Using Big Data Technology to Assist in the Analysis of China's Green Finance Development Issues and Path Innovation

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Abstract. With the deepening of global economic cooperation and the emphasis on ecological environment, green finance has not only become an important driving force for green development, but also one of the main ways to achieve green supply chain management. Therefore, in the context of the new normal, how to promote the development of green finance has become an important issue. This paper outlines the concept of green finance and on this basis, uses big data technology to assist analysis the opportunities and challenges for the development of green finance in China, and puts forward strategies for the innovative development path of green finance in China under the new normal conditions.

Keywords: Green Finance Development, Path Innovation, Big Data Technology, Computer

1. Introduction

In recent years, with the rapid development of China's economy and society, environmental pollution and ecological problems have become increasingly serious, among which air pollution, water shortage and other issues have become increasingly prominent, which has attracted great attention from the government and widespread social concern. Under the increasingly tight constraints of resources and environment, the concept of green finance has been put forward and become an important part of future financial system innovation. Green finance is also known as eco-finance, which mainly refers to the transformation of various financial activities to show the concept of sustainable development[1]. At the same time, introducing resource conservation and environmental purification into the financial industry, innovating service forms, optimizing investment methods and directions, improving resource utilization efficiency, and minimizing environmental pollution as much as possible, so as to transform the economic model and ultimately achieve sustainable economic development[2]. Thus, under the new normal situation, green finance has attracted more and more attention, and has risen to the national strategic goal and development plan, becoming a major direction for the long-term development of the financial industry in the future. Therefore, it is of great practical significance to study how to better promote the development of green finance[3].

2. Problems in the development of green finance in China

2.1. The concept of green finance is difficult to penetrate in a short time

For market participants, especially the traditional industries that need upgrading and transformation, in order to achieve the goal of energy saving and emission reduction, a large amount of fixed costs are needed, and the returns from these inputs are difficult to show in the short term. On the one hand, it increases the credit
difficulty of enterprises, especially small and medium-sized enterprises. On the other hand, it also increases the risk of financial institutions. In addition, it is difficult to share the relevant information among the subjects, which makes the communication cost and credit cost increase greatly. All these factors make the departments lack the endogenous motivation to actively participate in green finance in a short time\cite{4}.

2.2. Unbalanced economic structure and regional development
For a long time, China's economic growth has been dominated by industry and investment, especially the priority of heavy industry development, focusing on investment growth and scale expansion, low resource utilization and heavy environmental pollution. How to accelerate the greening of traditional industries while promoting green industry is the key to the development of green finance under the new normal conditions. At the same time, China's economy is also facing the imbalance between urban and rural development and regional development. Most of the central and western regions are still in the middle and late stages of industrialization, facing greater environmental pollution problems, and relatively lack of driving force and policy support for the development of green finance.

2.3. Environmental pollution presents complexity and long-term
In recent years, environmental pollution has become more and more serious, showing complex characteristics such as multi-level, concentrated outbreak, which often leads to the emergence of new and old environmental problems together, which makes the cycle of pollution control longer, and also causes ecological damage and resource waste. Environmental pollution presents the characteristics of diversification, expansion and persistence. In addition, in order to solve many domestic environmental problems, we need to actively respond to the challenges posed by global climate change and participate in global environmental governance, which also increases the difficulty of the development of green finance.

2.4. The construction of green financial system and mechanism still needs to be improved
Firstly, the current policies have narrow coverage and poor pertinence. Relevant documents are staying at the policy link, and have not basically risen to the legal level. Secondly, green finance and green procurement, as two grasps of green supply chain, lack of assistance between them, and it is difficult to achieve synergistic effect. Thirdly, there are information barriers among green financial entities, and related environmental protection data, credit data and policy data cannot achieve effective flow among administrative departments, financial institutions and enterprises.

3. Opportunities for China's green finance development
At present, the development of green finance has laid a certain practical foundation in the formulation of laws and policies and green financial practice, and has achieved some experience and results\cite{5}. At present, there are two main opportunities for the development of green finance in China, one is the institutional environment, and the other is the social atmosphere, as shown in figure 1.

![Figure 1. Opportunities for China's green finance development](image)

3.1. Institutional environment of green finance development is forming
The overall strategic layout of the eighteenth national congress of the communist party of China clearly integrates the construction of ecological civilization into the economic, social, political and cultural fields. Especially, it emphasizes the decisive role of the market, replacing the basic role previously mentioned, which is of great significance for accelerating the construction of ecological civilization system and promoting the development of green finance. In addition, the balance sheet of natural resources, green finance and taxation, government environmental auditing and a series of systems and rules conducive to the development of green finance are being studied and formulated. All these indicate that the legal environment of green finance development will be further improved, and provide a powerful impetus and guarantee for government departments, financial industry, local governments and enterprises to change their economic development concept and promote green finance development.

3.2. Enhanced public awareness of environmental protection created good social atmosphere.
In recent years, with the increasing awareness of environmental protection of the public, excellent environmental quality has become the common pursuit of urban and rural residents. The public has also begun to participate more and more in policy formulation, monitoring the environmental behavior of government and enterprises, and paying attention to environmental information disclosure and environmental impact assessment of major projects. At the same time, the gradual improvement of environmental awareness and living standards also prompted the public to pay more attention to green travel and green consumption, which laid a solid social foundation for the development of green finance in China.

4. Innovative path strategy of green finance development in China

4.1. Enhance the enthusiasm of all parties to participate in green finance
Firstly, financial institutions and enterprises responding positively to the green development should give solid support in financing cost, information talents, reputation recognition and other aspects, so that they can get corresponding advantages in terms of funds, publicity and market expansion. Secondly, it should strengthen media propaganda and guidance, make full use of new media means such as websites, microblogs, public numbers, short videos, and combine positive and negative reinforcement. Thirdly, in view of the current situation that there are fewer green financial talents in enterprises, it is explored to carry out propaganda and training for relevant personnel of enterprises, and create a variety of opportunities for learning and communication.

4.2. Establish and perfect the green financial system
Firstly, green finance in China is still in its infancy. There are still a lot of policy gaps, especially the legal gaps, which need to be filled. The top-level design needs to be improved. It may take a long time to explore, in this transition period, the National Development Bank, the Green Gold Committee and other departments can take part in industry guidance functions first. Secondly, green finance and green purchasing should be linked to give full play to the value of green supply chain. Green supply chain can integrate upstream and downstream transaction and green related data, find investment opportunities of environmental energy and identify environmental risks, so as to provide support for financing. Finally, break the information barriers between green financial entities, such as using the credit platform of the People's Bank of China to collect the corresponding data in time, and then provide more accurate data for green financial participants. In addition, financial institutions and enterprises should provide green financial feedback to the corresponding departments.

5. Conclusion
The concept of green development has gradually penetrated into China's social development. Opportunities and challenges coexist in the development of green finance. There are multiple opportunities and favourable conditions for development. At the present stage, green finance is still in its early stage of development. It encounters many problems and challenges. The problems of development should be solved in the process of development. Under the background of the new normal in China, it need to take corresponding measures to improve the enthusiasm of all parties to participate in green finance, actively use technology such as computer big data, establish and improve the mechanism of green financial system, break through innovation,
promote the diversification of green financial products, actively adapt to the new normal, constantly create favourable conditions, and promote the development of green finance in our country.

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