Chapter 4
Factors of Attractiveness of Green Bonds as a Financing Tool for Countering Adverse Climate Change

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4.1 Introduction

The need to attract financial resources to ensure financing of the fight against unfavorable climate change is beyond doubt and is confirmed by an increasing number of opinions of experts from the professional and scientific community (Sandberg & Juravle, 2009; Dogru et al., 2019; Khmyz, 2019; Abdelzaher et al., 2020).

Moreover, as the climate continues to deteriorate, more and more financial resources are required to work on improving the ecosystem. First of all, it refers to an energy transition that requires significant costs (World Economic Forum, 2021). So, less than 15% of the funds allocated for the recovery from the COVID-19 pandemic ($2.4 trillion worldwide) were related to "clean energy", this is clearly not enough (Krylova and Sergeeva, 2021), because the transition to environmentally friendly energy sources (in order to maintain a favorable climate and combat climate change, especially with global warming) is estimated at about $100 trillion (Bennett et al., 2021).

In the first half of the past decade, assets under sustainable financing projects grew at a moderate pace, and since 2016, there has been a surge in their growth. For 2016–2020 it accounted for almost 95% of ten-year volumes, or about $1.5 trillion (Climate Bond Initiative, 2021). This is due, firstly, to the signing of the Paris Agreement on the threat by risks, secondly, with increasing sensitivity to climate change and the associated risks, thirdly, with state and supranational incentives. Various mechanisms and instruments are used, but primarily debt securities. The global sustainable bond market is showing stable growth (Volksbanken Raiffeisenbanken, 2021). Green

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bonds are one of the most popular and promising instruments for attracting financial resources.

In connection with the above, the purpose of this work is to identify and analyze the main factors of the attractiveness of green bonds, for which it is necessary (research objectives) to analyze the current situation and state of the global green bond market and the Russian green bond market (the Sustainable Development Sector of the Moscow Exchange). This will make it possible to assess the prospects for green bonds and the market they form, including the immature Russian market.

However, the global green bond market is also relatively young. Only a little over ten years ago, the European Investment Bank initiated the issue of climate bonds, becoming an example to follow. More and more institutional investors are joining the green bond market, demonstrating interest in fixed-income green products, in particular, sustainable development bonds and social bonds, which acts as a stimulating factor for their market. Accumulated issues of green bonds for 2007–2020 exceeded US$ 1 trillion, and by June 2021 amounted to almost US$ 1.2 trillion. The annual issues of these securities increased by more than 5.8 times for 2015–2020. From January to April 2021, the global green bond issue totalled US$ 121.2 billion (Climate Bond Initiative, 2021).

4.2 Methodology

An analysis of green projects, for which green bonds were issued, shows that from 2016 to 2020 most of the projects were related to the energy resources usage efficiency. Consequently, the mentioned energy transition, from its side, continues to influence the financial market.

Simultaneously, an important financial reason for the attractiveness of green bonds, which has turned into a trend in the global financial market, is the availability of a discount to yield—"greenium", or green premium (Climate Bonds Initiative, 2020). According to the analytical agency ACRA, from 2007 to 2020, green bonds showed yields lower than conventional bonds, the discount to the yield on green bonds compared to conventional bonds was about 1–2 basis points (ACRA, 2020). However, according to a study by the Russian state corporation VEB.RF, the yield discount for issuers of this type of securities ranged from 10 to 20 basis points (VEB, 2020).

At the same time, some varieties of green bonds can be traded at a greater discount due to a different time interval, since as the security circulates, the discount to yield decreases. Also, this characteristic can be inherent in the segments of green bonds in the markets of developing countries, where investors show less interest in this financial instrument.

In addition, among the possible reasons for the presence of a discount to profitability, one can single out the difference between supply and demand, called "the phenomenon of oversubscription".

Moreover, according to the CBI report, during the second quarter of 2020, the average level of "oversubscription" in the green bond market was 4.2 times for bonds issued in euros and 3.5 times for bonds issued in US dollars; for conventional bonds, this indicator reached the mark 2.9 times (in euros) and 3.3 times (in dollars) (Climate Bond, 2021b).

The average spread contraction for green bonds issued in EUR amounted to 24 and 25 bp—for green bonds issued in US dollars. At the same time, it should be noted that "oversubscription" and further reduction of spreads—just like in the conventional bond market–is a normal pricing process. It is also noteworthy that since March 2020, for both conventional and green bonds, the level of "oversubscription" and spread reduction has been increased. Moreover, in the first quarter of 2020, there was the largest reduction in spreads on green bonds since 2016.

In terms of liquidity, green bonds are usually on par with conventional ones and sometimes show even better results. For example, the bid-ask spread that is, the difference between the highest acceptable purchase price and the lowest possible selling price, for green bonds is almost 48% lower than that calculated for conventional bonds.

In general, the relatively low return on green bonds suggests that the demand for these debt securities is growing, investors are increasingly following the principles of responsible investing, and also points to the gap between supply and demand. However, on the other hand, taking into account the general upward trend in the global green bond market, it can be assumed that the supply of this financial instrument will be expanded and, possibly, this phenomenon will lead to an increase in the level of profitability and a reduction in the discount to yield on green bonds.

In addition, the value of "greenium" varies depending on the affiliation of the issuer to the industry. So, in the financial sector, the discount can be about 25–30 basis points for dollar-denominated bonds and about 10–15 basis points for those issued in euros. The largest discount to yield is observed in the energy and telecommunications sectors, where this indicator exceeds 30 basis points (Fig. 4.1).

Following the best world practice, at present in the Russian Federation, much attention is paid to the possibilities of responsible financing and development of the green sector of the financial market. Fostering green finance is part of the national development strategy toward a green economy. In 2005, the Russian Federation ratified the Kyoto Protocol, and in 2019 joined the Paris Climate Agreement (UN, 2015), which implies a reduction in the level of harmful emissions into the atmosphere. In the same year, the national project "Ecology" (Gov, 2019) was developed and adopted, which regulates the normative environmental indicators for the period up to 2024.

The history of the development of the green bonds sector of the stock market in the Russian Federation began with the creation of a specialized ESG-sector within the framework of MOEX. In 2019, the Moscow Exchange launched the Sustainable Development Sector, a platform for placing green, social bonds and bonds, the proceeds of which are used to finance national programs. Securities are placed by Russian and foreign organizations in accordance with international standards and principles (ICMA, CBI) to finance ESG projects.

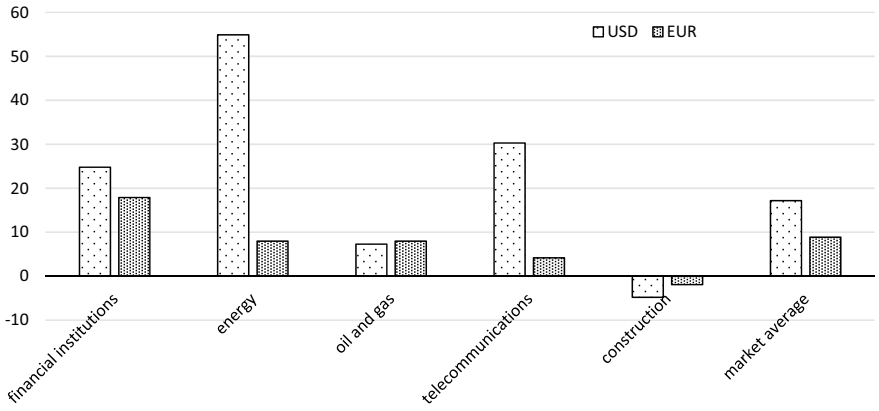

Fig. 4.1 Weighted average value of the discount to yield on green bonds. 2020 *Source* Compiled by the authors based on (VEB,) statistics

The first Russian green bonds on the Moscow Exchange were issued by Center-Invest Bank in November 2019 for RUB 250 million (MoEx, 2021) for a period of 1 year. Now more green bonds of the issuer are circulating in the sector, also issued for 1 year with an issue volume of RUB 300 thousand and a coupon rate of 5.75%. Center-Invest bonds are the only green bonds issued in the Sustainable Development Sector, issued for 1 year, less than the benchmark (less than RUB 500 thousand). Bank Center-Invest uses the proceeds from the sale of green bonds to issue loans to stimulate the sector of environmentally friendly vehicles and efficient use of energy.

As of mid-2021, bonds of five green issuers were in circulation in the Sustainable Development Sector: FPC Garant-Invest, Siberian Federal District Rusol 1, Transport Concession Company, Bank Center-Invest and the Moscow Government. It should be noted that the majority of bonds in circulation in the Sustainable Development Sector of the Moscow Exchange are long-term debt securities. The total value of bonds issued in the Sustainable Development Sector was RUB 88.9 billion or 90.06% of the total issue of ESG bonds in the sector (MoEx, 2021).

It seems crucial to define and analyze the value of the yield to maturity of some green bonds in circulation in the Sustainable Development Sector of the Moscow Exchange (MoEx, 2021), which will make it possible to analyze the "greenium" trend in the Russian market. The data obtained indicate that there is an important tendency on the Russian market—the absence of a green discount to profitability, or the "greenium" phenomenon. The average level of yield to maturity, ceteris paribus, in mature markets was 0.471% (JPX, 2021; Euronext, 2021). As we can see, in the Russian market, investors are offered an increased yield to maturity, which differs from the values shown by green bonds in mature markets.

Indeed, as estimated by the analytical agency Ekspert (Katasonova and Mitrofanov, 2021), the Russian green bond market has not yet seen a stable "greenium" phenomenon or a negative discount to the yield on green bonds. However, this phenomenon may arise due to measures of state support.

It should be noted that this trend is present in almost all emerging markets, which testifies to the underdevelopment and insufficient base of the green bonds sector of the Moscow Exchange.

In order to determine the characteristics of the Russian green bond market and to prove the hypothesis that it is inferior in some parameters to foreign, relatively more developed, green bond markets, we will conduct a comparative analysis of green bond issues on the Moscow Exchange (MoEx, 2021) and foreign platforms such as the Tokyo Stock Exchange (JPX, 2021), Euronext Paris and Euronext Amsterdam (Euronext, 2021). According to the data obtained, the depth of the Russian market is still significantly lagging behind the volumes of foreign exchanges, both in the number of issuers that entered the market and in the total cost of green bond issues. Simultaneously, a specialized segment of the financial market dedicated to the issue of bonds related to the achievement of the Sustainable Development Goals has not yet been created on some European sites. One of the leading stock exchanges is the Paris Stock Exchange, where 23 issuers were registered, and the Dublin Stock Exchange (Euronext), where 51 issuers carried out green bond issues (Euronext, 2021). At the same time, Russian issuers offer a higher coupon on green bonds (the maximum coupon is 16.016%) (MoEx, 2021).

A complete register of Russian issuers that placed both Russian and foreign stock exchanges is maintained by the Competence and Green Expertise Center of the National Association of Concessionaires and Long-Term Investors in Infrastructure. In February 2020, the Expertise Center developed and submitted the Register of Russian issuers of green bonds, which includes the specifics of the placement and issuance of green debt securities. As of the beginning of April 2021, the register included six issuers (LLC Resursosberezhenie KhMAO, JSC Russian Railways, PJSC CB Center-Invest, FPC Garant-Invest, LLC SFO Rusol 1 and Transport concession company) and 17 issues of green bonds. According to the register, the total volume of green bonds issued by Russian companies amounted to RUB 7.6 billion, EUR 500 million and SHF 500 million. Among the issuers presented, all securities were listed on the Moscow Exchange, except for the green bonds of JSC Russian Railways, which were issued on the Irish and Swiss stock exchanges on May 23, 2019, and March 11, 2020, respectively. At the same time, information on the issues of the instrument by the Russian Railways company was included in the ICMA and CBI databases. Thus, taking into account the absence of the "greenium" phenomenon in the Russian green bond market, we can conclude that Russian issuers enter foreign exchanges in order to obtain "greenium", a discount on the yield on issued green bonds.

Thus, in May 2019, JSC Russian Railways for the first time carried outplacement of Eurobonds to finance green projects, following the principles of ICMA green bonds. The funds raised via the issuing will be used to purchase electric locomotives, modernize railroad infrastructure and build special treatment facilities, which will subsequently reduce energy consumption and minimize the greenhouse effect, provided that electronic locomotives are used. It should be noted that the share of green bonds in the total volume of the company's bond issues is small, and in the volume of Eurobonds issued by the company, it is only 11%.

In March 2021, the company issued perpetual green bonds in the amount of SHF 25 million (about RUB 2 billion) on the Swiss Stock Exchange with a coupon of 3.125%. These green bonds were rated BB + (Fitch).

By private subscription, JSC Russian Railways also issued perpetual green bonds on the Russian market. This bond issue, in accordance with the principles of the green economy, was verified according to the VEB.RF methodology. However, according to the statement of the head of the company in January 2021, one of the largest global bond funds, PIMCO, was unable to purchase the company's ESG bonds, since half of the company's turnover falls on cargos of carbon origin.

According to a study by the analytical agency ACRA, there was also a phenomenon in the Russian market when the growing demand was not supported by the corresponding supply due to "oversubscription", in particular, during the placement of green bonds of Russian Railways and Center-invest bank. This phenomenon assumes a situation when the volume of applications for the purchase of a security exceeds the established volume of the issue.

At present, the Russian green bond market is expanding its boundaries toward the issuance of sovereign green bonds. On May 27, 2021, the Moscow Government carried out the first issue of sub-federal debt in Russia for 7 years in the format of green bonds for the RUB 70 billion, and the coupon was 7.38%, in the Sustainable Development Sector of the Moscow Exchange. (MoEx, 2021) The funds received from the issuance of such bonds, first of all, will be used to finance infrastructure programs and environmental projects, including the construction of new metro lines, the purchase of electric buses, which will lead to a significant reduction in the level of air pollution. These bonds were also characterized by the phenomenon of "oversubscription" of almost 20%.

When developing the project, the authorities noted that the Government would not be able to receive a discount on the coupon rate of green bonds for compliance with the Sustainable Development Goals. Indeed, the coupon on these bonds was 7.38%, which is higher than the coupon values for longer-term corporate bonds but below the coupon value of seven-year corporate bonds circulating in the Sustainable Development Sector. Undoubtedly, such a decision became an important stimulus for the development of the market in the Russian Federation and set a new trajectory for state green financing.

It should also be noted that Russian green bonds, like foreign ones, are issued mainly for institutional investors.

4.3 Results

To analyze and establish the significance of the influence of factors on the yield to maturity of green bonds and the coupon on green bonds, we will test two econometric models (for the yield to maturity of green bonds—econometric model No. 1 and on the coupon for green bonds—econometric model No. 2).

When constructing econometric model No. 1, we analyzed 100 corporate and sovereign issues of green bonds in circulation (as of May 2021), including issuers whose bonds circulate in the Sustainable Development Sector of the Moscow Exchange. In order to determine the significance of the influence of factors on the yield to maturity of green bonds, the following regression specification was compiled (4.1).

$$\begin{aligned} \text{YLDM} = &\beta_0 + \beta_1 * \text{CPN} + \beta_2 * \text{VLM} + \beta_3 * \text{CRCPRD} \\ &+ \beta_4 * \text{MRKT} + \beta_5 * \text{ISS} + u \end{aligned} \tag{4.1}$$

where YLDM—dependent variable, yield to maturity (percentage), CPN—regressor, green bond coupon (percentage), VLM—regressor, green bond issue (in EUR million), CRCPRD—regressor, maturity of green bonds of this issue (in years), MRKT—binary factor, the type of market in which the green bonds were issued (1—developed market, 0—emerging market), ISS—binary factor, issue (1—corporate, 0—sovereign), u—regression error, a β_1, β_2, β_3, β_4 и β_0—regressor coefficients.

Based on the obtained sample, the following indicators were calculated that characterize the regression model:

- The coefficient of determination, the "quality of fit indicator" is 0.79206404 that is, the model describes 79% of the data variance, or 79% of the change in the dependent variable is interpreted based on the regressors of this model.
- The value of the F-statistic with degrees of freedom of 5.94 was 71,612.
- The p-value calculated for the model is less than 0.05, which indicates that the model as a whole is significant.

It is possible to analyze the indicators calculated for each of the model regressors (Table 4.1).

Using the least squares method, the coefficients of the regressors were calculated (Fig. 4.2).

The coefficient at the factor "coupon of a green bond" determines that when the coupon on a green bond changes by 1%, the yield to maturity on this green bond on average, ceteris paribus, increases by 0.863154%. The value of the coefficient for the factor "volume of issue" suggests that with an increase in the volume of issuance of green bonds by EUR 1 trillion, the value of the yield to maturity on average, ceteris paribus, increases by 0.088936%. According to the obtained coefficient β3, with an

Table 4.1 Indicators of factors in the econometric model No. 1

	CPN	VLI	CRCPRD	MRKT	ISS	Const
Coefficient (β_0, β_1, β_2, β_3, β_4)	0.86315	0.889352	0.047272	−2.3155	−2.31647	1.10235
p-value	0	0.570624	0.787057	0	0.532504	–
Standard deviation	0.075093	0.60469	0.49239	0.066002	0.49052	–

Source Authors' calculations based on data (MoEx, 2021; JPX, 2021; Euronext, 2021)

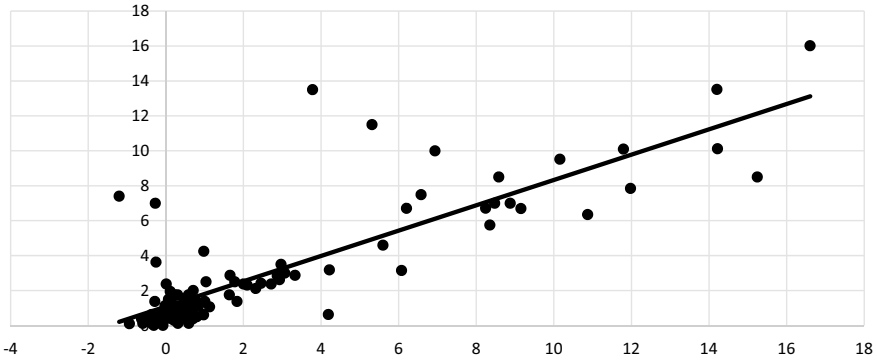

Fig. 4.2 Equation of the dependent variable (yield to maturity) and the regressor (coupon on the green bond), built using the method of least squares *Source* Author's calculations based on data (MoEx, 2021; JPX, 2021; Euronext, 2021). Built by the authors

increase in the circulation period of green bonds by 1 year, the yield on green bonds on average, other factors being equal, increases by 0.047272. The coefficient for the binary factor "the market in which the issue of green bonds was carried out" means that other factors being equal on average, the yield to maturity of green bonds issued in more developed markets is lower than the yield to maturity calculated for bonds issued in emerging markets by 2.32%. Similarly, the binary factor "type of green bond issue" shows that all other conditions are equal, for the issuance of sovereign green bonds, the yield to maturity is on average 2.316% higher than the yield to maturity of corporate green bonds.

We also find it important to determine the degree of stability of the obtained coefficients, based on the values of the standard deviation. Thus, the most stable regressors of econometric model No. 1 are the green bond coupon factor (0.075093) and the regressor characterizing the market on which the issue was carried out (0.066002).

However, when considering the p-value indicator (Table 4.1), which is critical and indicates the significance of each regressor, it was determined that the significant factors were the "green bond coupon" factor and the "green bond market" regressor because the p-value for these regressors (about 0 for both factors) is less than 0.05.

Graphical analysis of the equation of the dependent variable and the coupon for green bonds (Fig. 4.2) showed that, indeed, the "coupon" factor is significant in the tested regression model.

Thus, the study found that significant regressors, i.e., factors influencing the yield to maturity of green bonds, are the coupon for green bonds and the type of market where the green bonds were issued. Also, the analysis of the obtained sample revealed that in developed markets the yield to maturity of green bonds on average in May 2021 was 0.471%.

Taking into account the fact that the coupon on green bonds is a significant factor in regression model No. 1, it is advisable to identify the determinants that affect the coupon size on green bonds.

In the same sample, an econometric model No. 2 was developed and tested, the specification of which is as follows (4.2).

$$\mathrm{CPN} = \beta_0 + \beta_1 * \mathrm{VLM} + \beta_2 * \mathrm{CRCPRD} + \beta_3 * \mathrm{MRKT} + \beta_4 * \mathrm{SCTR} + \mathrm{u} \quad (4.2)$$

where CPN—fixed annual coupon rate for a given green bond, calculated as a percentage, and dependent variable, VLM—volume of the issuer's issue (in EUR million), CRCPRD—maturity of the green bond (in years), MRKT—binary factor, developed or emerging market, SCTR—binary factor, the sector of operation of a given company (a company whose activities are directly related to environmentally friendly production, the use of renewable energy sources, waste processing, or a company whose main activities are not directly related to achieving the Sustainable Development Goals, that is, financial, production private or other company), u—regression model error. VLM, MRKT, CRCPRD and SCTR are the regressors of the given econometric model. Coefficients β_1, β_2, β_3, β_4 и β_0—regression coefficients characterizing the effect of regressors on the dependent variable CPN.

This makes it possible to identify the degree of influence of factors (VLM, CRCPRD, SCTR) on the coupon value for green bonds and to test the hypothesis assuming that the factors specified in the specification are significant. Equation (4.2) reflects the dependence of the coupon of the green bond on the selected regressors.

Based on the data in Table 4.2 and the obtained regression coefficients, it is possible to analyze their effect on the dependent variable. It can be noted that when the factor "issue volume" changes by EUR 1 million, the dependent variable, i.e., the coupon of the green bond, on average, other factors being equal, changes by -2.319e-11. If the "maturity" regressor is changed by 1 year, the coupon, ceteris paribus, is reduced by 0.013 percentage points on average. The binary factor "the market in which the issuance of green bonds was carried out" shows that the coupon on green bonds in developed markets, ceteris paribus, is on average 4.8854% lower than in emerging markets. This means that the coupon on green bonds issued by organizations directly related to the achievement of the Sustainable Development Goals, the use of renewable energy sources, waste recycling, etc., is 1.2% higher than the same indicator for green bonds issued by other organizations.

It is possible to determine the degree of stability of the coefficients $\beta 1$, $\beta 2$, $\beta 3$, $\beta 4$ by analyzing the values of the standard deviation of the coefficients. The most stable

Table 4.2 Indicators of factors in the econometric model No. 2

	VLM	CRCPRD	MRKT	SCTR	Constant
Coefficient (β_0, β_1, β_2, β_3, β_4)	−2.319e-11	−0.013	−4.8854	1.2040	6.1499
p-value	0.739	0.944	0	0.030	0
Standard deviation	6.94e−11	0.019	0.525	0.546	0.474

Source Author's calculations based on data (MoEx, 2021; JPX, 2021; Euronext, 2021)

coefficients are the coefficients $\beta 2$ (0.019) and $\beta 3$ (0.525) that is, the coefficients of the factors "maturity" and "market in which the company operates".

In accordance with the obtained result in terms of p-value, the most significant factors are "the market in which the bonds were issued" and the regressor "the sector of the company's functioning" (0 and 0.03, respectively).

4.4 Conclusion

The analysis of the current situation in the global green bonds market make it possible to conclude that even taking into account the global force majeure factor that has emerged in recent years, this market continues to develop progressively. The lock-downs introduced in different countries did not have an adverse effect on it, and industrial, transport and technical restrictions (together with the energy transition carried out in many developed countries), on the contrary, led to an increase in the demand for environmentally friendly projects and, accordingly, an increase in demand for green bonds.

The analysis showed that the following trends are typical for the Russian green bond market:

- an increase in the yield to maturity on bonds circulating in the Sustainable Development Sector of the Moscow Exchange due to the absence of the "greenium";
- increasing the volume of issues (however, the base of issues is still insufficient in comparison with the world's leading stock exchanges);
- expansion of the market toward the issue of sub-federal green bonds.

The study of possible factors of the appearance of the "greenium" phenomenon, discounts to the yield on green bonds, is of great scientific and applied importance and allows us to find out which regressors are significant and affect the analyzed indicator.

In the study, it was found that the significant factors influencing the level of the fixed coupon rate are the binary factors of the model, namely, the regressor characterizing the sector of the company's functioning, and the factor "the market in where the green bonds were issued".

References

Abdelzaher, D.M., Martynov, A., & Abdelzaher, A.M. (2020). "Vulnerability to climate change: Are innovative countries in a better position?" Research in International Business and Finance, *51*(101098).

ACRA (2020). Why are green bonds so cheap? Because they are "green". Available at https://www.acra-ratings.ru/research/2010 (Accessed Sept 21 2021)

Bennett, S., Le Marois, J.-B., Orgland, N. (2021). Ten years of clean energy start-ups. Bloomberg, 2021, July, 23.
Climate Bond Initiative (2020). Green Bond Pricing in the Primary Market H2. Climate Bonds Initiative. https://www.climatebonds.net/files/reports/cbi_pricing_h2_2020_01e.pdf (Accessed Sept 21 2021)
Climate Bond Initiative (2021). Statistics. Available at https://www.climatebonds.net (Accessed Aug 09 2021)
Climate Bond Initiative (2021b). Green Bond Pricing in the Primary Market: H1 2020, H2 2020, H1 2019, H2 2019. https://www.climatebonds.net/resources/reports (Accessed: July 15 2021b)
Dogru, T., Marchio, E. A., Bulit, U., & Suess, C. (2019). Climate change: Vulnerability and resilience of tourism and the entire economy. *Tourism Management, 72*, 292–305.
Euronext (2021). https://www.euronext.com/en (Accessed 14 May 2021)
Gov (2019). National project "Ecology". http://government.ru/rugovclassifier/848/events/?page=2 (Accessed Sept 21 2021)
JPX (2021). https://www.jpx.co.jp/english/corporate/sustainability/esg-investment/esg-relatedproducts/03.html (Accessed May 14 2021)
Katasonova, Y., & Mitrofanov P. (2021). The future of the sustainable development market in the Russian Federation: banks are shaping the market". RA "Ekspert". https://raexpert.ru/researches/sus_dev/esg2021/ (Accessed Sept 21 2021)
Khmyz, O. V. (2019). International experience of green bond issue. Ekonomika. Nalogi. Pravo [Economics, taxes & law], *12*(5), 132–141. https://doi.org/10.26794/1999-849X-2019-12-5-132-141
Krylova, L. V., & Sergeeva, N. V. (2021). Transformations in the global economy and global finance under the impact of the COVID-19 pandemic. Riga: Scientific World, 220 P. ISBN 978-9934-9048-0-6
MoEx (2021). Official site of the Moscow Exchange of the Sustainable Development Sector. https://www.moex.com/s3019 (Accessed May 14 2021)
Sandberg, J., & Juravle, C. (2009). The Heterogeneity of Socially responsible investments. *Journal of Business Ethics, 87*(4), 519–533.
UN (2015). Paris Agreement. https://unfccc.int/process/the-paris-agreement/status-of-ratification (Accessed Aug 09 2021)
VEB (2020). Grinium. How much are investors willing to pay for the environment? https://veb.ru/files/?file=9a41daeb6c65dc9d0df34e1d92050466.pdf (Accessed July 19 2021)
Volksbanken Raiffeisenbanken, (2021). Sustainable Finance Bulletin. Volksbanken Raiffeisenbanken. 2021. Issue 08. https://www.dzbank.de/content/dzbank_com/en/home/DZ_BANK/press/News_Archive/2020.2020.04-12-2020-dz-bankissuessecondgreenbond.html (Accessed Sept 21 2021)
World Economic Forum (2021). Fostering Effective Energy Transition. World Economic Forum. 2021. April. https://www3.weforum.org/docs/WEF_Fostering_Effective_Energy_Transition_2021.pdf (Accessed Aug 09 2021)