

Design of China's Green Financial System: Based on the Perspective of Risk Prevention and Control

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Abstract: green finance will inevitably face various risks in its development, so it is necessary to build a more comprehensive and systematic green financial system. At present, there are many researches on green finance in academic circles, including the research on the risk of green finance and the construction of green financial system, but there is no research on the construction of China's green financial system based on the perspective of risk prevention and control^[1]. Based on the connotation of green financial system, combined with the risks faced in the development of green finance in China, this paper constructs the green financial system from the perspective of risk prevention and control^[2].

1. Introduction

With the rapid development of my country's economy, resource consumption and environmental pollution are becoming more and more serious. Nowadays, in the face of the dual constraints of resources and environment, the extensive economic growth model with high energy consumption and high pollution obviously cannot meet the requirements of economic development. my country should follow the development concept of innovation, coordination, greenness, openness, and sharing, promote a high-quality economic development in a cleaner and more efficient green development mode, and finally achieve the goals of protecting ecological security and sustainable development^[3]. In the critical period of my country's economic structural adjustment and transformation of development mode, the development of green finance is an inevitable measure, which can effectively mobilize and encourage more social capital to invest in green industries, and promote the cultivation and formation of new economic growth points. Constructing China's green financial system is a major initiative to comply with the construction of my country's ecological civilization, help my country develop a green economy, and promote the coordinated development of my country's economy and environment.

2. The Connotation of the Green Financial System

Since the 1980s, green finance has gradually become the focus of attention at home and abroad. Green finance was originally called environmental finance or sustainable finance. It refers to financial participants making financial decisions under the premise of fully considering the relevant factors of the ecological environment, and guiding economic and social resources to be fully and rationally used to protect the environment and control pollution. And the purpose of sustainable development of the financial industry. Scholars at home and abroad have conducted a lot of research on green finance, but there is no agreement on the concept of green finance^[4]. Domestic scholars mainly define green finance from three perspectives: the role of green finance, the need for finance to reflect green features in supporting service targets, and the sustainable development of the financial industry itself^[4]. The so-called green financial system is, in short, a financial system that serves green development and sustainable development. Specifically, it refers to various financial institutional arrangements and important institutional innovations made by the financial system from the perspectives of environmental protection, climate change, green development, and

sustainable development.

In August 2016, the “Guiding Opinions on the Construction of a Green Financial System” issued by seven departments including the People’s Bank of China, the Ministry of Finance, and the Development and Reform Commission defined the authoritative definition of green finance and the green financial system. Economic activities for environmental improvement, response to climate change, and efficient use of resources, that is, financial services for project investment and financing, project operation, and risk management in the fields of environmental protection, energy conservation, clean energy, green transportation, and green construction; green finance The system refers to institutional arrangements that support the transition of the economy to green through financial instruments such as green credit, green bonds, green stock indexes and related products, green development funds, green insurance, carbon finance, and related policies. “[6] According to the above definition, the green financial system should include a series of systems related to green finance related policy systems, laws and regulations systems, product service systems, financial institution systems, financial market systems, financial regulatory systems, international cooperation systems, green standards systems, risk prevention systems, etc. arrangement^[5].

3.The risks faced by China's green finance development

In order to build a more complete green financial system from the perspective of risk prevention and control, it is necessary to understand the risks facing the development of green finance. "Finance" and "environment" are the two most basic factors. In the final analysis, green finance is still "finance", but it is also combined with "green". Therefore, in the development of green finance, it not only faces traditional financial risks, but also faces some special risks unique to green finance.

The traditional financial risks facing China's green finance development mainly include market risk, credit risk, liquidity risk, operational risk, and policy risk.

The special risks facing China's green finance development mainly include environmental risks, "greenwashing" risks, "financial innovation discrimination" risks, industrial risks, and maturity mismatch risks. Environmental risk has two meanings: First, it refers to the risk that, by affecting the sustainability of credit assets or projects, it leads to uncontrollable asset projects with the increase of external physical risks, which in turn affects the stability of fund repayments. Green Finance Talking about environmental risks in the field is mainly to study its impact on the stability and value-added of capital flows; the second refers to the risks caused by changes in the external basic conditions and institutional environment that interact with the survival and development of green finance and restrict each other. The "greenwashing" risk refers to the risk of financial institutions and investors suffering huge losses due to various "greenwashing" behaviors, and punishing the green financial market. The risk of "financial innovation discrimination" refers to the risk that the market is reluctant to accept the financial innovation model of green finance due to the protection of special government policies, which will cause the financial innovation itself to gradually lose its market function and eventually withdraw from the market. Industrial risk refers to the green financial risk caused by the uncertainty of the development status of key industries supported by green finance. The term mismatch risk refers to the risk that the term of green credit that commercial banks can provide cannot meet the term of capital investment required for the development of green finance^[6].

4. Construction of China's Green Financial System

In recent years, with the strong support of the government and the extensive participation of financial institutions and enterprises, the domestic green financial system has grown from scratch, showing an accelerated development trend, forming a multi-level benign development pattern. However, China's current green finance is still in its infancy, and it faces many risks and challenges in its future development. Green finance's own risk prevention capabilities need to be strengthened, so it is necessary to build a complete and efficient green financial system from the perspective of risk prevention and control.

(1) Cultivate a green financial institution system

Green financial institutions refer to financial intermediaries engaged in green finance-related businesses and are part of the green financial system. Engaging in financial business will inevitably encounter various financial risks. The consequences of a financial institution's risk often exceed its own impact. —Once a systemic risk occurs and the financial system fails to function, it will inevitably lead to chaos in the entire social and economic order and even trigger a serious political crisis^[7]. Therefore, it is necessary to cultivate a system of green financial institutions and improve the risk prevention and control capabilities of green financial institutions so that they can better serve the development of green finance.

Cultivating a green financial institution system can draw on the experience of developed countries. One is the leading role of policy banks in green development. The German Renaissance Bank is a typical representative of policy banks leading the development of green finance. The German financial support for green finance is mainly entrusted to the German Renaissance Bank for specific operations^[8]. The German Renaissance Bank independently seeks high-quality green projects and enterprises to invest, or independently develops related green financial products. The process is open and fair, although it has a policy mission. However, the use of funds follows the principle of market-oriented operation, and guarantees the efficient and fair use of related funds. The second is to set up professional institutions for green finance and economic development. A typical example is the Polish environmental bank, which was established to provide green financial services for the society. It has professionals in the environmental field and not only provides financing services for green projects, but also provides technical consulting services. The bank also has certain charitable attributes. By providing preferential interest rates lower than the market interest rate, due to its strong professional talent team and social resource integration capabilities, it can comprehensively consider economists and environmental protection professionals in the project review. Opinions, fully tap the potential of the project, and have a higher efficiency of capital use. Therefore, its operation can still obtain a certain rate of return. Compared with commercial banks, policy banks and specially established environmental protection banks are more professional in green financial services and have lower requirements for profitability. They can provide services for green projects with low profitability and high social effects. It cooperates with commercial banks to fill in the gaps in non-profit green projects, and provides technical consulting services to help commercial banks identify and prevent and control risks and drive the rapid development of the green economy. Based on the experience of developed countries, China can cultivate green financial institutions from three aspects: first, encourage existing financial intermediaries to actively participate in green financial businesses, and encourage professional institutions to provide technical support for green financial businesses, which will effectively reduce transaction costs and projects risk. Secondly, cultivate professional intermediary institutions based on green financial services, such as third-party certification agencies, green credit rating agencies, professional methodological research institutions, and independent green financial business registration and settlement platforms; finally, establish policy-based green financial institutions to provide Policy financing services to support the development of the environmental protection industry. A complete and efficient green financial institution system can more effectively prevent system risks and mitigate the spread of financial risks among green financial institutions.

(2) Enriching the service system of green financial products

Green financial products and services are the basic elements of green finance. Only in the presence of green financial products and services can green financial market entities carry out financial activities, otherwise financial transactions cannot be realized. The richness of green financial product services in the green financial market directly affects whether it can meet the diversified investment needs of market participants and achieve diversified investment, thereby reducing financial risk^[9]. If there are a variety of green financial products in the green financial market, investors can invest funds in a variety of financial products based on their own needs and portfolio theory, so that the risks of various financial products can be hedged, thereby reducing investment risks. On the contrary, if there are only a few financial products in the market, and

investors do not have enough products to choose from, they will not achieve the purpose of diversifying investment and reducing risks, and there will be higher risks in the entire financial system. In addition, the demand for capital in the development of green finance has the characteristics of large investment amount, long investment period, and low initial rate of return. Therefore, to prevent green financial risks, there must be various types of financial products in the market, and a rich green financial product service system plays an important role in the construction of a green financial system.

my country's green finance development is relatively short, and the market system and mechanism are still not perfect, which directly leads to the current single type of green financial products and small development scale. In recent years, with the vigorous promotion of the government and the active participation of market players, domestic diversified green financial products and tools and a multi-level integrated financial service system have been rapidly formed, and related innovations have been continuously expanded^[10]. Although the Chinese government has continuously introduced new green financial products and services to promote the development of green finance, we still have a certain gap compared with Western developed countries. Green credit is the core of my country's current green finance development. There are still few green financial products such as green bonds, green insurance, energy-saving and environmental protection stocks, and green financial derivatives such as carbon futures options are even more scarce. Therefore, my country needs to strengthen the innovation of green financial products to make our green financial product services more abundant. Foreign countries have always been ahead of domestic innovations in green financial products, so my country should also refer to its advanced achievements to enable financial institutions to actively develop green financial products. In addition to the common green credit, we should actively develop green securities, green insurance, green funds, carbon finance, etc., and strive to make investment and financing of green projects satisfied, infiltrate green concepts into new financial products, and constantly improve green finance market. Small and medium-sized green enterprises have weak economic strength, it is more difficult to lend to financial institutions, and face difficulties in financing^[11]. In order to reduce the risk of loans to financial institutions, the government can provide guarantees to promote the expansion of green financial markets. It is also possible to introduce professional talents from abroad, and then carry out collective professional skills training, so that the green financial R & D team gradually matures, starting with basic financial products to gradually develop green financial products suitable for my country's financial market.

(3) Developing green financial market system

Green financial market refers to the market formed by investment and financing activities to protect the environment (including water, atmosphere, forest, soil, etc.) or consider environmental factors. It is the main source of green financial risks. But the perfect green financial market can help to realize risk dispersion and risk transfer. First of all, the development of green financial market can promote the diversification of investors' financial assets and the decentralization of financial risks. Secondly, the development of green financial market has opened up the way for investment diversification, financial asset diversification and risk decentralization of green financial institutions, and provided conditions for sustained and stable economic development. Finally, investors can choose a variety of financial assets to invest in the financial market to enhance their investment awareness and risk awareness. Therefore, the development of green financial market system and the establishment of a sound and efficient green financial market are indispensable in the construction of China's green financial system.

The development of green fund market also shows a huge explosive force. The green insurance market and carbon financial market have developed steadily. At present, the capital bottleneck is a big challenge for green and low-carbon development. The lack of capital can not support the construction and development of green projects, which will cause serious environmental risks. Therefore, it is necessary to develop green financial market and broaden green financing channels. China should promote cooperation between the government and social capital, accelerate the establishment of a unified and standardized multi-level green financial market, including the

construction of green transformation of banks, green bonds, green funds, green insurance, green guarantee system and carbon financial system, refine financial and financial support policies, improve the construction of bond, equity, fund and insurance markets, and actively develop emissions trading. Accelerate the establishment of efficient green and low-carbon trading market, meet diversified and multi-level investment and financing needs, improve the overall competitiveness of the market, and let the market play a decisive role in resource allocation[12]. 2016.. For the green credit market, China should gradually explore measures to support the development of green credit, such as re lending and establishing specialized guarantee mechanism, and establish a credit business system and risk management framework dominated by the concept of green credit; the establishment of green credit statistics, reporting system, assessment and accountability mechanism, and the practical implementation of green credit; the exploration of green credit into the macro Prudential evaluation framework, and the implementation of green credit key indicators evaluation results, bank green evaluation results as an important reference, into the relevant indicator system, improve and support green credit and other green industries. In order to reduce the risk of the green credit market, we should establish the incentive mechanism and the restraint mechanism to restrain the loans of industries with high pollution, high energy consumption and overcapacity. For the green bond market, we should strengthen the coordination among departments, improve and unify the definition standard of green bond. In addition to the definition of green bond and issuance project standard, we also need credit enhancement tools such as capital investment, information disclosure, third-party certification, credit rating, green bond index, guarantee, subordinated bond and reinsurance, environmental benefit evaluation and project evaluation. And the evaluation system of the use of funds and other aspects; improve the relevant rules and regulations of green bonds, will help to reduce the cost of green bond financing incentive mechanism as soon as possible through the system framework to be clear, in order to prevent the risk of green bond market, promote the development of green bond market^[13].

For the green fund market, we can consider to set up guarantee fund, including green small and medium-sized enterprise credit guarantee, green bond, green project guarantee, etc., and through comprehensive adjustment of market-oriented and differentiated guarantee policies, subsidy policies, tax preferential policies, etc., use guarantee fund to effectively solve the financing problem of environmental protection enterprises, especially small and medium-sized enterprises; establish professional green Color guarantee agencies, or entrust specialized agencies to provide guarantee services, or multi-level governments jointly invest to establish green project risk compensation fund, effectively protect the interests of investors and reduce the market risk of green fund.

(4) Improve green financial policies and laws and regulations

To establish and improve the green financial system, we need the supporting support of financial, financial, environmental protection and other policies and relevant laws and regulations, and solve the environmental externalities of the project through the establishment of appropriate incentives and constraints. Whether the green financial policies and laws and regulations system are sound or not plays an important role in the prevention and resolution of green financial risks and the sustainable development of green finance. Only a sound green financial policy and laws and regulations system can comprehensively regulate and restrict the behavior of market subjects, reduce the risk of green finance, make the green financial market operate orderly and green finance develop healthily. Therefore, in order to prevent green financial risks, it is very important to establish and improve green financial policies and laws and regulations system.

In August 2016, seven ministries and commissions including the people's Bank of China, the national development and Reform Commission and the Ministry of environmental protection jointly issued the guidance on building a green financial system, which raised the construction of a green financial system to a national level, became the first relatively complete government led green financial policy framework in the world, and further deepened the top-level design of green finance. Green finance has been upgraded from a concept to a national strategy, and supporting policies and measures in related fields are gradually being introduced and implemented. However, it is still a short time for China to have a clear understanding of the importance of green finance, and the legal

policy system is not perfect. Although China has issued policies and laws and regulations related to green finance, there are problems of weak operability and pertinence. Most of the legal policies lack detailed and guiding operation, which directly leads to poor execution. Green finance can't get a real long-term development without a sound legal system, and it needs to specify specific operations, which is the essential basic condition to support the long-term development of green finance. When environmental protection enterprises lend money, the corresponding policy support of the government is less, the risks of commercial banks and other financial institutions in the process of providing green financial services, and the government has not given corresponding subsidies and tax reductions and other preferential policies, all of which increase the risk of green finance and seriously hinder the development of green finance. At present, most of the relevant documents issued by the State Council are not authoritative enough. At this stage, the government has paid enough attention to the development of green finance, but still can not ignore the improvement of the legal policy system. The construction of laws and regulations is an important foundation to promote the development of green finance. Compared with the mature laws and regulations system of western developed countries, the relevant laws and regulations in China are still relatively vacant at this stage. First of all, we should establish and improve the relevant laws and regulations of green finance, so that financial institutions and environmental protection enterprises are no longer blind. Secondly, there is no doubt that the government's policy support has irreplaceable significance for the development of green financial market^[14]. The state should establish and improve the incentive and restraint mechanism, and can use the form of funds to support the development of green finance. Financial institutions should punish those enterprises and projects that will cause environmental pollution. Finally, the system of green financial risk management is missing, the necessary conditions for strengthening financial risk and environmental risk management and control are lacking, and a regulatory system of financial and ecological system coordination has not been established. The existing policies and regulations are limited to the control of commercial banks on the impact of financing parties' behaviors on the ecological environment, while the lack of a binding evaluation system and governance system of green finance itself on the environmental impact, the absence of external control will cause environmental risks, and it is difficult to form rigid constraints and achieve the expected goal of ecological environment construction. Therefore, it is necessary to establish and implement rigid constraints, accelerate the construction of government policy incentive system, third-party risk assessment system, project operation performance evaluation system, financial institution technology innovation system, system constraint system of cooperation between government and financial institution, public opinion supervision system of social organization and public participation, and related information disclosure and sharing platform, so as to form green financial risk management The incentive and constraint comprehensive governance system of control.

(5) Improve the green financial supervision system

Green financial supervision plays a vital role in the prevention of green financial risks. In order to prevent and resolve the various risks faced by the development of green finance, financial supervision is essential. Green financial supervision can maintain the healthy operation of the green financial industry, minimize the risks of the green financial industry, protect the interests of financial institutions and investors, promote the healthy development of the financial industry and economy, and ensure fair and effective transactions and stop fraudulent activities. Or inappropriate transfer of risk. Whether the green financial supervision system is perfect directly affects whether green financial risks can be effectively prevented and controlled. A complete green financial supervision system can comprehensively monitor the operation of the entire green financial market. It can be predicted before the emergence of green financial risks, or can be monitored when the risks have just emerged, and then the risks are strangled in the cradle. It can also effectively manage and control the spread of risks after the occurrence of green financial risks, thereby reducing the risks of the green financial system. Therefore, in order to effectively prevent green financial risks, it is necessary to build a perfect green financial supervision system.

The development of green finance poses new challenges to China's existing financial regulatory

system, including the regulatory system, regulatory cooperation, and international regulation. As a new type of business for financial institutions, green finance lacks the corresponding green finance laws and regulations^[15]. Local governments should introduce a supervision system for green financial businesses of financial institutions to prevent the occurrence of related-party transactions and corruption between financial institutions and enterprises. Financial institutions operating in violation of regulations may consider eliminating preferential measures such as financial discounts, tax incentives, and financing guarantees. To improve the green financial regulatory framework, on the one hand, we should learn from the existing regulatory experience, and on the other hand, we should formulate regulatory laws and regulations, adjust the regulatory methods, and innovate the regulatory concept in light of the unique risks and special operating modes of green finance. For example, in the new field of green finance, business boundaries have become more unclear, many transactions involve multiple parties, and comprehensive coordination of supervision is even more important. In addition, green finance is based on the international financial market, so we must pay attention to international coordinated supervision during the supervision process. In order to make China's green financial supervision more comprehensive and effective, consider further improving external supervision, such as the establishment of self-regulatory institutions such as the Green Finance Association, and the establishment of a market-based credit reporting system. The regulatory department should strengthen the tracking and supervision of the direction and effect of the use of funds. In the process of supervision, as many third-party green assessment agencies as possible should be used to assess the issuer's financing status and the use of funds, and constantly improve the supervision related to green finance. Coordination mechanism, information and statistical data sharing and analysis and early warning mechanism, fund utilization supervision and evaluation mechanism, through the comprehensive use of macro-prudential and micro-prudential supervision tools, unified supervision rules and standards, and strengthened information disclosure requirements, etc., effectively reduced the leverage ratio of green projects Financial risks such as excessive, idle capital and "green washing".

Conclusion

The construction of the green financial system should take into account the organic combination of green financial innovation and financial risk prevention, and constantly improve the multilevel risk prevention system that combines the external supervision of the government and financial regulatory authorities and the internal risk control of financial institutions to promote the development of green related information and statistical data Sharing, strengthening the supervision and coordination of green financial business and products, focusing on strengthening the supervision and evaluation of the use of green funds, improving the transparency of fund use, preventing "green washing", misappropriation of funds and idling problems, and firmly guarding against green financial risks Bottom line^[16].

Strictly implement and strengthen the accountability system, and establish a good institutional barrier for green financial norms, healthy and sustainable development. It is necessary to give full play to the forces of the market and the government to build a perfect and efficient green financial system, focus on improving the system and mechanism, and enhance the market attractiveness of green financial development. First of all, it is necessary to further promote the positive incentive mechanism of green financial development, reduce the cost of green financing, and enhance the sustainability of green-effect business. Secondly, increase the innovation of green financial products and services to provide green projects and investors with more diversified and diversified green financial products to improve financing convenience. Third, break the green investment and financing bottleneck caused by information asymmetry, effectively restrict polluting investment, and prevent the risk of "green washing". Fourth, further enhance the ability and level of financial institutions in green financial product development, environmental risk management, green sustainable investment, etc., and train and foster more professionals in the field of green finance. Fifth, continue to deepen international cooperation in green finance.

References

- [1] Tian Ze, Wei Xiangyu, Ding Xuhui. Evaluation of green development index of China's regional industry and analysis of influencing factors [J]. Ecological economy, 2018 (11)
- [2] Shi Dan. China's leading role in energy transformation, risk evolution and countermeasures [J]. China energy, 2017 (11): 16 + 22-26
- [3] Yao Jingchao, he Wenhui, Yang Yunlong. Feasibility study on the establishment of green financial business unit of commercial banks [J]. Western finance, 2017 (4)
- [4] Li Bingqian. On the development of China's green financial system [J]. Market Forum, 2018 (6): 44-45, 48
- [5] Zhang Le. Strategic thinking on the development of green finance for regional small and medium-sized banks [J]. Gansu finance, 2017, 000 (010): 34-37
- [6] Hu Yucong. Current situation, challenges, countermeasures and prospects of green finance development in China [J]. China collective economy, 2019, 000 (002): 109-110
- [7] Dong Xin. Existing problems and system construction of green finance [J]. Contemporary economic management, 2015, 37 (009): 94-97
- [8] Xu Qing. Research on supply side structural problems of green finance development in China [J]. Hainan finance, 2017, 000 (010): 35-41
- [9] Gansu Institute of finance. Summary of expert opinions of the 4th northwest Financial Forum in 2017 [J]. Gansu finance, 2017 (11): 8-11
- [10] Li Wentao. Challenges and Countermeasures of green finance development in China [J]. Banker, 2018, 000 (010): 93-95
- [11] Liu Renzhong, Qu Xiuping. Research on the development status, problems and Countermeasures of green finance in China [J]. Economic Research Guide, 2019 (24)
- [12] Zhang Yun. Research on green credit product innovation of China's commercial banks [D]. 2016
- [13] Feng Shang. Analysis of the promotion value of green asset securitization [D]. 2018
- [14] Chen Chunjin. Construction of credit risk evaluation index system of Internet financial ecosystem [J]. Economic Research Guide, 2019
- [15] Wang Nan Nan. Analysis of mixed governance mode of green financial risk control [J]. Journal of Changchun Financial College, 2017 (2): 5-9
- [16] Chen Yulu. Give full play to the strength of the market and the government to build and improve an efficient green financial system [J]. Financial circles: Academic Edition, 2017 (08): 12-13