

The Outlook of the Green Bond Market in China

Limitations in Development and Further Solutions

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ABSTRACT

Since we have already entered the rapidly developing era of the economy, the impact of environmental problems has attracted more and more global attention. In seeking sustainable economic development, the global trend has gradually leaned toward green finance. As a new financial tool in China, green bonds have developed rapidly in recent years. Focusing on China's green bond market, this paper researches the development scale of China's green bond market from the aspects of policies and statistical data. Compared with the relatively advanced foreign markets, this paper analyzes the existing limitations of China's green bond market from three perspectives: system, information disclosure and investment direction, and puts forward solutions to these problems. In order to achieve the goal of emission peak and carbon neutrality, the finance structure of China continues to transform into green mode and low-carbon mode. With the continuous improvement in policies and standards, China's green bond market can have huge development space.

Keywords: Green bond, Green finance, Information disclosure, Market expectation.

1. INTRODUCTION

1.1. Background

Since the 21st century, the world economy has entered a stage of rapid development. After becoming the world's second-largest economy in 2010, China is still maintaining a positive growth rate in GDP. However, while the economy is growing at a high speed, China is also facing the negative effects of environmental damage caused by the industrialization process. Balancing economic growth and sustainable development has become the key to the deep-lying contradiction of economic development, which leads to the appearance of the global trend in green finance.

Propelled by the global trend of green finance and the increasingly urgent environmental problems, the necessity of green finance development in China has become more and more urgent. Therefore, promoting the national strategic construction of ecological progress and comprehensively exploring the transformation of low-carbon economic development have been written into the "14th Five-Year Plan" and become the guiding principle of China's long-term economic and social development.

In order to achieve the goal of low-carbon economic development and guide capital investment in sustainable industries, in 2015, the People's Bank of China issued the Catalogue of Green Bond Support Projects, which defined green bonds in China for the first time. In July 2015, the first green bond in China was issued successfully. It marks that the green financial market in China has officially joined the trend.

1.2. Related Research

Lee et al. argued that the globalization of renewable energy had played a vital role in promoting environmental protection, providing investment opportunities and creating jobs over the past decade. Bonds could securitize cash flows and use portfolio management technology, segmentation technology and statistical tools to manage all kinds of risks of renewable energy projects, which played a positive role in developing green renewable energy [1]. Focusing on Asia, Ng and Tao reviewed the current state of Asian energy markets and pointed out a sizeable investment gap in this region. Ng and Tao's research analyzed the comprehensive causes of the financing gap in Asia. After studying about these factors, Ng and Tao put forward

further suggestions for different countries to narrow this gap between regions at the macroeconomic level [2].

Regarding the role of green bonds, Ana-Belén Alonso-Cond et al. stated the significant growth of the green bond market and found that the requirement for sustainable financial products was rising. By comparing the advantages of green bonds over traditional project financing, green bond financing could bring higher satisfaction to shareholders than the traditional one. Nonetheless, the authors explained that the coordination between issuers and investors could motivate the consolidation of the green bond market [3]. A. Lichtenberger et al. addressed that the green bond should be considered as a resultful financing tool to deal with climate change. The authors studied the different performances of green bonds and non-green bonds through the econometric analysis. The results indicated that green bond investment could provide investors with relatively stable returns and avoid fluctuations. A. Lichtenberger et al. suggested that the government can encourage the use of the financial benefits of green bonds through policies so as to accelerate the transformation of the financial market to a low-carbon one [4]. From the perspective of enterprises, M. Mariani et al. researched the risks and opportunities brought by green bonds in the process of raising capital for enterprises. The potential of this financial instrument can make it possible to diversify the sources of funds but also helps enterprises to create value and environmental strategies in the long term [5].

However, L.M. Mankata et al. noted that green bond issuance faces certain obstacles on a global scale. The authors pointed out that bonds are one of the fixed income instruments suitable for capital-intensive infrastructure project financing. However, there are many key factors affecting the issuance of green bonds. The author emphasizes that credit rating has been proved to be a key indicator for investors, and the bank of Ghana should take adequate measures to ensure that Ghana's green bonds are highly rated and create a good environment for the issuance of green bonds [6]. Linh Pham found that shocks generated from the traditional bond market can also make an impact on the green bond market. And this "spillover effects" is proportional to the time. The article stated that this founding result could apply to construct the optimal combination of green bonds and traditional bonds, which minimize the risk. Besides, the yield of the "labelled" green bond market is similar to that of the traditional bond market. Therefore, with the continuous growth of the green bond market, it is vital to introduce a differentiation strategy between green bonds and traditional bonds to attract more investors [7]. Farhad et al. stated that the investment in green projects around the world had reduced due to the COVID-19 pandemic and the global economic recession. On the contrary, green bonds, especially funding for sustainable infrastructure projects, were increasingly popular. Based on this situation, the authors put forward the policy suggestion of

raising the yield of bank bonds through tax spillover. In the post-COVID-19 era, the government should consider the participation of the public sector and the diversification of publishing companies, such as risk mitigation policies [8].

In promoting green bonds, Dou et al. studied the influence of different policies on green bond by using the Logit model. According to the investigation, compared with ordinary bonds, the information disclosure of green bonds contributes most to the increase of the environment information. As a result, the decision on what kind of debt to issue becomes more complicated for the target company. Therefore, the government should formulate relevant policies according to these key factors and promote the development of the green bond market [9]. Liu stated that the development of green bonds is vital and practicable for the development of the economy in China. Besides, the author compared the standard of green bonds between China and other countries in four aspects which are management of the requirement of raising funds, information disclosure management, coverage of projects and issuing standards [10].

1.3. Objective

This paper aims to research the development of China's green bond market, especially from the perspective of policies, and compare it to the relatively developed green bond market in western countries. The paper then analyzes the existing problems in the current development of China's green bond market and puts forward suggestions and measures.

2. CURRENT SITUATION OF GREEN BONDS IN CHINA

2.1 Characteristics of green bonds

The main objective of green bonds is to raise funds from the capital market and invest in green industries, projects or assets that meet the criterion. The use of subsequent funds is strictly controlled in order to ensure the transparency and impartiality of the fund. There are six categories that green bonds support, including energy conservation, cleaner production, cleaner energy, ecological environment, green infrastructure and green service. At present, the varieties of green bonds in China mainly include asset-backed securities, financial bonds, corporate bonds, and local government bonds. It has direct and remarkable benefits in the environmental field. Besides, it is also the earliest important green financial product developed in China.

2.2. Policy and development scale of green bonds in china

Since 2016, several policies have been introduced to

improve the regulation of green bonds from the aspects of overall planning, environmental information disclosure, evaluation and certification.

In terms of overall planning, in August 2016, the People's Bank of China issued *the Guiding Opinions on Building a Green Financial System* to make overall design, taking green bonds as an important part of the green financial system. In terms of evaluation and certification, in 2017, the People's Bank of China and the China Securities Regulatory Commission issued the "Guidelines for Evaluation and Certification of Green Bonds (Provisional)", which made normative requirements on qualifications of institutions, business processes and reporting contents. In July 2020, the government announced the draft of the Catalogue of Green Bond Support Projects, which greatly promotes the integration of China's green bond market, standardizing the evaluation criterion and aligning with the international market. At the 75th UN General Assembly, China proposed that it will reach the emission peak by 2030 and achieve carbon neutrality in further 40 years. China is firmly developing the way of a low-carbon economy.

Though the green bond market in China started later than in some countries, the whole scale grew rapidly. Policy support and the need for environmental protection have brought unprecedented opportunities to develop green bonds. The year 2015 to 2017 is the initial stage of China's green bonds. Guided by the policy, the cumulative issuance scale of green bonds in 2016 and 2017 reached 398.36 billion yuan. During 2018-2019, green bonds entered the stage of vigorous development. As shown in Figure 1, the issuance scale in 2018 and 2019 reached 217.95 billion yuan and 386 billion yuan, respectively. In 2020, despite the impact of the COVID-19 epidemic, the domestic and overseas issuance of China's green bonds decreased by 21% compared with that of 2019, with a total issuance of 289.5 billion yuan. Since 2021, with the acceleration of the goal of carbon neutrality, financial institutions have promoted green financial products and innovation of services, gradually forming a diversified green financial product system. In 2021, China issued 607.242 billion yuan of green bonds, a year-on-year increase of 168.32%. The stock of green bonds is 1.16 trillion yuan, ranking first in the global market regarding issuance and stock.

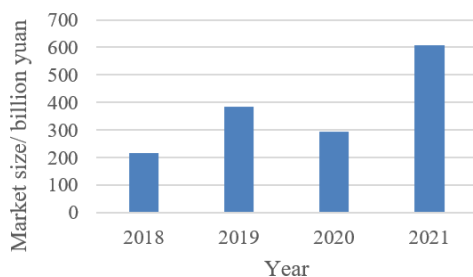


Figure 1 2018-2021 China's green bond issuance scale (unit: 1 billion yuan)

At present, the main debt bodies of Chinese green bonds are mainly concentrated in state-owned enterprises. The number of green bonds issued by central and local state-owned enterprises is nearly 85% of the total. From the perspective of industry, green bonds are mainly issued by industries, public utilities and financial industries. These three industries take up over 90% of China's green bonds issuance market.

3. PROBLEMS AND LIMITATIONS IN GREEN BOND ISSUANCE

However, China's green bond issuance still has many problems. First, there is no unified standard for green bonds in China. The voluntary standard of "from bottom to top" is used internationally based on the guiding principles built together by issuers, investors, and underwriters. Internationally, there are two standards that have the highest acceptance in the market. The one is called Green Bond Principle (GBP), and the other one is called Climate Bond Standard (CBS). GBP was launched by the Green Bond Principles Executive Committee, which is composed of green bond issuers, investment institutions and underwriters, in collaboration with the International Capital Markets Association. CBS is developed by Climate Bond Initiative, refining on the basis of GBP and defining what is green at the industry level. It divides the projects into eight categories: energy, construction, industry, waste and pollution control, transportation, information technology, agriculture and forestry, and climate adaptation. Nevertheless, China has a specific "from top to bottom" guiding standard for green bond standards. Government policies stipulate the definition of the green bond project and specify the requirements of the process, including fundraising, use of funds, management and supervision. In 2015, the General Office of the National Development and Reform Commission issued the "Guidelines on Green Bond Issuance", in which green financial bonds define the application scope and support the focus of green bonds, consisting of twelve items: technical renovation projects for energy conservation and emissions reduction, green urbanization projects, clean and efficient use of energy, new energy development and utilization of projects of development of circular economy, green financial bonds, save and unconventional water resources development and utilization of water resource projects, pollution control, ecological agriculture and forestry projects, environmental protection and energy conservation projects, green financial bonds low-carbon industry, pilot and demonstration project for low-carbon development. At the same time, the Green Finance Committee of the China Society for Finance and Banking has formulated the "Catalogue of Projects Supported by Green Bonds". Green financial bonds are defined by multi-dimensional environmental benefit scale, and the definitions of green projects and green financial bonds are distinguished. Six categories of green financial bonds in China are listed:

energy conservation, pollution prevention and green financial bonds resource-conservation and recycling, clean transportation, clean energy, ecological protection and adaptation to climate change. As far as China is concerned, due to the difference between the definition of green bonds and international standards, some projects do not meet or cannot be compared with international standards, which to some extent affects the investment of international investors in China's green bond market.

Secondly, information related to green bonds is not fully disclosed in China, making it difficult to detect and evaluate. Internationally, GBP has specific requirements based on the independence disclosure of issuers. Issuers should report at least once a year "configuration green bonds to raise money project list, brief project description, amount of capital allocation and the expected effect, encourage the ability to assess the environmental benefits of the issuer in periodical reports disclosed environmental benefits index, quantitative analysis method". For China, the green bond market is still at the starting stage, and issuers are not experienced in green information disclosure. According to information disclosure in 2016 and 2017, though most issuers have disclosed additional information required by green bonds according to regulatory requirements, there are two main problems. The first one is that the quality of disclosure has not been satisfied. While most green bonds disclose both the use of funds raised and the progress of green projects, they are generally sketchy and less detailed. The second one is that the form disclosure is inappropriate. According to different regulatory requirements, there are two primary forms of green bond information disclosure: disclosure in general annual reports or disclosure in special reports. Green corporate bonds are usually disclosed in the form of annual reports of corporate bonds. However, the annual report format commonly used for general bonds does not include additional disclosure information required by green bonds, such as the progress and the implementation of environmental benefits. The degree of information disclosure is relatively low.

Thirdly, the raised funds do not invest in the green industry totally. "The Guidelines on The Issuance of Green Bonds" issued by the National Development and Reform Commission supports issuers to use the funds raised by green bonds for specific usages, such as bank loans repayment, working capital supplement and optimizing the debt structure of enterprises. Investing all the funds in green projects and not making any requirements for other management of the raised funds are not encouraged. Besides, according to regulatory requirements, green corporate bonds are required to spend at least 50% of the total raised funds on green projects, while green corporate bonds are required to spend at least 70%. However, according to international conventions, at least 95% of the raised funds by green bonds should be invested in green assets or projects. Compared with the international norm, this proportion is

relatively low in China and still needs improvement. In 2021, The funds raised were mainly invested in clean energy. At the same time, the proportion of funds not clearly invested in specific areas has increased significantly. All information above is shown in Figure 2.

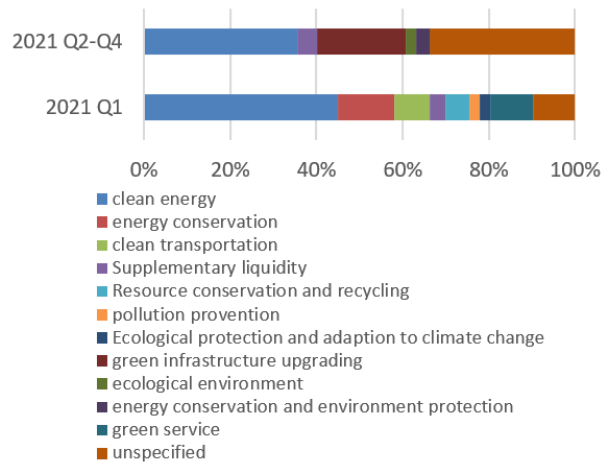


Figure 2 The Usage of the green bond fund in the first quarter and the second to the fourth quarter in 2021

4. SOLUTIONS AND EXPECTATIONS

The development of international green bond standards started early. At present, international institutional standards include ISO standards, Equator Principles and IFC performance standards. Before 2013, the international standard of green bonds was still in its infancy, there was a lack of standards of the green bonds market selection and transparent capital management system, so the World Bank and other multilateral development banks rely on its reputation guarantee and benefits of the stability, have become the main body of green bonds issuance. In 2014, ICMA published the Green Bond Principles, which has become one of the most important standards in the green bonds issuing field, promoting the development of green bonds institutionally and enhancing the transparency of green bond information disclosure.

China's green bonds are slightly behind the world trend, but the formulation of unified standards for green bond issuance has now already been put on the agenda. In 2021, Chinese government issued an outline on promoting the establishment and development of the low-carbon economic system, which pointed out the unification of green bond standards and the necessity of establishing green bond rating standards. Under the guidance of green policies, China's green bond market has gradually formed a unified standard, and the amount of green bond issuance has also increased significantly. According to statistics, from 2016 to 2021, China's annual issuance of green bonds exceeded 200 billion yuan, and in 2020, the issuance exceeded 500 billion yuan, which means that nearly 500 bonds were issued.

The National Development and Reform Commission and other government departments issued relevant documents to encourage enterprises to use green bonds, asset securitization and other ways to expand financing channels and expand the scale of green bond issuance. China actively introduces new green bonds of products suited to its national conditions, "Carbon Neutral" country revitalization of green bonds and bonds "sustainable development" are good examples. In addition, the National Development and Reform Commission and other departments jointly issued the plan on Establishing a Market-based, All-round and Diversified Ecological Protection Constitution to encourage qualified financial and non-financial institutions to issue green bonds. These measures will increase not only the size of green bond issuance but also the number of green bond issuers, which will help China develop a unified green bond trading market. Although China's green bonds are booming, there is still much room for improvement in green bond information disclosure and market regulation. At present, China still lacks a platform to regularly and uniformly release the operation situation, issuance data, project rating and other information on China's green bond market. Although there are many institutions in the market that issue annual reports on the green bond market, relevant disclosure information is inconsistent, and it is difficult for the public to obtain an authoritative and unified green bond database.

As an emerging bond product, green bond combines bond financing with green development, which not only broadens financing channels, guides commercial banks to invest in green bonds, but also better achieves the goal of energy conservation and emission reduction. Although there are still problems with information disclosure and third-party supervision in China's green bond market, green bonds cater to the concept of ecological development in China and the current situation of global climate change.

5. CONCLUSION

Green bond development is of great importance. This article introduces green bonds as an important financing method to support the green industry and promote sustainable development. The article starts with the development status of green bonds, expounds on China's green bonds' development history and status, and points out the fit degree of green bonds and China's sustainable development strategy. Developed countries such as Europe and America started green bonds earlier and formed a relatively perfect standard system of green bonds earlier.

China's green bonds are in the initial stage now, and we have to admit that there is a big gap in unified issuance standards, green bond market regulation and information disclosure, and third-party evaluation. As discussed,

future research should focus on how to supervise the issuance of green bonds more scientifically, evaluate the issuing effect, and strive to achieve more completed and scientific information disclosure.

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