Proceedings of the 2nd International Conference on Management Research and Economic Development
DOI: 10.54254/2754-1169/88/20240908

Analysis of Green Finance Innovation Development

-- Taking Industrial and Commercial Bank of China as an Example

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Abstract: In recent years, the growing global concern for environmental issues has spurred the exploration and implementation of sustainable development practices in various countries. As a significant player in the financial industry, commercial banks like the Industrial and Commercial Bank of China play a pivotal role in promoting green finance and credit. Given the escalating prominence of global climate change, resource scarcity, and environmental pollution, there is an increasing focus on the social responsibility of financial institutions. Consequently, green finance has emerged as a financial model for sustainable development that has garnered widespread attention. Therefore, by conducting an in-depth study of the experiences of the Industrial and Commercial Bank of China in the fields of green finance and green credit, researchers can enhance their understanding of the vital role that financial institutions play in sustainable development. Simultaneously, this research serves as a valuable reference and a source of experience for other banks and nations when formulating relevant policies.

Keywords: Green finance, industrial and commercial bank of China, green development

1. Introduction

In recent years, the growing consensus on environmental issues, increased action towards addressing climate change, and the pursuit of the United Nations 2030 Sustainable Development Goals have brought significant attention to green finance. The terms "sustainable finance," "environmental finance," "climate finance," and "green investment" are used interchangeably to refer to this field. In 2016, during the 11th G20 Summit held in Hangzhou, China, green finance gained widespread publicity and was extensively discussed. The variations in conceptualizing green finance reflect different aspects valued by researchers, resulting in diverse understandings and interests within this domain.

The International Finance Corporation defines green finance as investment products that safeguard the environment while ensuring social justice and promoting economic prosperity. Lindenberg interprets this concept as financial institutions' policies aimed at fostering a sustainable economy [1]. The term "financial" emphasizes capital allocation and investment through the financial system. Banks play an intermediary role by mobilizing idle funds from society for secure economic development. The adjective "green" signifies that financial resources should be allocated across

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various sectors such as environmental protection, clean energy, green buildings, climate change mitigation/adaptation efforts, social inclusion initiatives, and corporate governance.

In the banking sector, green finance is gaining priority as it aims to safeguard banks and society at large against unforeseen future economic challenges arising from unpredictable global financial events, the climate crisis, social unrest, and corporate scandals. Moreover, the traditional banking model is transitioning towards offering environmentally friendly products. At the One Earth Summit in Paris in December 2017, global central banks and key players in the banking industry committed to supporting the promotion of eco-friendly financial products. The World Bank also declared its intention to cease providing support to companies and countries that do not prioritize environmental protection. Financial institutions such as JPMorgan Chase, Societe Generale, HSBC, Deutsche Bank, BNP Paribas, and Credit Agricole have reported adopting new corporate strategies and policies to embrace environmentally friendly products while discontinuing funding for individuals and corporations that contribute to environmental degradation. Some central banks like China's People's Bank of China have developed and implemented regulations guiding green financial transactions within the banking sector. However, despite these significant commitments' importance, a considerable number of banks worldwide have shown no inclination towards developing green financial products yet. Consequently, green finance has not been widely implemented across many regions due to challenges such as the lack of uniform standardized regulations on a global scale.

China has explicitly outlined its commitment to developing green credit and promoting the growth of green finance. The financial system plays a crucial role in supporting and safeguarding the country's economic development. Among the financial institutions, commercial banks hold 90% of the total assets, making them the backbone of the financial sector. Commercial banks not only shoulder the primary responsibility for fund allocation but also bear significant duties in fostering the development of green finance.

With the ability to effectively control the flow of funds, commercial banks can prevent the blind expansion of industries characterized by "high consumption and high investment, leading to a surplus of production capacity." By supporting the development of environmentally friendly enterprises, commercial banks can channel funds to low-carbon and sustainable industries, while also promoting the upgrade and transformation of polluting industries. This not only contributes to enhancing the innovation, asset quality, and competitiveness of commercial banks but also positively impacts the development status of the real economy. The smooth development of the real economy is directly linked to the operational risks faced by commercial banks.

As China's economy enters a period of industrial adjustment, the era of rapid GDP growth has come to an end. To achieve harmonious development between the economy and the environment, China has implemented a series of regulations related to energy conservation, emission reduction, and industrial structure adjustment. These regulations restrict industries with severe pollution and resource waste, consequently affecting the profitability of commercial banks. Therefore, commercial banks urgently need to identify new profit models and sources of revenue.

Against the backdrop of the global exploration of green finance, studying the current implementation status of green credit by commercial banks is beneficial for the rapid and healthy development of China's economy. It also contributes to the protection of the country's resources and environment.

2. Literature Review

In the current economic environment and prominent environmental problems, the development of green credit is imperative. Consequently, research on green credit in China has gradually gained momentum as a hot topic. In comparison to European and American countries where research on green credit is relatively mature with a well-established theoretical framework and analytical model,

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China's research may be considered relatively late; however, it has also generated a series of related theories. Overall, there remains a lack of clear understanding among Chinese individuals regarding green credit implementation, with suggestions primarily concentrated at the macro level while lacking micro-level advice. This paper aims to analyze the development of green credit within the Industrial and Commercial Bank of China as an example and examine its impact on banks. Furthermore, it provides valuable insights into other banks' endeavors toward developing green credit.

Oliver Sheldon proposed the notion that businesses should shoulder social responsibility [2]. This concept emphasizes that in the course of corporate development, prioritizing profitability alone is insufficient; it is equally crucial to consider the broader impact on societal and environmental aspects during business operations.

Marcel Jeucken introduced the concept of sustainable finance, primarily emphasizing the interconnection between banks and sustainable finance [3]. The article underscores that sustainable finance, within financial institutions such as banks, leverages the ability to control the flow of funds to manage the utilization of credit funds. The focal point is directing credit funds predominantly toward environmentally friendly enterprises while minimizing funding for polluting industries. This aligns with the current economic development objectives in China.

In a comparative analysis conducted by Scholtens and Dam on 51 financial institutions implementing the "Equator Principles" and 57 institutions that did not, it was observed that those adhering to the principles exhibited stronger social responsibility awareness and enjoyed higher social reputations [4].

Cao Dawei and Hu Naiwu emphasized the indispensability of green credit policies for commercial banks in implementing sustainable finance in China. Commercial banks are required to undertake their social responsibility [5]. Sabine McNeill suggests that the government should guide and transform production methods, advocating the use of a "green credit" model rather than relying on overly coercive environmental tax policies [6].

Chami and colleagues argue that the integration of environmental finance by financial institutions serves a dual purpose: meeting stakeholder expectations and improving social reputation. Additionally, they emphasize that this strategic decision is driven by the pursuit of improved risk control, ultimately contributing to the sustainable development of the financial institution [7]. "Green credit" holds significant importance for the development of industries such as transportation, construction materials, and clean energy, contributing substantially to these sectors.

3. The Related Concept of Green Finance

3.1. Concept and Connotation of Green Finance

Green Finance refers to the principle the economy can develop through the innovation of the finance activity [8]. Green Finance is also known as ‘environmental finance’ or ‘sustainable finance’. This concept introduces environmental protection and resource conservation and mainly promotes Sustainable Development in the classic financial field. In addition, it constantly innovates financial goods and services, improves the fund investment direction, and optimizes the efficiency of capital used. The development of Green Finance effectively reduces environmental pollution such as carbon emissions and enhances the ability to protect the ecological environment. Green Finance promotes the sustainable development of the Social Economy Commission through changing the economic development pattern. Green Credits, Green Financing, Green Bonds, and Ecological Investments are the main forms of Green Finance.

Compared with traditional finance, green finance is characterized by its development from the overall and long-term financial approach. Through announcing the regulations by governments and relevant financial regulators, guiding micro individuals in the processes of financial activities to

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enhance the awareness of environmental protection, to realize the sustainable development of economy and society.

3.2. Sustainable Development Theory

Sustainable Development Theory refers to the development that meets the demands of the present without jeopardizing the ability of future generations to meet their needs. The three typical principles are equity(Balance of Economic, Social, and Environmental Dimensions), Environmental Sustainability, and Commonality (Participation and Collaboration). Its ultimate goal is to boost Global Sustainable Development and achieve coordinated, fair, efficient, and multi-dimensional development.

Eco-development, the preconceived manifestation of sustainable development, refers to development that is not harmful to the environment and conforms to the law of ecology. Sustainable development is the deepening of the connotation of ecological development.

The term ‘sustainable development’ was first used by Barbara Ward. In 1980, the International Union for Conservation of Natural Resources (IUCN), the United Nations Environment Program (UN-EP), and the World Wildlife Fund (WWF) jointly published the ‘World Natural Resources Conservation Strategy’ which fully reflected the idea of sustainable development, and defined sustainable development as ‘To improve the quality of human life by living in a condition that does not exceed the carrying capacity of maintaining ecosystems’. At the same time, it proposes nine basic principles for sustainable survival.

In 1987, the World Commission on Environment and Development published the report ‘Our Common Future’, and sustainable development was first introduced into the political and economic fields. In the Statement on Sustainable Development issued in May 1989, the concept of sustainable development was elevated to the level of an international strategy. In 1992, the United Nations adopted a programmatic document, Agenda 21, to guide the sustainable development of all countries. In 1994, UNDP put forward the new concept of ‘Sustainable human development’, which further extended the concept of sustainable development to the social field. Since then, the concept of sustainable development has gradually matured.

Although the definition of sustainable development is short, it has extremely rich connotations. Its three basic points are need, limitation, and equity. Among them, ‘need’ means that development goals should meet human needs. ‘Limitation’ mainly emphasizes that human behavior is restricted by nature. And ‘fairness’ refers to fairness between generations, between humans and other species, and between different countries and regions.

3.3. Green Credits Theory

Green credit (Green Credit policy). To curb the blind expansion of high pollution and high energy consumption industries. Also, Green Credits become one of the main economic means of pollution reduction.

Green credit is also often referred to as ‘sustainable financing’ or ‘environmental financing’. The goal of green credit is to encourage companies to reduce energy consumption and conserve resources. At the same time, it guides enterprises to take the initiative to include ecological and environmental factors in business accounting and decision-making, to avoid falling into a vicious circle of pollution first, treatment later, and pollution again.

The essence of green credit lies in correctly handling the relationship between financial development and sustainable development. It is mainly for financing ecological protection, ecological construction, and green industry development. After the Industrial Revolution in the 18th century, the problem of environmental pollution became increasingly serious, and a series of global environmental problems such as environmental deterioration and ecological imbalance gradually emerged. People generally realize that past production and consumption methods have caused great harm to the environment. To promote the coordinated development of human beings, economy, and nature, people actively advocate green civilization, implement sustainable development strategies, and tilt towards green environmental protection industries and green economy in terms of policy and public opinion guidance.

4. Industrial and Commercial Bank of China

4.1. Industrial and Commercial Bank of China

The Industrial and Commercial Bank of China (ICBC) is one of the four major state-owned commercial banks in China, established on January 1, 1984. Its establishment can be traced back to the early stages of China's financial system reform. In the context of economic reform and opening up, the Chinese government decided to establish state-owned commercial banks to promote economic development and support domestic and foreign trade. The establishment of ICBC signifies a new phase for China's banking industry towards full marketization.

At its inception on January 1, 1984, ICBC was officially founded with a registered capital of 2 billion CNY and headquartered in Beijing. This initial capital scale marked a significant milestone in China's financial system reform at that time. As a state-owned bank, ICBC has been entrusted with the mission to provide comprehensive financial services supporting national economic construction and financial system reform.

During its initial stages, leveraging its extensive network, robust capabilities, and profound financial expertise, ICBC actively served both domestic and international trade as well as enterprise development. Through solid foundational work and continuous innovation efforts, ICBC has gradually evolved into one of the world's largest banks with substantial asset scale and global business presence.

Over the decades since its establishment, ICBC has consistently grown by achieving remarkable milestones not only within domestic markets but also internationally in China while actively engaging in fintech advancements and digital innovations aimed at providing customers with more convenient and efficient financial services. Overall, ICBC's development exemplifies significant accomplishments resulting from China's financial system reforms alongside economic progress. By the end of 2022, the balance of green credits of ICBC reached 3.98 trillion CNY, maintaining the first scale in the domestic industry and leading the global industry.

4.2. Industrial and Commercial Bank of China

The Industrial and Commercial Bank of China (ICBC) actively responds to the green credit policy and implements various measures to promote green credit. Since 2010, ICBC has formulated a series of regulations and policies tailored for the bank, positioning itself as one of the earliest commercial banks in China to advocate for green credit. These policies encompass strengthening the construction of green credit, supporting energy conservation and emission reduction initiatives, as well as implementing a comprehensive system for classifying and managing loans provided to domestic enterprises with regards to their environmental impact. Additionally, ICBC has established an all-encompassing green credit management system that includes risk classification identification, monitoring and inspection procedures, along with post-loan risk control mechanisms. People have revised and enhanced our green credit classification system while simultaneously implementing environmental protection industrial policies. Furthermore, ICBC has proactively expanded its support towards energy-saving industries such as industrial energy conservation practices, building energy efficiency improvements, transportation energy reduction efforts, manufacturing of energy-saving

DOI: 10.54254/2754-1169/88/20240908

equipment and products, as well as providing energy-saving services. Through the implementation of these policies and measures mentioned above, ICBC's endeavors in promoting green credit business have yielded remarkable results over time. For instance, in 2013, the Industrial and Commercial Bank of China revised 61 industrial-related green credit policies which covered approximately 85 percent of corporate loans offered by the bank; this included areas within the scope encouraged by national-level policies about sustainable development through fostering a greener economy. The People's Bank of China has also issued guidelines on energy-saving credit and established a dynamic monitoring mechanism for green credit. In summary, ICBC has made significant progress in the development of green credit by implementing various policies and measures, resulting in positive outcomes in supporting green industries and promoting sustainable development.

5. Conclusion

This article focuses on the current state of green credit development. It begins by exploring the significance of green credit and its impact on the overall economic environment and future opportunities. Following this, a detailed analysis of green credit development is conducted, with the Industrial and Commercial Bank of China serving as a case study within the domain of commercial banks. The exploration encompasses various facets, including the bank's approach to green credit policies, the procedural aspects of green credit applications, and associated considerations.

Promoting environmentally sustainable credit practices is vital for promoting sustainable development within the financial sector. By prioritizing the innovation of eco-friendly credit products, financial institutions can more effectively align with the principles of low-carbon environmental protection and cater to diverse customer needs. Furthermore, enhancing the expertise and skills of green credit officers is crucial for effectively addressing the intersection of environmental protection and finance.

Additionally, the establishment of robust organizational structures and management mechanisms is vital for optimizing the implementation and quality of green credit programs. This includes the establishment of specialized departments and the implementation of internal controls to ensure the efficiency and efficacy of green credit operations. Moreover, exploring novel approaches to managing environmental risks in the credit process is essential for further enhancing the sustainability of banking operations.

Despite the adoption of measures such as the "one vote veto" system and risk classification frameworks to mitigate environmental risks in the credit process, there remains room for improvement in the implementation of green credit policies and risk management strategies. Continuous innovation, education, and the improvement of organizational practices are therefore crucial for driving the development of green credit and fostering a positive environmental impact within the financial sector.

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