enhance global green investment. However, Ma Jun acknowledges that green finance encompasses relatively novel concepts and approaches, necessitating the exchange and dissemination of international expertise. Yi (2022)[10] posited that the existing conceptualization of green finance emerges from the amalgamation of the concepts of green, finance, and green finance. The adoption of green development principles serves as the foundation for financial transformation services and financing. This entails incorporating green guidance, identification, standards, certification, supervision, assessment, and green credit rating as key components. To facilitate this process, it is necessary to make adjustments and transformations to existing financial policies.

2.2 Rural Revitalization

The limited number of studies conducted on the subject of rural revitalization by foreign countries can be attributed to policy and institutional factors. The available literature predominantly examines the impact of finance on rural development and identifies the necessary conditions for rural revitalization by analyzing specific instances of such revitalization. In the study conducted by Mashinini (2002)[11], an evaluation was carried out on the Lesotho Community Development Fund (LCDF). The LCDF is responsible for providing financial support for rural development initiatives in communities within Lesotho. The study aimed to critically assess the performance of the agency up until that point. In a study conducted by Ismail (2012)[12], a financial analysis was performed on a representative hydropower project that received support in rural China. The findings of this analysis were then used to draw inferences for Nigeria by conducting a comparative analysis within the economic and financial context specific to Nigeria. The study conducted by Degoma investigates the financing practices and potential avenues for promoting industrialization and generating employment opportunities in rural areas of Ethiopia. The primary findings of the study indicate that rural industrialization is currently in its conceptual phase. Furthermore, despite its significant economic and social implications, the financing of rural strategies remains imperfect. Hence, it is recommended that a synergistic approach involving centralized financing of rural industrialization through commercial banks and decentralized financing of rural industrialization through microfinance institutions can lead to enhanced scope and scale of rural industrialization within the nation.

The concept of rural revitalization in China encompasses five key dimensions, namely industrial prosperity, ecological livability, rural cultural civilization, effective governance, and improved quality of life. Ma Jun and Li Jigang employed data from 30 provinces in China spanning the years 2003 to 2018. Their objective was to construct an evaluation index system for rural revitalization and inclusive finance. To achieve this, they conducted empirical investigations utilizing the Generalized Method of Moments (GMM) technique. The findings of the study indicate that the relationship between the development of inclusive finance and rural revitalization follows an inverted U-shaped pattern. This pattern is particularly evident in the eastern, central, and western regions, with a stronger effect observed in the central and western regions compared to the eastern region. The rapid development of the digital economy in China can be attributed to the extensive utilization of digital technologies, including big data and artificial intelligence. The researchers empirically demonstrated that e-commerce technology, serving as the fundamental component of the digital economy, contributes to the advancement of urban-rural integration in China. Ma Changfa and Zhu Yueyue focused on the four prefectural-level states located in southern Xinjiang. Their research aimed to assess the extent of rural revitalization in these states using the grey correlation relative proximity degree calculation method. The findings indicated that the manifestation of rural revitalization was not readily apparent in numerous prefectural-level regions. It was observed that, among the four prefectural-level regions examined, education and ecology emerged as the primary obstacles to rural revitalization, while industrial prosperity was identified as a secondary obstacle.

3 Conclusion

The findings derived from empirical analysis predominantly indicate that various green financial products in China currently assume distinct roles in facilitating rural development across regions with varying levels of development. The developed eastern region of China is recognized as a region that has achieved significant economic advancement. Within this region, there is a notable prevalence of environmental protection and finance as popular concepts. Consequently, the development of the green financial system in this region is more pronounced. It exerts a beneficial influence in facilitating the advancement of rural infrastructure. Nevertheless, it can be argued that the impact of small workshops in the eastern region on rural development, concerning green credit, is relatively lower compared to the central region. This is primarily due to the higher level of industrialization and the ability of these workshops to attain a certain level of self-sufficiency. Simultaneously, it is worth noting that the central region has experienced a delayed initiation of green finance, resulting in a limited range of product offerings. Consequently, the utilization of green credit has primarily propelled local development. This underscores the significance of green credit in the central region, emphasizing the need to prioritize the expansion of green credit mechanisms to stimulate the advancement of rural areas in the central region. Regarding the western countryside, its geographical location in the underdeveloped region of China has resulted in a relatively low level of development in the financial industry and a lack of emphasis on green environmental protection. Consequently, the progress made in the western countryside has primarily been limited to infrastructure construction. In this context, what is required is a direct infusion of financial investment, rather than relying solely on green credit for the promotion of environmentally friendly projects. Financial institutions show a greater inclination towards investing in life insurance, property insurance, and other insurance projects due to the limited awareness of residents regarding green environmental protection, thereby affecting the adoption of green insurance and green credit practices.

4 Suggestion

Nowadays, there is still a big gap between rural infrastructure construction and urban infrastructure construction. Especially in the remote areas of central and western China, the roads are mostly mountainous and rugged, and this inconvenient transportation restricts the financial development of remote areas of central and western China. Therefore, improving rural infrastructure construction is the primary condition for developing green finance. First of all, we need to increase the financial support for public transport, so that capital can more easily enter the countryside, in order to increase the impetus for subsequent development. Secondly, we should vigorously develop scientific and technological innovation in green agriculture, learn from foreign treatment of soil pollution, water pollution and air pollution, and issue green investment and financing policies through policy guidance, so that more environmental protection related enterprises can enter rural areas and participate in the infrastructure construction of rural revitalization, so as to promote the transformation and upgrading of traditional agricultural industries and improve resource utilization. Then we need to improve the financial market system, enrich green financial instruments, including innovation in green insurance, green credit, carbon neutrality and other fields, and improve the structure of green credit. According to the above analysis, green credit accounts for the largest proportion among many green financial products. Therefore, optimize the structure of green credit. Increasing green credit products can effectively promote the development of rural cooperative economies. At the same time, the credit granting and approval process of green credit can be shortened in time, and special channels for green credit can be set up in green credit access, green project evaluation, green loan approval and allocation, so that credit funds can flow to rural energy conservation and environmental protection industries, green manufacturing and agriculture through guiding. Finally, we can improve the green guarantee mechanism and green project certification evaluation standards, now, China's definition of green, different institutions, different groups of people have different views, which will lead to a lot of information on the market is not equal, not conducive to the survival of enterprises that want to settle in rural development, if the standard of green certification can be unified, Will reduce a lot of information asymmetry problems. And improving the green guarantee mechanism is conducive to fundamentally reducing the risk of investors settling in rural construction, so as to attract more investors to enter the countryside.

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