ISSN: 2688-9323

The Trend of Green Finance Development in China

Zhiwen Ju
Affiliation: American University, Washington D.C., USA
3454876709@qq.com

Abstract

In recent decades, China's economic growth rate has been high, but the environmental cost has been high. At this time, the study of China's green finance is of great significance to social development. However, there is uncertainty about how green finance can be developed most effectively. Therefore, this paper studies the development trend of green finance and analyzes it by province. To this end, we collect unique datasets from multiple sources; analyze the development of green finance in China; and propose several potential solutions to further improve green finance. This paper provides an insightful commentary on the above analysis, with important policy implications for governments, foreign and domestic households. We greatly advance the understanding of how the government should provide some useful guidance for further improving green finance in China.

Keywords

Green Finance; Policy Implications; Environmental Regulations.

1. Introduction

China's financial system plays a key role in supporting sustainable development by minimizing environmental damage and facilitating industrial upgrading from low-end manufacturing to higher-end, higher productivity, and higher value-added manufacturing industries. To achieve this goal, China has implemented a series of policies to support sustainable economic development, such as establishing green finance, promoting green investment, and enforcing environmental regulations.

Green finance, which aims to support sustainable economic development by financing environmental protection projects, is an important part of China's financial system. China's financial system has established a series of financial instruments to support green finance, such as green bonds, green loans and green insurance. Green bonds are used to finance environmental projects, including renewable energy, energy efficiency and sustainable transport. Green insurance helps mitigate risks associated with environmental damage, while green loans are provided to companies undertaking environmental projects.

In addition to green finance, China also promotes green investment as a means to promote sustainable development. The government has formulated a series of policies and initiatives to encourage investment in environmental protection projects, such as tax incentives, subsidies and investment funds. For example, the National Development and Reform Commission has developed a “Green Project List” that sets out the conditions for environmental protection projects that can receive government funding.

China's financial system has also played a key role in promoting industrial upgrading from low-end manufacturing to high-end, high-productivity, and high-value-added "three high" industries. The government provides funding, incentives, and even partial assistance to companies conducting research and development in key industries such as robotics, aviation, and renewable energy. This investment helps to improve the efficiency and quality of the manufacturing process and reduce environmental damage.

In order to reduce damage to the environment, the Chinese government has listed a series of environmental regulations that companies must abide by: strict standards for air and water pollution, waste disposal and other environmental issues. If a company fails to comply with these regulations, it could face fines, legal action and reputational damage. This approach helps reduce environmental damage and ensures that companies are held accountable for their actions.

In conclusion, China's financial system plays a key role in supporting environmentally sustainable development by minimizing environmental damage and facilitating industrial upgrading from low-end manufacturing to high-end, high-productivity, and high-value-added industries. The Chinese government has formulated a series of policies and initiatives to support green finance and green investment to fund environmental protection projects. In addition, the government has enforced strict environmental regulations to ensure that companies operate in an environmentally responsible manner. Through these efforts, China is working towards a more sustainable economic future that is efficient, environmentally responsible and economically competitive.

The remainder of this paper is organized as follows. Section 2 briefly reviews the relevant literature on green finance. Section 3 presents the background and data of this paper. Some suggested solutions are included in Section 4. The final section discusses some policy implications and provides some concluding comments.

2. Literature Review

Green finance has become an increasingly important area of research in recent years. Scholars have focused on various aspects of green finance, including its overall development index, status quo, and development trends, as well as the impact of green financial policies on environmental protection and economic development.

Lv (2021) reported that China's green finance development index is increasing, but the overall level is not high. Zhang et al. (2019) summarized the status quo and development trend of green finance, while Zhang et al. (2021) illustrated the positive impact of green credit in both eastern and western regions, but the policy effect in the central region is not obvious. Lee et al. (2020) found that the implementation of green financial policies can enhance the impact of green financial development, while Ren et al. (2020) proposed ways to improve the implementation effect of green financial policies and expand non-fossil energy consumption.

Moreover, Zhou (2020) demonstrated that green finance can significantly improve the relationship between economic development and the environment, creating a win-win situation. Muganyi (2021) reported that the development of fintech can help reduce sulfur dioxide emissions and positively impact environmental protection investment initiatives. He et al. (2019) analyzed that green financial development can curb excessive investment in renewable energy by reducing bank credit issuance. Wang (2021) suggested that future research on green bonds could be carried out by combining financial technology, big data, and blockchain.

Finally, Akomea-Frimpong et al. (2020) studied the relevant determinants affecting bank green finance policies, including environmental and climate change policy, interest rates, religion, risk, social inclusion, social justice, and bank regulation. These studies contribute to the understanding of green finance and provide insights into future research directions.

ISSN: 2688-9323

3. Data

The Provincial Green Finance Index, a composite indicator that measures the level of green finance development in each of China's provinces, is based on data from various sources. The data comes from the "China Statistical Yearbook," "Statistical Yearbook" of each province, and the "China Insurance Yearbook." The time span for the index is 2001-2020, covering all provinces in the country. The index is calculated based on several indicators, including green credit, green bonds, green insurance, green funds, and green equity. It provides a comprehensive overview of the state of green finance in each province, highlights areas for further development, and can be used to compare the performance of different provinces over time. The Provincial Green Finance Index is an essential tool for identifying best practices and promoting the development of green finance in China.

Table 1. Indicators of Green Finance Index in China

Indicators	Characterization index	Indicator description
green credit	Proportion of interest expenses of high energy consumption industries	Interest expenses of the six major energy-intensive industries/Total interest expenses of industries
green investment	Investment in environmental pollution control as a percentage of GDP	Environmental pollution control investment/GDP
green insurance	Agriculture Insurance Depth	Agricultural insurance income/gross agricultural output value
governmental support	Proportion of fiscal environmental protection expenditure	Fiscal Environmental Protection Expenditure/Fiscal General Budget Expenditure

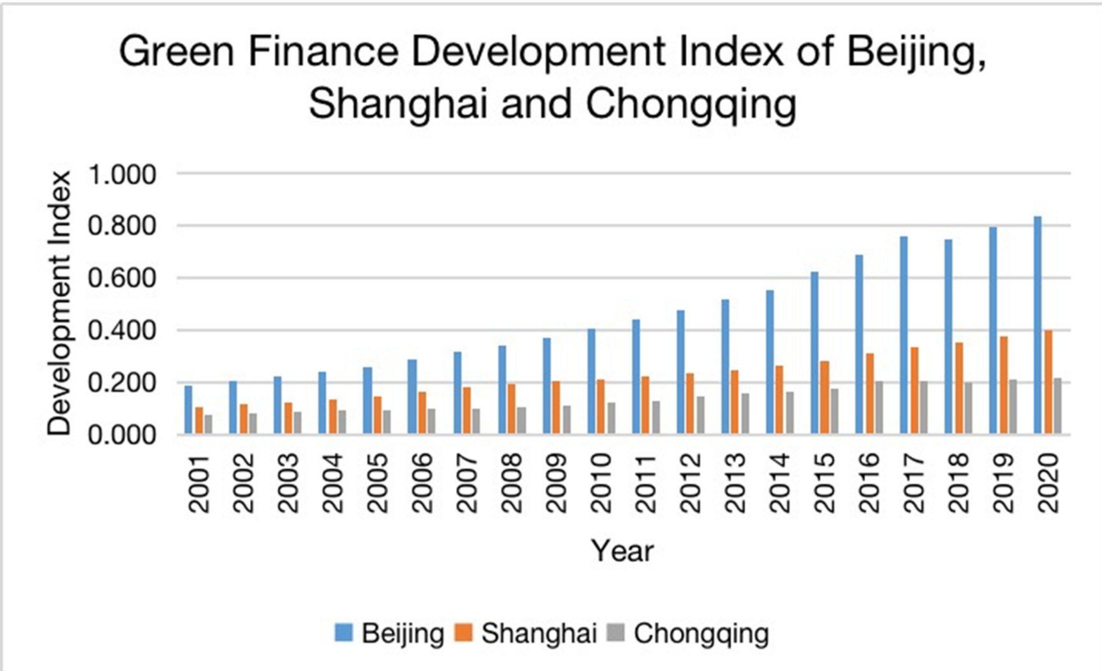

Figure 1. Time trend in national development of green finance in China

4. Proposed Policies

The fact that China has been the world's largest emitter of greenhouse gases for the past decade or so has become a major focus of global efforts to combat climate change. China's heavy reliance on coal to meet its energy needs is an important factor in this problem, as coal accounts

ISSN: 2688-9323

for more than 50% of its energy mix. The impact of this unique energy mix on the greenhouse effect is obvious to all, and will Air and water pollution affects public health and the environment, contributes to global warming, and causes long-term damage to the planet. The Chinese government has clearly recognized the seriousness of the situation and has taken major measures to resolve this issue.

One of the ways China is addressing this problem is through the use of green finance. The Chinese government issued guidelines for the development of a green financial system in 2016. These guidelines aim to develop financial products that support environmental projects and can help reduce the country's carbon emissions. The Green Finance Committee established after the release of the guidelines is responsible for formulating standards and guidelines for green financial products and supervising to a certain extent whether the operation of enterprises complies with the regulations.

One of the main green financial instruments in China is green bonds. These fixed-income securities will be used to fund environmental projects such as renewable energy, energy efficiency and sustainable transportation. China has emerged as the global leader in the green bond market, with issuance exceeding $30 billion. The market continues to grow, with total issuance reaching US$42.8 billion in 2019, making China the largest green bond issuer in the world. The widespread popularity of green bonds in China is attributed to the government's commitment to promoting sustainable development and reducing carbon emissions. In addition, green bonds provide investors with an investment option that contributes to society and is responsible. The low risk and relatively high return on investment made it an attractive option for investors.

Another very important green financial tool in China is green loans. These loans, which are also used to finance environmental protection projects, often offer lower interest rates than traditional loans, greatly increasing the likelihood that borrowers will consider green loans at the moment of lending. The Chinese government has been promoting the use of green loans through a series of policy measures, such as requiring banks to use part of their loans for green projects and offering tax incentives to borrowers who use green loans. These measures have helped to increase the use of green loans in China and effectively encouraged investment in green projects.

In addition, China has set up some green funds to finance sustainable projects. These funds are usually issued, managed and supervised by government agencies or state-owned financial institutions, and are also used to invest in a range of projects with needs such as renewable energy, energy efficiency and sustainable transportation. The Government has invested heavily in these funds and they are a stepping stone in supporting the country's transition to low-carbon economic operations.

Finally, China is building exchanges dedicated to green securities trading. The Green Stock Exchange will focus on companies that meet specific environmental and social criteria, such as reducing carbon emissions, improving energy efficiency and supporting sustainable development. The establishment of the Green Stock Exchange will provide investors with a platform to support environmental protection projects and enterprises, further promoting China's green and sustainable development.

In conclusion, China's heavy dependence on coal resources and the resulting series of environmental problems have been a major challenge for the country. However, the Chinese government has recognized the seriousness of the situation and has taken a series of major green measures to address the problem. The use of green financial instruments such as green bonds, green loans and green funds has played a vital role in supporting sustainable development in China. The establishment of the Green Stock Exchange will also further promote investment in environmental protection projects and companies, help reduce the country's

ISSN: 2688-9323

carbon emissions, and make a distinctive Chinese contribution to global efforts to combat climate change.

5. Conclusion

China's green finance policy not only helps to solve environmental problems, but also provides opportunities for China's economic growth. Analysts predict that under the trend of environmental protection, the green financial market is expected to usher in rapid growth. By 2022, the global green bond market may reach 1 trillion US dollars. With its large population, rapidly increasing wealth and potential for economic development, China is well positioned to capitalize on this growth, as will demand for sustainable products and services.

In addition, China's green finance policy is not limited to domestic initiatives, but also extends to the international arena. In 2017, China launched the Belt and Road Initiative (BRI), a friendly strategy for global infrastructure development linking Asia, Europe and Africa. The BRI has significant environmental implications, given the potential impact of infrastructure projects on ecosystems and greenhouse gas emissions. In order to solve these problems, the Chinese government has also specially formulated the "Belt and Road Development Green Investment Principles", which provides guidelines for green development for countries that promote the common development of "Belt and Road" projects, and provides a "win-win" for global economic development and environmental protection. "s solution.

Overall, China's green finance policies are an important part of the country's efforts to achieve sustainable economic growth and mitigate the effects of climate change. The financial market policy measures adopted by the Chinese government have resulted in substantial investments in environmental protection projects, and the growth of the global green finance market is expected to accelerate in the next few years. As China continues to promote sustainable finance, it has the potential to become a global leader in this area and make an important contribution to the transition to a more sustainable global economy.

References

[1] Han Shizhuan. The Judgment and Forecast of the Degree of China's Marketization--Based on the Perspective of "Global Economic Freedom" of the Canadian Fraser Institute [J]. Statistics and Information Forum, 2008, 23(009):41- 48.

[2] Wang Yafei, Mu Xiaonan. An Empirical Analysis of the Relationship between Economic Freedom and Economic Growth [J]. Social Sciences in Inner Mongolia (Chinese Edition) (Issue 1): 77-81.

[3] Guo Weijun, Huang Fanhua. Can the Increase of Economic Freedom Improve the Quality of Economic Growth--An Empirical Study Based on G20 National Panel Data [J]. International Trade Issues, 2019, 000(012):1-17.

[4] Yao Yaojun. China's Financial Development and Total Factor Productivity--Empirical Evidence Based on Time Series[J]. Quantitative Economics and Technical Economics Research, 2010(03):69-81+162.

[5] Lv, C., Bian, B., Lee, C. C., & He, Z. (2021). Regional gap and the trend of green finance development in China. Energy Economics, 102, 105476.

[6] Zhang, D., Zhang, Z., & Managi, S. (2019). A bibliometric analysis on green finance: Current status, development, and future directions. Finance Research Letters, 29, 425-430.

[7] Zhang, S., Wu, Z., Wang, Y., & Hao, Y. (2021). Fostering green development with green finance: An empirical study on the environmental effect of green credit policy in China. Journal of Environmental Management, 296, 113159.

[8] Lee, C. C., & Lee, C. C. (2022). How does green finance affect green total factor productivity? Evidence from China. Energy Economics, 107, 105863.

[9] Ren, X., Shao, Q., & Zhong, R. (2020). Nexus between green finance, non-fossil energy use, and carbon intensity: Empirical evidence from China based on a vector error correction model. Journal of Cleaner Production, 277, 122844.

[10] Zhou, X., Tang, X., & Zhang, R. (2020). Impact of green finance on economic development and environmental quality: a study based on provincial panel data from China. Environmental Science and Pollution Research, 27, 19915-19932.

[11] Muganyi, T., Yan, L., & Sun, H. P. (2021). Green finance, fintech and environmental protection: Evidence from China. Environmental Science and Ecotechnology, 7, 100107.

[12] He, L., Liu, R., Zhong, Z., Wang, D., & Xia, Y. (2019). Can green financial development promote renewable energy investment efficiency? A consideration of bank credit. Renewable Energy, 143, 974-984.

[13] Wang, M., Li, X., & Wang, S. (2021). Discovering research trends and opportunities of green finance and energy policy: A data-driven scientometric analysis. Energy Policy, 154, 112295.

[14] Akomea-Frimpong, I., Adeabah, D., Ofosu, D., & Tenakwah, E. J. (2022). A review of studies on green finance of banks, research gaps and future directions. Journal of Sustainable Finance & Investment, 12(4), 1241-1264.