Green Finance and Low-carbon Sustainable Development -- from the Perspective of Commercial Bank Management

Ziyi Huang*

Department of Finance, Tianjin University of Finance and Economics, Tianjin, 300222, China

* Corresponding Author Email: huangziyi@stu.tjufe.edu.cn

Abstract. Low-carbon and green development is an significant part of sustainable development. In the context of sustainable development, commercial banks, as a major social body, have derived a variety of financial products by strengthening green management. According to the Organization for Economic Cooperation and Development (OECD), green finance is a service that reduces pollution and greenhouse gas emissions in environmental protection, improves the efficiency of natural resource utilization and reduces resource waste while achieving economic growth. Green finance is a business activity corresponding to commercial banks and a concrete manifestation of green development in the financial field. Faced with the challenge of reducing carbon emissions, commercial banks have accelerated the transformation and upgrading of business concepts and developed into green industries. The basic nature of a bank is to provide reliable services and obtain corresponding profits by providing financial products and services to responsible entities. At this stage, banks have accelerated development of green financial products, forming different forms of green credit, green bonds and other content. Meanwhile, commercial banks are also facing many challenges and problems in this context.

Keywords: Green finance, Low-carbon economy, Sustainable development, Commercial bank management.

1. Introduction

Since people entered the industrial age, various machines have brought great benefits to man. However, as the machines burn gasoline, the environment deteriorates day by day. Environmental management has become an ongoing goal. The first title of this "Green Development Blue Book" written for green development is "Green development". The introduction of this concept has brought people's attention to the relationship between green and the environment, and many scientists have proved whether this concept is correct in practice. The United Nations Development Programme (UNDP) adopted the concept of green development in a report, "China's Human Development Path", published in 2002. It emphasizes economic development and environmental protection, environmental protection promotes economic growth, and the realization of harmony between economy and environment [1]. It suggests that economic development should be accompanied by environmental protection. Environmental protection is a basic prerequisite for sustainable development, and green development is the key to achieving sustainable development.

Green development optimizes the use of resources in the best way and guides people to choose sustainable production and consumption methods. Green growth contributes to increased economic growth and job creation through sustainable use of natural resources and evaluation of ecosystem services [2]. Adhering to green development can not only achieve sustained economic growth and long-term social stability, but also protect the environment and resources for future generations. To avoid depletion of natural resources, climate change and social insecurity, economic development, environmental protection and sustainable management of natural resources should be well coordinated [3]. Commercial banks have made a lot of efforts for green financial services and achieved certain results.

Low-carbon growth is a concentrated embodiment of green growth. Green growth can be achieved to the greatest extent in a low carbon pathway. A sustainable growth model characterized by low energy consumption, low pollution and low emissions is an organic combination of "low carbon" and "growth". Many of our current social activities, such as car exhaustion, factory exhaustion and other

manufacturing and life behaviors, will produce a lot of carbon dioxide. The unusual emissions of carbon dioxide will cause irreversible damage to the environment. By reducing carbon dioxide emissions, it will greatly reduce environmental pressures, improve overall productivity and competitiveness, and promote sustainable growth throughout the entire social economy [4]. Environmental protection and economic development are dialectically combined and intertold. Green finance is a combination of these things. We need to ensure green and low-carbon growth, promote higher quality and more sustainable growth, and take the path of civilized development.

2. The Green Finance in Commercial Banks

2.1. The Concept of Green Finance

Green finance is a financial service provided to support economic activities that improve the environment, address climate change, save and use resources efficiently. As a new financial development paradigm, green finance is an important means to promote the development of green economy and realize green production and life style. The core function of green finance is to realize the green allocation of resources. The expanded function includes price discovery and risk management of environmental resources, while the derivative function includes providing green investment and financing services, supporting the development of green industries, and guiding green consumption [5]. Unlike traditional finance, green finance can overcome its one-sidedness and limitation to some extent in explaining the new financial development situation. Green finance not only has the general functions of the financial system, such as resource allocation and financing functions, but also has new functions that traditional finance does not have. Building a green financial system is not simply to subvert the previous financial system, but to incorporate environmental factors that were previously ignored as new constraints in the traditional financial system.

2.2. The Development of Green Finance in Commercial Banks

Banks are financial institutions that provide different services to the public, facilitating the handling of day-to-day financial activities, and banks have developed different financial indicators based on realistic policies to cope with changes [6]. In response to the energy crisis and the threat of global warming to the environment, the UK took the lead in putting forward the concept of low-carbon economy in 2003, and has been supported by many countries around the world. At the same time, in order to support the current national transition to a low-carbon economy, BNP Paribas has taken extraordinary measures to limit greenhouse gas emissions in its loan portfolio [7]. "We raise clients' awareness of the SDG through dedicated activities that enable certain issues to be addressed and integrated into our daily lives," they said [8]. The broad formula for a low-carbon economy shows changes in the current form of economic development. By pursuing efficient use of energy, developing clean energy and realizing green GDP, the contradiction between human development and natural ecological environment has been solved.

Green finance is any financial rescue activity designed to ensure better environmental outcomes [9]. The development of green finance and the appropriate strengthening of green finance is an important way to effectively promote inclusive economic growth. Green finance supports the economy's green transition through financial tools and related policies such as green credit, green bonds, and carbon finance, and plays an important role in responding to climate change, saving resources and using them efficiently. Green finance has promoted GDP growth and improved the environment, reduced global coal consumption and raised the share of non-fossil power worldwide, making an important contribution in the low-carbon transition [10]. To support the development of green finance, commercial banks provide green industries such as environmental protection, clean energy, and risk management.

3. Problems in The Development of Green Finance in Commercial Banks

3.1. The Insufficient Innovation of Green Financial Products

3.1.1 Lack of Financial Support

As regards green financial products, green credit and green bonds remain the most important products, but there are large gaps in green funds, green insurance and carbon-based financial products in different countries that cannot meet the needs of the international community [11]. Although green financial services have become one of the work contents of commercial banks in many countries, from the perspective of green fund investment, the support for green industry and green technology upgrading is not enough, and the main capital invested in green credit leads to the lack of financial impetus for other products and services. The lack of capital will lead to greater convergence in the product and service systems of financial institutions. Only the continuous enrichment of green product pedigree can promote the development of green economy.

3.1.2 Deep-rooted Traditional Development Model

With the rise of the global wave of sustainable development, the extensive development model that sacrifices the environment in exchange for economic development is gradually abandoned. However, the traditional development model is deeply rooted, and the development model that has long dominated the financial field is difficult to reverse. Although the traditional model can bring high profits, it also has the problem of excessive energy consumption. Even though commercial banks are aware of the limitations of the traditional development model, and more and more enterprises actively assume social and environmental responsibilities, there are still a considerable number of enterprises that do not pay enough attention to green development, especially due to the economic downturn, business difficulties and profit decline and other factors, enterprises are seriously insufficient to carry out green transformation. The operation goal of financial institutions is still the pursuit of profit maximization, they will focus more on the realization of economic benefits, and pay less attention to environmental benefits. The green development model is often difficult to obtain considerable returns in the short term. It makes local and small commercial banks worry about the transformation and upgrading and the development of more green financial products, which restricts the development process of green finance to a certain extent.

3.2. Few Third-party Certification Bodies and Imperfect Certification Mechanism Standards

The international financial market has strict requirements for the issuance of green bonds. Financial institutions should have a systematic review and valuation at the early stage of the offering [12]. The independent independent regulator requires that the funds issued by green bonds be used to support and use green projects capable of green assessment to prevent the misuse or misuse of green funds by commercial banks. Certification service providers are slow and lack sufficient credibility, certification service providers lack standards, and regional distribution is uneven. This will reduce the efficiency of green finance bonds issued by banks and bring huge risks to their issuance.

At the same time, when commercial banks launch any financial products, they need to be rated by third-party credit rating agencies. Credit rating agency is a service-oriented intermediary organization, which is composed of specialized financial, economic and legal experts to evaluate securities issuers and securities credit. The evaluation of the rating agency mainly runs through the whole process of the issuance of the financial product. If the financial situation of the commercial bank deteriorates during the issuance of financial bonds, and the important management personnel involved leave the company, the credit rating agency will re-evaluate the credit rating of the bond, and its credit rating will change accordingly. On this basis, commercial banks will also face certain rating risks in the process of issuing green bonds.

3.3. Large Professional Talent Gap

Green finance is in the stage of large-scale development, and the problem of relative shortage of green finance talents is more prominent. Commercial banks lack the training of green finance composite talents. Most banks have not yet established professional talent echelons in green finance, low-carbon, environmental risk management, etc. The current scale and structure of professional talents cannot meet the talent gap in the green finance market for the time being. The development of green finance needs scientific research talents as the cornerstone and Internet finance as the support. This development mode has very high requirements for professional compound talents [13]. Green development needs to cultivate not only research-oriented talents, but also more application-oriented management and professional talents. The cultivation of such talents involves two major areas, and both require plenty of time and effort to master the connotation and knowledge of environmental protection and finance. A single field of talent can not really meet the market needs. For example, to do a green finance certification assessment, first assess whether it is "green" and how it affects the environment. In addition, it depends on the economic and financial benefits of the project.

4. Countermeasures of Commercial Banks

4.1. Establish An Incentive System for Green Finance

Commercial banks, currently based on green credit and green bonds, should take product and service innovation as the entry point, broaden the existing product system and research and development fields of green finance, expand the coverage of green capital investment [13]. Non-bank financial institutions also need to actively take part in green development, strengthen strategic coordination with commercial banks, make up for the gap between the scale of green financing of commercial banks and the green funds of enterprises, and steadily improve and optimize the green credit structure.

In the process of research and development, incentive measures should be taken to encourage various departments to actively use scientific and technological means in the development of green finance, relying on financial technology subsidiaries, increase the application of artificial intelligence and big data in the field of green finance, provide a strong scientific and technological impetus for the promotion of policies, and build a higher level of green financial system [14]. Promote the development of a standard system of green finance incentive mechanisms by clarifying green finance incentive standards. This single incentive mechanism, including credit discounts, guarantee incentives and risk sharing, can stimulate the viability of commercial banks as the main body and attract more private capital to participate in the development of green finance. At the same time, the scope and type of incentives, as well as the conditions and requirements for meeting incentive standards, have been clarified, and regional and industrial projects that benefit from incentives are gradually being expanded so that market participants can clarify access standards and preferential policies for green finance [15]. When green finance has more detailed thresholds, commercial banks can provide better related services.

4.2. Strengthen and Improve the Third-party Certification System

Third-party certification can improve the standards and requirements of information disclosure at the national level, create an information disclosure platform, and provide specific guidelines for green projects to disclose information. At the same time, it is necessary to strengthen the punishment for the absence and inadequacy of information disclosure, and the combination of fines and administrative penalties can be appropriately adopted to increase the violation cost of non-disclosure and poor disclosure quality. Through concrete means, commercial banks can be forced to take the initiative to participate in the field of green finance to, thus reducing the pressure of certification.

To some extent, by promoting the information sharing between the government, regulatory authorities and financial institutions to build an all-round, multi-channel sharing platform, such a

comprehensive information platform can provide a reliable basis for financial institutions to obtain relevant information. Take green credit business as an example, commercial banks can build a green credit implementation effect evaluation system, from the effectiveness of management process, the standardization of rating classification, the perfection of pre-loan approval and post-loan monitoring, and other aspects of the issued green loans to check whether there are corresponding risk tips. In view of the risk information, a reverse "walking test" is carried out through the post-evaluation to determine whether there are any problems such as lax enterprise access, substandard projects, substandard review, and lack of supervision over the use and flow of credit funds [16]. Based on this, by analysing the reasons for the failure of green credit to promote enterprises or projects to achieve the expected emission reduction targets and the process of the post-evaluation, business risk points can be targeted which can further promote the sustainable development of green credit business compliance.

When establishing an information disclosure platform, on the one hand, laws and regulations can be established to regulate the mode and content of disclosure, so as to carry out more effective information disclosure management. On the other hand, market entities can be spontaneously promoted to make information disclosure through market regulation mechanism, so as to transform passivity into initiative [17]. Improve the quality of information disclosure, stimulate the development of various industries in the direction of environmental protection and really play an important role of commercial banks in the financial sphere. By gradually improving the third-party identification system of green evaluation, it provides support for the identification of green financial incentive standards, optimizes the implementation of incentive standards, and is conducive to maintaining the unity and development of green financial incentive standards.

4.3. Improve the Personnel Training Mechanism

Focus on innovation and construction of green finance talent training and training system. By strengthening the professional ability of managers in green finance, we should strengthen the training of green finance professional knowledge from the connotation, classification, driving factors and other aspects of green finance, improve the training and certification of green finance talents in employment and practice qualification, and promote the training of green finance talents with integration of industry and education. Also, it is necessary to continue education of green credit personnel, and continue to improve the ability to perform the post. In green finance projects, international exchanges of green finance talents are more important. For example, special training on green investment and financing between China and Europe should be carried out, combined with the construction of the European green investment and financing demonstration zone and the international requirements of China and Europe on climate change and environment, society and policy (ESG), the international cooperation capacity of various countries in green finance should be improved, and the international exchanges and interactions of green finance technical talents should be promoted on a regular basis.

5. Conclusion

This paper deepens our understanding of green finance and helps us to understand its future development trend in the field of commercial banking. Carrying out green finance business is a manifestation of commercial banks' active practice of sustainable development and their courage to assume social responsibility. If the relevant green finance business fails to achieve the expected results, it will directly affect the social reputation of commercial banks and bring potential regulatory risks and even legal risks. Therefore, commercial banks should pay attention to and strengthen the implementation and evaluation of green finance business. This article has several limitations and the analysis of this article may not be comprehensive. Perhaps commercial banks have other problems and solutions in terms of green finance. In order to fully understand the application of green finance in commercial banks, it needs to explore other perspectives and reasons to have a clearer understanding and deeper insight into this topic.

References

[1] OECD. What is green growth and how can it help deliver sustainable development? Retrieved from https://www.oecd.org/greengrowth/whatisgreengrowthandhowcanithelpdeliversustainabledevelopment.htm. 2023, 7, 30

[2] OECD. Towards Green Growth. Retrieved from https://www.oecd.org/greengrowth/towards-green-growth-9789264111318-en.htm. 2023, 8, 1

[3] Yong Wang. Review and prospect of research on theoretical connotation, evaluation methods and strategy paths of green development. Retrieved from http://www.prcee.org/yjcg/zzwz_70/wenzhang/202004/W020200413549475632642.pdf. 2023, 8, 1

[4] China Meteorological Administration.The definition and connotation of low-carbon. Retrieved from https://www.cma.gov.cn/2011xzt/2014zt/20140507/2014050709/201405/t20140507_245514.html. 2023, 8, 3

[5] Hu W T. Research on function definition and development of green finance. China Price, 2023, 412(08): 109-113.

[6] Ashley Donohoe. What Is a Bank? Retrieved from https://www.thebalancemoney.com/what-is-a-bank-5235570. 2023, 8, 6

[7] BNP PARIBAS. BNP Paribas Climate Report: strong commitments contribute to the emergence of a carbon neutral economy by 2050. Retrieved from https://group.bnpparibas/en/news/bnp-paribas-climate-report-strong-commitments-contribute-to-the-emergence-of-a-carbon-neutral-economy-by-2050. 2023, 8, 8

[8] Sustainable Development Goals: how to raise awareness in the private sector? Retrieved from https://group.bnpparibas/en/news/sustainable-development-goals-raise-awareness-private-sector. 2023, 8, 10

[9] WORLD ECONOMIC FORUM. What is green finance and why is it important? Retrieved from https://www.weforum.org/agenda/2020/11/what-is-green-finance/. 2023, 8, 12

[10] Zhang Yue. Suggestions on sustainable development of green finance under carbon neutral goal. Northern Finance. 2022(11): 69-71.

[11] Zeng Lingmin. The status quo and challenges of green finance development in China's commercial banks. Business Exhibition Economics, 2022, 70(24): 70-72.

[12] Michael Doran & James Tanner. Green Bonds – An Overview. Retrieved from https://www.bakermckenzie.com/en/-/media/files/insight/publications/2019/05/green-bonds--an-overview--may-2019.pdf. 2023, 8, 14

[13] Wang Tengda. Research on green finance development of commercial banks under the goal of "double carbon". Journal of Changchun Finance College, 2023, 171(04): 18-24.

[14] Ye Dafeng, Huang Chuchu, Yang Zhenyi. Discussion on problems and countermeasures of green finance policy implementation in China. Law & Economy, 2022, 31(1): 96-103.

[15] An Guojun, Ao Xinyi. The development prospect of green finance in China. China Finance, 2018(2): 42-46.

[16] Jia Fuyu, Liu Lizhong, Jiang Siyu. Research on green finance business Development Strategy and Risk Management of Chinese commercial banks under the "two-carbon" strategy. Journal of Agricultural and Agricultural Sciences, 2022, 46(03): 36-40.

[17] Wang Bo, Yue Sijia. Research on incentive constraint guarantee mechanism of green finance in China. Observation and Reflection, 2020(10): 79-87.