

Analysis on the Development of Regional Commercial Banks' Green Bond Business Under the Equator Principle

—Take Industrial Bank as An Example

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Abstract—With the rapid development of global economy, environmental problems are becoming more and more prominent. In order to effectively control the environment, green economy, green finance, green bonds and other issues have also attracted widespread attention, the green revolution of finance is quietly emerging. Compared with ordinary corporate bonds, green bonds have almost no environmental risks and are characterized by high credit rating, flexible liquidity, and comparably low default risk and transparency. Therefore, it is advisable for domestic and foreign financial institutions to consider green bonds as major orientation when allocating assets. This report compared the issue of green bonds in home and abroad situation, detailed regional commercial bank—the specific situation and effect of industrial bank issuing green bonds as the first equatorial bank in China, analyzed the problems existing in the development of regional green bonds. At last, relevant policy suggestions were put forward in combination with the green bond business of commercial banks to promote the development of regional green economy.

Keywords—Green bonds; Industrial bank; Bond issuance; Policy suggestions

I. INTRODUCTION

The equator principle is an unofficial set of voluntary principle, which are based on the environmental and social policies or guidelines of dominant financial institutions in the world. With the proposal of the equator principle and the increasingly serious environmental problems in China, it is extremely urgent to promote green finance^[1]. Developing green finance is an important measure to optimize the industrial structure and an important way to transform the development pattern^[2]. As the primary segment of China's financial system, commercial banks should support the national strategies and assume the responsibility of developing

green finance. At present, the research on green bonds in China has just started. Therefore, the development of green bond is relatively immature. This report aims to summarize and analyze the development of green bonds by comparing the development of green bonds in domestic and foreign situations in recent years, taking industrial bank of China, a regional commercial bank, as an example, summarizes the problems encountered in the development of green bonds in China and puts forward reasonable policy Suggestions to promote regional green development.

II. ANALYSIS ON THE DEVELOPMENT STATUS OF GREEN BONDS IN DOMESTIC AND FOREIGN SITUATION

A. International green bond development and status quo

The European investment bank issued the first green bond in 2007, after which the development of green bonds has been in a disimpassioned period for a long time. Until 2013, the international financial corporation issued \$1 billion dollars of green bonds. As a result, the issuance of green bonds had entered an advanced stage^[4].

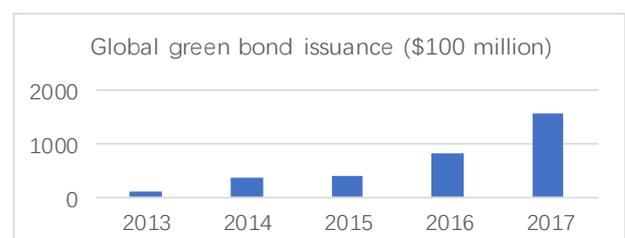


Fig. 1 Overview of global green bond issuance

^a Source: 2017 Bond and Climate Change Market Status Report

As illustrated in Fig 1, the total amount of green bonds issued globally in 2017 has significantly increased compared with the past year, reaching \$155.5 billion dollars. In addition, total issuance of green bonds is increasing promptly every year.

TABLE I. 2017 MAJOR GLOBAL GREEN BOND ISSUERS

Countries	Total Issuance in 2017 (\$100 million)	The three biggest green bond issuers in the world		
U.S.	424	Fannie Mae	MTA	Apple Inc
China	225	CDB	Bank of Beijing	ICBC
France	221	French Government	ENGIE	SNCF
Germany	96	KFW	Berlin Hyp	Innogy
Super-National	90	EIB	IFC	ADB
Spain	56	Iberdrola	Spain's Gas Natural	ADIF ALTA VELOCIDAD
Sweden	53	Specialfastigheter	SWEDBAN K	Nordea Bank AB
Netherlands	44	TenneT Holdings	NWB	Obvion
India	43	Greenko	IREDA	IRFC
Mexico	40	MCIA		
Canada	35	Tdbank	EDC	Government of Ontario

^b Source: 2017 Bond and Climate Change Market Status Report

As shown in table I, the United States ranked first in the global issuance of green bonds in 2017, and Fannie Mae was the largest green bond issuer in the world. According to the latest statistics in 2017, there are 239 green bond issuers in the world.

B. Domestic green bond development and status quo

Green bonds were first introduced into the domestic market on July 16, 2015, and the issuance of green bonds grew rapidly in 2016. Until 2017, the total amount of green bonds issued reached 37.1 billion us dollars. The issuance sources mainly have five categories, in which commercial bank issued in the dominant. Although diversified characteristics are available, energy and low-carbon are two main areas of use of financing^[3].

III. THE HISTORY AND MAIN ACHIEVEMENTS OF INDUSTRIAL BANK'S GREEN BOND BUSINESS

A. The background and preparation for industrial bank to issue green bonds

Industrial bank, founded in 1988, is the first equatorial bank in China. Since 2006, industrial bank has arranged the green financial market. After approximately ten years exploration, industrial bank has a relatively comprehensive green financial service system, contributing to the development of green finance in China. As the first equatorial bank in China the preparations of industrial bank to issue green bonds as follows:

(1) Set standards for green project identification. When financial institutions issue green bonds, investors will not only pay attention to the rating and risk of bonds, but also whether the money they invest is used for green projects. Industrial bank established the green business attribute identification standard in 2015 and set up the standardization process in accordance with the relevant regulations of the ministry and the CBRC. Meanwhile, it clarified the scope of green projects and promised to disclose project information regularly in 2016.

(2) Establish a green financial mechanism. According to the green finance bond survey data of industrial bank in 2015, compared with other domestic financial institutions, it has established a relatively complete financial mechanism in the field of green finance. It includes scientific green financial management framework, efficient coordination of operational procedures and perfect green benefit statistics system. At present, industrial bank has also set up a large number of environmental finance business teams to make decisions on green projects.

(3) Improve the statistical system of environmental benefits. The importance of green finance is to consider how to actually calculate the return related to environmental conditions when making investment decisions. In order to understand accurately the benefits of economic, environmental and social brought by green finance projects, industrial bank has established a quantitative evaluation system of environmental benefits of green projects, which can be used to calculate and determine the environmental benefits of green projects.

(4) Establish a green debt fund management system. In order to implement the asset management policy, industrial bank issued the green bond fund raising management method in December 2014, becoming the first financial institution in China to formulate the relevant funds raising system. Industrial bank has not only received successful international experience, but also combined with the domestic actual situation and the market demand of green bonds. The management method provides detailed and clear norms in the management, issuance, use, payment and clearing of green bond funds.

(5) Certification by a third party. The issuance of green bonds requires third-party certification, and the green bond principle (GBP) has become the main criterion recognized by international market participants. Therefore, industrial bank recruited the climate and energy finance research center of the central university of finance and economics (GBP's only observer institution in China) to conduct a comprehensive, whole-process and systematic assessment and certification of the financial bonds issued by industrial bank, ensuring the authenticity of the project.

B. The reality of industrial bank issuing green bonds

(1) Industrial bank's first green bond issued in 2016. On January 28, 2016, industrial bank successfully issued the first domestic green finance bond, with a quota of 10 billion yuan in the first phase. It belongs to the three-year fixed interest rate bond with a coupon rate of 2.95%. Additionally, the initial green debt caused extensive concern by investors in all financial institutions.

TABLE II. INDUSTRIAL BANK'S FIRST GREEN BOND ISSUED IN 2016

Bond Name	Industrial bank's first green bond issued in 2016
Issuer	Industrial bank co., LTD
Issuing Scale	RMB 10 Billion
Varieties of Bonds	The three-year fixed interest rate
Coupon rate	2.95%
Issuing Date	January 28, 2016
Issuing Object	All members of the national interbank bond market
Credit rating	The main body of the current bond issuer is rated AAA, and the current bond is rated AAA

^c. Source: Industrial Bank's First Green Bond Prospectus in 2016

(2) Industrial bank's second green bond issued in 2016. On July 14, 2016, industrial bank successfully issued the second domestic green finance bond, with a total amount of 20 billion RMB, a maturity of 3 years and a coupon rate of 3.2%.

TABLE III. INDUSTRIAL BANK'S SECOND GREEN BOND ISSUED IN 2016

Bond Name	Industrial bank's second green bond issued in 2016
Issuer	Industrial bank co., LTD
Issuing Scale	RMB 20 Billion
Varieties of Bonds	The three-year fixed interest rate
Coupon rate	3.2%
Issuing Date	July 14, 2016
Issuing Object	All members of the national interbank bond market
Credit rating	The main body of the current bond issuer is rated AAA, and the current bond is rated AAA

^d. Source: Industrial Bank's Second Green Bond Prospectus in 2016

(3) Industrial bank's third green bond issued in 2016. On November 15, 2016, industrial bank issued the third green financial bond with a total quota of 20 billion yuan, which belongs to five-year fixed interest rate bond with an interest rate of 3.4%. So far, industrial bank has completed the issuance of 50 billion yuan of green bonds approved in 2015.

TABLE IV. INDUSTRIAL BANK'S THIRD GREEN BOND ISSUED IN 2016

Bond Name	Industrial bank's third green bond issued in 2016
Issuer	Industrial bank co., LTD
Issuing Scale	RMB 20 Billion
Varieties of Bonds	The five-year fixed interest rate
Coupon rate	3.4%
Issuing Date	November 15, 2016
Issuing Object	All members of the national interbank bond market
Credit rating	The main body of the current bond issuer is rated AAA, and the current bond is rated AAA

^e. Source: Industrial Bank's Third Green Bond Prospectus in 2016

C. The main result of industrial bank issuing green bonds the main results

a) The internal effect of issuing green bonds

(1) Improve corporate governance concept and corporate culture. Industrial bank has achieved the harmonious development of social, economic and environmental benefits by issuing green bonds. Moreover, it enriched the corporate culture while developing the economy and made contributions to improving the living environment of human beings. Industrial bank has truly practiced its core values of humanism, sharing and rationality.

(2) Improve the innovation ability of enterprises. At present, social conflicts in China have changed. Therefore, the focus of development should also be changed accordingly. The innovation ability of enterprises has become more important. After comprehensively laying out the green finance field, industrial bank vigorously promotes product, technology and service innovation. Its continuous exploration in the field of innovation dedicates to the improvement of innovative ability.

(3) Enhance the influence of enterprises. Industrial bank has formed a unique green credit system through issuing green bonds, which has been highly recognized by all sectors of society. Parallel to this, industrial bank insists on developing green finance, which represents its commitment to social responsibility. This understanding and responsibility not only enhance their own social status, but also enhance the influence of enterprises.

b) The external effect of issuing green bonds

(1) Help green enterprises to finance. Industrial bank has completed a total of 1204.8 billion yuan of green financing business, providing services to more than 12,000 customers, which covered a wide range of fields by 2017. According to recent statistics, industrial bank green project financing balance reached 560 billion yuan.

(2) Promote the development of green bonds. Green finance is an advanced concept guiding future development and an endogenous driving force for supply-side structural reform. China is determined to promote green development. As a consequence, major financial institutions are faced with strategic development opportunities. The success of the three periods of green bonds issued by industrial bank will guide and promote the development of green bonds in China.

IV. THE RISK ANALYSIS FOR INDUSTRIAL BANK TO DEVELOP GREEN BOND BUSINESS

A. Price risk

Price risk refers to the risk that the market price of a commodity changes, also known as interest rate risk. After the issuance of green bonds, the interest rate will change with the market changes, and the price of green bonds will also be affected. So green bonds face price risk, and the longer the maturity of the bond, the greater the price risk they face.

B. Liquidity risk

When green bonds are traded in the market, there will be some reasons for the urgent need to cash in the bonds, and it is difficult to find the trading objects in a short time, and the needs of investors will also change with the market, especially some green financial bonds issued in a small scale, which have liquidity risks.

C. Project risk

Project risk refers to the uncertainty that may lead to the loss of the project. Each green bond project will be affected by some factors in its own operation and management, such as the change of economic situation, which will affect the company's operating efficiency, resulting in insufficient cash flow, and thus leading to project risk.

D. Rating risk

In general, green bonds are issued with a high credit rating of AAA, and the issuing subject is also rated AAA. During the duration of the bond, changes in the issuer's operating conditions will affect the rating agencies' adjustment of the bond credit rating and the issuer's credit rating, causing the bond price to fluctuate in the trading process.

V. POLICY RECOMMENDATIONS ON THE DEVELOPMENT OF COMMERCIAL BANKS' GREEN BOND BUSINESS UNDER THE EQUATOR PRINCIPLE

A. Implement policies to support the development of green bonds

From the perspective of investors, they hope to get some preferential policies in fiscal and tax aspects by investing in green bonds. From the perspective of green enterprises, they hope to obtain low-cost financing in the process of their development. For commercial Banks and other financial institutions, they hope to reduce taxes on green finance projects and gain some benefits in terms of reserve payment and capital price.

B. Simplify the approval process of green bond's issuance

Firstly, take measures such as setting up green bond declaration channels which can greatly improve the audit efficiency, promote the issuance of green bonds through "joint approval" by the CBRC and the PBC. The second is to call on relevant government departments to expand financing channels for green bonds, such as setting up special subsidies or special funds. Finally, continue to simplify government functions and save the capital cost of green bonds.

C. Improve the standardized certification system

At the present stage, the "green" is not exactly defined in projects, whether the funds raised can be fully utilized in the specific green projects is uncertain, the standardization certification and comprehensive management system are in urgent need of improvement. It is suggested that the green finance committee of the Chinese society of finance take the lead and all major financial institutions should fully cooperate with each other to work out a unified green certification standard as soon as possible.

D. Improve the transparency of the green bond market

Learn foreign information disclosure methods, establish a green bond impact reporting mechanism, and regularly publish the issuance status, project information and income of green bonds. A special disclosure institution or group shall be set up to formulate a unified information disclosure system so as to comprehensively promote the stable and healthy development of the green finance.

VI. CONCLUSION

Compared with developed countries in Europe and the United States, the development of green finance in China started relatively late. There are several problems and deficiencies in the development of green finance business of commercial Banks, including imperfect relevant legal system, complex examination and approval process, imperfect standardized certification system and imperfect information disclosure mechanism. This report puts forward corresponding policy suggestions in terms of these practical problems. Firstly, the implementation of supporting policies of green bonds should be accelerated. Parallel to this, it is advisable to simplify the green bond issuance approval process. Meanwhile, the standardization certification system should be improved step by step. Finally, efforts should be made to improve the information disclosure mechanism and enhance the transparency of the green bond market.

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