Development of the green bonds market for financing eco-projects in Russia

Mariia Koniagina

1 State Marine Technical University, 190121, St. Petersburg, Russia

Abstract. The problem of financing “green” projects is a relatively new and at the same time demanded area of development in practice. Since the Russian green bond market is in its infancy, it was decided to determine the development vector of this segment by constructively summarizing and evaluating the accumulated experience of a few green bond issues in Russia. Focusing on the Russian green finance market, the author summarized the experience gained from several issues of green bonds and determined the development vector for this segment of the stock market. The size of the Russian green finance market imposes serious restrictions on the use of mathematical and econometric tools to study its development, which did not become an obstacle to the analysis of practical data on the issuance of green bonds. This became possible thanks to access to information provided by Cbonds.ru and content analysis of the publications and reports. The study focuses on government approaches to support the development of the domestic green bond market, which stimulates its further development. The author highlights the attractive and vulnerable places of individual emission projects. The study complements the results of relatively few domestic and foreign studies on the financing of environmental projects and is of practical importance, generalizing the methods for attracting and stimulating financing for “green” projects.

1 Introduction

Green bonds have become a new phenomenon in the bond market, attracting the increased attention of economists around the world. They are debt financial instruments—bonds with distinctive characteristics. The funds raised in the process of issuing green bonds are directed to the implementation of environmental projects, including (1) renewable energy, (2) waste recycling and secondary production, (3) energy efficiency, (4) clean transport, etc. At the same time, income is paid to the investor on bonds, and the potential for speculative price growth is also laid. The combination of benefits for the environment and investors makes the studied problem acutely relevant, interesting and timely.
publications due to some lag in the growth rates of the Russian market [3; 12; 22]. National experience is relatively less popular for study but also discussed [4; 10; 21]. Some bold authors compare the more mature Western and younger internal markets [18; 19 3]. However, such a comparison is quite general, and due to the limited access to detailed information about the emission, it did not allow providing a substantive comparison of issuing green bonds.

An important place in periodicals is given to the legal aspects of green financing [15; 20]. In the context of determining the Russian vector for the development of the green financing market, the role of the government in supporting green projects [7] has great importance, which also requires constant supplementation and generalization. In the publications of 2019–2020, the authors studied in detail the instrumentarium of green financing [2; 11] and the prospects for using distributed ledgers for transactions with green financial instruments [5]. Western researchers are slightly ahead of national scientists in comprehensive research of green financing. Review articles have been published on the activities of banks in this area [1] and studies containing a constructive comparative analysis of green bonds as a financial instrument [8; 14]. An important subject of imitation of bond issues for green financing was raised [17].

Due to the relative youth of the green finance market, many issues are currently poorly studied, and a number of them have not even been discussed at all. The last group includes a detailed comparison of green bond issues on the internal market. It has particular importance when activating the national environmental policy. Today, each national green finance market is unique. Therefore, the study and consideration of the achievements and mistakes of national experience acquire special value. That is why this research is aimed at a constructive generalization of the experience gained from a few issues of green bonds to determine the vector of development of this segment of the internal stock market. Particular attention will be paid to the details of the green bond issues, which should attract the attention of potential investors.

2 Materials and methods

In the Russian Federation, there are not many green projects that are financed through corresponding bonds:

- Waste recycling;
- Increasing energy efficiency through the use of alternative energy sources and highly efficient electrical conductors;
- Protecting nature reserves, etc.

All of these projects could receive funding from funds formed with the help of green bonds. However, until the end of 2018, they did not exist in Russian practice, and until 2020 they were available only in test mode. These factors predetermined the lack of a large number of relevant data that could become the basis for constructing an econometric model. It would reflect the change in the historical value of green bonds, which is still a serious limitation for the application of economic and mathematical research methods. Also, these types of markets are young, especially the Russian one. Currently, there are no well-established models of their emission, which could make it possible for us to determine the degree of efficiency, the distinctive features of the national model, and carry out classification. This also became a significant limitation. Since there is access to published reports and prospectuses, we were able to collect, systematize, and summarize data on each emission of green bonds carried out in Russia. We compared them, assessed the advantages and
vulnerabilities of each project. In fact, the study was conducted in the conditions of the beginning of the development of the green segment of the Russian stock market. The author was able to apply only methods of (1) observation, (2) collection, (3) processing and systematization of primary and secondary data, (4) their comparison and generalization, (5) speculative analysis, (6) synthesis, and (7) fundamental financial analysis and expert forecasting.

Since the Russian green bond market is in its infancy, we decided to determine the vector of development of this segment through constructive generalization and evaluation of the acquired experience of the few issues of green bonds in Russia. The unique features of the research, which will be continued in the future, predetermined the formulation of the following tasks:

- To generalize and systematize the Russian experience of a small number of green bond issues;
- To analyze the government's approaches to support the development of the green bond market;
- To highlight the advantages and disadvantages of individual emission projects, incentives and obstacles for the active development of the studied market segment;
- To determine the vector of its change.

Due to the limitations and the small number of issues that took place, the research was carried out using quantitative methods since we needed to get an initial idea of the Russian green bond market. Despite the fact that the comparison of the collected and processed data is carried out in a number of positions in terms of quantitative indicators (face value, issue volume, circulation period, coupon rate), qualitative ones also played an important role. The author used the method of calculating accumulated coupon income (hereinafter ACI) and classifiers. Content analysis has become the main method of collecting information. The sources of primary and secondary data were:

- Register of green bonds of Russian issuers posted on the official website of the National Association of Concessionaires and Long-Term Infrastructure Investors [13];
- Publications on the website of the National Corporation VEB.RF [16];
- Register of the Russian Green Finance Market [6];
- The data of the Financial Information Agency Cbonds [9].

3 Results

The first issue of green bonds in Russia took place on December 19, 2018, when green bonds from RSB KHMAO LLC (Resource Saving of the Khanty-Mansiysk Autonomous Okrug) were placed on the Moscow Stock Exchange. Its purpose was to create a landfill for the placement and processing of municipal solid waste. The European rating agency Rating-Agentur Expert RA analyzed these bonds and concluded that the funds were used by the issuer for their intended purpose and in accordance with the principles of green bonds. They were developed by the international organization ICMA (International Capital Market Association), which attracted investors from all over the world.

The start of the creation of a full-scale green bond market was undertaken in the first half of 2019 at the conference Green Bonds: Market Prospects in Russia. During the conference, participants got acquainted with the green bond market. They agreed on interest rates that should not be lower than rates on deposits and developed criteria for classifying bonds as green [11].

On August 12, 2019, a sector for financing environmental and social projects called the Sustainable Development Sector appeared at the Moscow Exchange. The list of securities

Green Bonds: Market Prospects in Russia
In the sector is increasing every six months. It presents three categories of securities:

- National projects;
- Social;
- Environmental (green).

In order to develop the green bond market in 2019, the Government of the Russian Federation approved a subsidy program for coupon payments, which helped issuers receive compensation in the amount of 70% to 90% for coupon payments. Due to this program in the budget for 2020, 3 billion rubles were formed to stimulate new issuers to enter the green bond market. In 2021 and 2022, it is planned to allocate 6 billion rubles annually for this program. In addition, the Moscow Exchange organizes regular meetings followed by discussions on the green bond market. On account of cooperation between the Government of the Russian Federation and the Moscow Exchange, the current legislation in this area is being actively updated and improved.

A landmark event was the release of green ruble bonds of Russian Railways OJSC, which took place September 24, 2020. It was the first domestic issue of perpetual bonds that have received approval and confirmation by the International Capital Market Association (ICMA) according to the criteria of green bonds Principles (Green Bond Principles – GBP). The placement was carried out on a variable coupon, with an initial premium to the zero-coupon federal loan bond curve at 1.85% and an indicative placement volume of 20 billion rubles. The demand for this financial instrument was great, which increased the volume of placement to 100 billion rubles. In addition to large private investors, the buyers were also institutional investors: insurance and pension companies, banks, investment funds.

In November 2020, the Government of the Russian Federation instructed the Ministry of Economic Development to organize a group to develop criteria for ESG projects and requirements for the verification system, to prepare a roadmap for the development and implementation of incentive measures for the development of ESG instruments. At the moment, VEB.RF (Russian State Development Corporation, a state investment bank that finances economic development projects) is responsible for the development of EGS programs and instruments.

ESG (Environmental, Social, Governance) is a check of financial instruments for compliance with global investment principles. For Russian green bonds to attract the attention of investors from other countries, a program was created to implement ESG projects and instruments that must comply with the following ESG principles:

- The securities should include not only environmental and social aspects but also management issues in the process of investment analysis and decision-making;
- Include environmental and social aspects of management and practice;
- Openness of information on the proper use of investments;
- Adoption and implementation of principles within the investment sector;
- Improving the effectiveness of the implementation of ESG principles;
- Regularly report on progress made in the implementation of the principles and objectives.

As of January 20, 2021, a total of 16 green bond issues from 7 issuers were registered in the INFRAGREEN Register. If we do not take into account the large share of the issue from Russian Railways PJSC, then the volume of the green bond market in the Russian Federation barely exceed 20 billion rubles.
Table 1. Comparison of green bonds and Eurobonds of Russian Railways, as well as those issued by regional companies in Russia.

<table>
<thead>
<tr>
<th></th>
<th>Eurobond XS1843437 036</th>
<th>Eurobond CH0522690 715</th>
<th>Local bond RU000A102 564</th>
<th>Center-Invest Commercial Bank PJSC</th>
<th>Commerci Real Estate of the Financial and Industrial Corporation Garant-Invest JSC</th>
<th>SFO Rusol 1 LLC</th>
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<td>Class A</td>
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<td>Class B</td>
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<td>Class C</td>
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Face value: 1.000 EUR 5.000 CHF 1.000 EUR 1.000 EUR 1.000 EUR 1.000 EUR 1.000 EUR 1.000 EUR 1.000 EUR 1.000 EUR

Overall volume: 500 million EUR 250 million CHF 100 billion RUB 300 million RUB 500 million RUB 4.7 billion RUB 900 million RUB 100 million RUB 500 million RUB

Period of circulation: From May 16, 2019, to May 23, 2027 From March 5, 2020, to March 12, 2026 September 30, 2020 - permanent From December 9, 2020, to December 08, 2021 From December 28, 2020, to December 25, 2023 From February 12, 2020, to February 15, 2031

Coupon rate: 2.2% 0.84% 1 coupon - 7.25% per annum; 2 - 9 coupons - G-Curve for a period of 5 years on the date of reinstallaion of the coupon + 1.65% 5.75% (4 times a year) 10% (4 times a year)

The rate consists of a fixed (classes A and C - 1.5%; class B - 5.5%) and a variable part (the value of the weighted average yield of a 10-year federal loan bond.)

ACI calculation method: Actual/Actual (ISDA) 30/360 German Actual/365 (Actual/365F) Actual/365 Actual/365 Actual/365
<table>
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<tr>
<th>Eurobond</th>
<th>Eurobond</th>
<th>Local bond</th>
<th>Commercial Real Estate of the Financial and Industrial Corporation Garant-Invest JSC</th>
<th>SFO Rusol 1 LLC</th>
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<td>XS1843437036</td>
<td>CH0522690715</td>
<td>RU000A102564</td>
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<td>Clas A</td>
</tr>
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Source: Compiled by the author based on [6; 9; 13].

Table 1 shows that it is most profitable for an investor to purchase local bonds of Russian Railways since they have some advantages over Eurobonds that Russian Railways issued earlier. Local bonds are perpetual, which gives them a clear advantage over Eurobonds; a high coupon rate with variable interest. The rate for the first year exceeded the rates on Eurobonds by 3 and 8.5 times, which is the most significant factor for investors.

Sberbank acted as the organizer of the issue of these local green bonds, providing a record amount of 100 billion rubles. Also, Sberbank is currently discussing the issue of launching its own green bonds. Sberbank is not the only potential issuer. Recently, the Moscow Government announced its desire to become the first region in the Russian Federation to issue green bonds. In May–June 2021, it was planned to issue green bonds of the city of Moscow in the amount of about 90 billion rubles. The proceeds from the sale of these bonds were used to (1) finance environmental projects, (2) reduce the negative impact on the environment of the city of Moscow, (3) preserve natural resources, (4) improve energy efficiency using alternative energy sources. The national rating agency predicts the success of the Moscow city’s green bond issue, relying on its high rating and the absence of competitors in this market.

Moscow planned to place green bonds not only on the internal but also on the foreign markets. However, so far, the decision has been made to produce the first issue only on the internal market and then make a decision on entering the external market. At the moment, it was only known that investments could first go to finance urban infrastructure projects, the tax revenues of the budget from which, taking into account the multiplier effect, which was 1.5–2 times higher than the amount of coupon payments, depending on the maturity of the bonds.

4 Discussion

Today, in Russia, there are few issuers issuing green bonds. However, we have already managed to highlight the common merits and demerits of these green debt securities, which complement the conclusions in the already published papers. Among the disadvantages are the interest rate risk associated with the long-term of the instrument and the fixed rate. Another one is the fact that the first payment occurs more than a year after the issue. The advantages include (1) the dependence of coupon payments on the state of the economy, which implies consideration of inflation and the level of the key rate of the Bank of Russia, (2) compliance with all international standards, (3) a high rating (AA+), (4) in most cases...
5 Conclusion

The review of the Russian green bond market allows us to conclude that although it cannot be called large at the moment, its growth is noticeable every year. A growing number of companies are considering the idea of financing environmental projects with green bonds. Not only regional companies and governments but also corporations of the federal level are planning to enter the market.

The Russian government and the Moscow Exchange are actively promoting the improvement and updating of the current legislation in the field of green bonds. That way, it creates an incentive for issuers to issue this useful financial instrument, which complies with Russian and international standards. The tendency of active growth and activation of the Russian market of green bonds is quite clear. By the end of 2021, the Federal Government has begun subsidizing the ACI interest rate.

The presented research results of the Russian green bond market supplement a few studies of the role of the government in supporting green projects, highlighting the methods of support. For the first time, a detailed comparison of green bond issues on the internal market was carried out. The authors were able to highlight intermediate achievements and mistakes, which have important practical value for the further development of the Russian green financing market. Further research should be aimed at (1) clarifying the strengths and weaknesses of green financing in Russia, (2) comparing national experience with foreign ones, (3) highlighting models that are often typical for countries with different types of regulatory and legal regulation, as well as rules and traditions of doing business. It is important to pay attention to how the line of state support for national green financing develops and how successfully the regulator manages to avoid the phenomenon called green camouflage or greenwashing.

Acknowledgments
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