

Synthesis of research on synergistic development of green finance and inclusive finance

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ABSTRACT

The purpose of this review is to provide an overview of the current research on the synergistic development of green finance and inclusive finance. Firstly, the article reviews the definitions of green finance and inclusive finance, as well as the conceptual boundaries of the two, mainly explaining the background, evolution, and the direction of general academic discussions. Secondly, the current status of research on the synergistic development of the two is summarized, with the main aspects being the theoretical framework, the development of the two in the international arena, as well as case studies, and the key challenges and problems of the synergistic development of the two. Specifically, the synergistic development of the two has great significance for the overall financial health of the society, and many countries have started to explore the synergistic development of the two and have shown good results, but the synergistic development of the two cannot avoid the cost of capital and risk management, information asymmetry and uncertainty of project feasibility, supportive policies, and the requirements of the regulatory environment and other aspects. The article concludes with a summary of future research directions for the synergistic development of green finance and inclusive finance, presumably based on the issues of financial product innovation and digital transformation, policy support and improvement of the regulatory framework, comprehensive assessment of environmental and social benefits, and cross-border cooperation and exchange of experience. This review hopes to provide future researchers and policy makers with theoretical frameworks and practical suggestions to promote the deep integration of green finance and inclusive finance in order to realize a more equitable and sustainable financial system.

KEYWORDS

Green finance; Inclusive finance; Synergistic development; Sustainable development

1 Conceptual boundaries of green finance

Green finance refers to a financial service system that promotes environmentally sustainable development through financial activities, covering a variety of forms such as green credit, green bonds, green funds, etc., and is a multi-dimensional and interdisciplinary field.

1.1 Background to the earliest introduction of green finance

The concept and practice of green finance did not emerge overnight, but evolved against the backdrop of growing global concern about climate change and environmental issues. Although it is difficult to pinpoint which scholar first proposed the concept of "green finance", it began with the 1992 United Nations Conference on Environment and Development (the Earth Summit), which adopted Agenda 21, which emphasized green and sustainable development. At this time, the global economy gradually recognized the interrelationship between environmental protection and economic growth, but specific financial concepts had not yet been formed; in 2000, as the problem of climate change became more and more serious, the concept of green finance as a combination of environment and finance began to receive attention. International organizations such as the World Bank and the United Nations began to promote the application of green financial instruments such as "green bonds"; in 2008, after the global financial crisis, environmental and social development issues were reintegrated into the global economic framework, and green finance became one of the key issues in the financial industry.

1.2 Evolution of green finance

This paper on the evolution of green finance is broadly categorized into the early, mid and recent periods based on the information available.

In the early period (1990s to early 2000s), the initial green finance was mainly focused on green debt paper and sustainable investment, with the aim of utilizing financial resources to address environmental issues such as climate change and pollution. It then evolved into the mid-term (mid-2000s to early 2010s), with green finance gradually expanding into areas such as green banking, green debt markets, and climate finance. Organizations such as the United Nations Environment Programme Finance Initiative (UNEP FI) actively promoted the implementation of green finance policies. In recent years (from the 2010s to the present), the system of green finance has been gradually improved, with the development of a variety of financial instruments, such as green investment, environmental risk management, green

credit, green debt, etc., and China and other countries, in particular, have stepped up their efforts to promote green finance policies.

1.3 Earliest conceptualization of green finance

The conceptual definition of green finance was not proposed by one scholar alone, but was promoted and defined by several international organizations and scholars. The United Nations Environment Programme Finance Initiative (UNEP FI) is an important organization in the field of green finance, and UNEP FI (2013) proposed a definition of green finance in its report: 'Green finance refers to all financial activities aimed at supporting environmental sustainability and combating climate change, including green bonds, green investments, sustainable financial markets, etc'.

1.4 Directions for general exploration of green finance

Scholars' understanding and interpretation of green finance are usually explored in the following aspects: 1. green financial instruments and markets, green financial instruments mainly include green debt papers, green credit, green investment funds, etc., which provide financial support for green projects through financial markets; 2. risk management and environmental risks, scholars emphasize that the impacts of climate change, natural disasters and other such environmental risks on the financial market need to be mitigated through green financial policies; 3. policy and regulatory framework, the healthy development of green finance cannot be separated from the policy support of governments and international organizations, and many scholars have studied how to promote green investment in the market with green financial policies and regulatory frameworks; 4. the influence of financial institutions and behaviors, the promotion of green finance also needs the active participation of financial institutions, including banks, investors, insurance companies, etc., and scholars have explored how financial institutions can incorporate green factors into investment decisions and risk assessment, as well as consider their impact on the economy therein; 5. Sustainable development, green finance emphasizes the promotion of environmental protection and sustainable development through financial instruments. Scholars believe that green finance is closely related to the Sustainable Development Goals (SDGs).

In summary, green finance is an interdisciplinary field involving the combination of environmental protection and financial markets. Through financial instruments such as green bonds, green credit and green investment, it promotes global sustainable development and climate change issues, and scholars are currently researching more in the areas of financial instruments, risk management, policy support and financial institutions, and sustainable development.

2 Conceptual boundaries of financial inclusion

2.1 Presentation of financial inclusion

The concept of financial inclusion can be traced as far back as the late twentieth century, particularly in the 1990s, and was driven by a series of studies on poverty and the lack of financial services, especially in developing countries. Financial inclusion emphasizes enabling all members of society (especially low-income groups) to have access to basic financial services, such as savings, loans, payments and insurance, to avoid their exclusion from the traditional banking system.

The concept of financial inclusion has received the attention of many international organizations and scholars, notably the United Nations, the World Bank and the International Monetary Fund (IMF). In 1997, the World Bank's study *Accessibility of Finance* articulated an early vision of financial inclusion that emphasized universal access to and availability of financial services.

2.2 The evolution of financial inclusion

Since the 1990s, financial services have been provided on the basis of "microfinance", focusing mainly on the poor. The most representative one is Grameen Bank in Bangladesh, founded by Muhammad Yunus, which laid the foundation for the development of inclusive finance. 2000 and later, with the advancement of globalization, the definition of inclusive finance was gradually expanded, not only limited to microfinance, but also including the participation of traditional financial institutions, such as commercial banks, in order to achieve the coverage of financial services for all social strata. The aim is to achieve coverage of financial services for all social classes.

2.3 Earliest conceptualization of financial inclusion

One of the earliest conceptual definitions of inclusive finance comes from Muhammad Yunus, who is credited with pioneering microfinance and contributing profoundly to inclusive finance. Yunus's research and practice focuses on the

provision of financial services to the poor, particularly in the areas of lending and savings. In his writings, Yunus has proposed microfinance as an important tool to address poverty problems and promote financial inclusion. The definition of financial inclusion has expanded over time from "the provision of financial services to the poor" to "equal access to financial services for all members of society, especially vulnerable groups".

2.4 General Directions for Exploring Financial Inclusion

The study of financial inclusion involves a number of disciplines and fields, and scholars have explored it in depth from different perspectives. The following are a few major research perspectives.

Accessibility of financial services, with scholars focusing first on the availability of financial services to low-income groups. Inclusive finance not only requires diversification of the supply of financial products, but also emphasizes the need to make these products accessible to groups that are easily excluded from traditional financial institutions, such as poor groups and small and medium-sized enterprises. Affordability of financial services, scholars have also explored the issue of the affordability of financial services, in particular how to make financial services, such as lending interest rates and insurance premiums, affordable to low-income groups. Research in this area focuses on how to improve the affordability of inclusive finance by reducing the cost and risk of financial services. Financial education and financial capacity building, the implementation of inclusive finance is not only about providing financial products, but also about improving financial literacy and capacity building, so that the disadvantaged groups can understand and utilize the financial services to avoid falling into debt distress. The role of financial technology in inclusive finance, with the development of technology, financial technology is seen as an important tool to promote financial inclusion. Scholars have examined how digital finance can reduce costs and increase access to services, and how technology can be used to address traditional challenges in financial inclusion.

In summary, the definition and study of financial inclusion has gradually expanded, from the earliest microfinance to today's comprehensive coverage of financial services for all members of society. Scholars have explored it in depth from a variety of perspectives, including financial accessibility, affordability, financial education, and digital finance, and have provided valuable insights through a number of studies.

3 Sorting out the current state of research on the synergistic development of green finance and inclusive finance

Green finance and inclusive finance have been important issues in the financial sector in recent years, and although they have their own unique focus, they have not lost their intersection, especially in promoting sustainable development and inclusive economic growth. The current research status of synergistic development of green finance and inclusive finance mainly includes the following aspects. From the theoretical framework, although the focus of green finance and inclusive finance is different, based on their common goals, they can realize synergistic development in the following aspects. Promote sustainability and inclusive growth: green finance focuses on environmental sustainability, while inclusive finance focuses on economic inclusion, and the combination of the two can effectively promote the overall development of society. The combination of the two can effectively promote the overall sustainable development of society. Supporting inclusive financing for low-carbon and green projects: the goal of inclusive finance is to provide financial services to groups not covered by traditional finance, while green finance can promote financing support for low-carbon and green projects among these groups. Enhancing financial inclusiveness: green finance can provide financial services for inclusive financial services by innovating financial products (e.g., green bonds, green credit, etc.), provide more flexible financial support for inclusive financial services, so that resources can flow to regions and groups that are more in need of environmental protection investment. International development and case study analysis on the synergistic development of green finance and inclusive finance. Globally, a number of countries and regions have begun to explore the synergistic development of green finance and inclusive finance, and some cases have shown better results. For example, in Europe and North America, the European green financial system is relatively mature, and the use of financial instruments such as green bonds and green funds is becoming increasingly popular. In the area of inclusive finance, some European banks have combined environmentally friendly financial products with inclusive financial policies, such as providing green credit for low-income groups. In China, the synergistic development of green finance and inclusive finance is supported by good policies. For example, the Implementation Program of the Green Finance Reform and Innovation Pilot Zone (Shenzhen) mentions the need to promote the deep integration of green finance and inclusive finance, and to promote the green industry to support the inclusive finance sector. The China Banking and Insurance Regulatory Commission (CBIRC) and other authorities have also encouraged financial institutions to provide financial support to micro and small enterprises, agriculture, environmental protection and other areas. The Central Bank of India has found potential synergies between green finance and inclusive finance, exploring models of green financial

services for rural and impoverished areas by pushing financial institutions to provide environmentally friendly products and services to low-income groups. Presenting key challenges and Issues. Cost of capital and risk management, green finance projects usually have a long payback period, while inclusive finance often faces high credit risk. How to balance risk and return between the two remains a topic worth exploring. Information asymmetry and uncertainty of project feasibility, low-income groups and MSMEs often lack effective experience in environmental project management and feasibility analysis. It may be difficult for financial institutions to assess the actual feasibility of green projects proposed by these groups. Policy support and requirements for the regulatory environment, although countries have taken policy measures to promote green and inclusive finance, there is still a lack of harmonized standards and policy frameworks, especially in areas where green and inclusive finance intersect.

4 Summarize future research directions

Although the synergistic development of green finance and inclusive finance is promising, it still faces many challenges. First, the lack of a unified standard and assessment system makes green financial products insufficiently transparent and affects investor confidence. Second, the risk assessment ability of financial institutions on green projects needs to be improved, leading to uncertainty in the flow of funds. Based on the above issues, future research directions can be roughly categorized as follows. Financial product innovation and digital transformation, with the rapid development of digital financial technology, the combination of digital inclusive finance and green finance may become an important direction in the future. For example, technologies such as blockchain and artificial intelligence can help improve the transparency of green financial products and reduce the service costs of inclusive finance. Fintech can also help inclusive financial institutions to conduct screening and risk assessment of green projects. Policy support and regulatory framework improvement. In the future, the synergistic development of green finance and inclusive finance cannot be separated from policy support. The government can encourage financial institutions to innovate green financial products through financial subsidies and tax incentives, and promote the tilting of financial resources to the inclusive finance sector. At the same time, improving the regulatory framework for green finance and inclusive finance will help standardize the market and reduce financial risks. Comprehensive assessment of environmental and social benefits. Currently, the assessment system for green finance focuses mainly on environmental benefits, while inclusive finance focuses on economic and social benefits. In the future, a more comprehensive assessment system can be constructed to assess the social, economic and environmental benefits brought by the combination of the two, so as to enhance the effect of synergistic development of green finance and inclusive finance. Transnational cooperation and experience exchange, international cooperation in green finance and inclusive finance will further promote the synergistic development of the two, especially in transnational financial cooperation, such as the "One Belt, One Road" initiative, which will help to standardize the market and reduce financial risks. In particular, in transnational financial cooperation, such as the "Belt and Road Initiative", it is worthwhile to further study how to realize the effective combination of green finance and inclusive finance.

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