

ANALYSIS OF FINANCIAL INDICATORS OF BOND ISSUES OF A HOLDING COMPANY

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ABSTRACT

JSC Russian Railways occupies a leading position on the Russian market of transport bonds. Since 2010, it has issued Eurobonds. International projects require a large amount of resources in foreign currency. The issuance of bonds is fraught with serious risks, which are particularly currency risk, risk of non-placement, interest risk, reputation risk. It is important for an

investor to understand the scope of risks when making investments in Russian Railways bonds. The use of non-standard methods of financial mathematics allows to estimate the risk of issued bonds in terms of their redemption. In order to make the right decision regarding investment, investors are encouraged to focus on indicators such as duration and its relation to the full term of the bonds.

Keywords: finance, economy, holding company, corporate debt market, credit ratings, Eurobonds, issuer vulnerability, risks, duration, debt burden, loan portfolio.

Background. For a market economy, there are certain conditions that must be taken into account by modern companies. Among them, it should be noted, firstly, consolidation of production as a result of increasing concentration and centralization of capital, and secondly, limited resources. The latter applies to financial resources. Once they are limited, even large companies lack their own funds to finance their current activities and development. The solution to the problem is the use of borrowed funds. Bonds are among the most relevant tools in this sense.

Objective. The objective of the authors is to analyze financial indicators of bond issues of JSC Russian Railways.

Methods. The authors use general economic and mathematical methods, comparative analysis, evaluation approach, statistical method.

Results.

The segment is doomed to develop

In Russia, the corporate debt or corporate bond market emerged in 1999. Bank lending could not meet the resource needs of large companies, and then the first bonds appeared in the country. Since then, this segment of the financial market has been developing dynamically.

Today, the Russian bond market is under the influence of contradictory factors. This explains the combination of the trend for growth in market volumes with its contractions in certain periods. Thus, according to analysts at Cbonds, as of November 1, 2018, the volume of the corporate bond market in Russia has increased over the month by 0,21 %. The total volume of all issues of corporate bonds amounted to 11,666 trillion rubles, corporate Eurobonds to 112,3 billion dollars. There are 1353 issues of bonds issued by 401 issuers [1].

One of the first participants in the Russian bond market was Russian Railways corporation. The first placement of bonds by it was carried out in 2004.

Today, JSC Russian Railways is one of the largest transport companies in the country, Europe and the world economy. It belongs to the strategically important companies of Russia, the size of its contribution to our economy at the end of 2017 was about 1,4 % of GDP. The holding owns the third largest railway network in the world, the state owns 100 % of the company's shares.

Russian Railways has set ambitious goals, including development of a unified transport space of Russia based on the balanced priority development of an efficient transport infrastructure, ensuring availability and quality of transport and logistics

services. The amount of funds spent by the holding for investment purposes in the first half of 2018 exceeded 287 billion rubles (for comparison: in 2017 – 251,495 billion). The implementation of projects aimed at upgrading the fleet of locomotives, increasing capacity and ensuring safety of the railway infrastructure was continued.

The investment program of JSC Russian Railways for 2018 amounted to 549,6 billion rubles. The total investment in the development of railway transport until 2025 is estimated at 7,553 trillion rubles, of which about 150 billion rubles will be spent on the introduction of digital services [2–4]. Among the large-scale projects are modernization of BAM and Transsib mainroads, development of infrastructure at Moscow railway junction, renewal of railway infrastructure at the approaches to the ports of Azov-Black Sea basin, creation of Moscow–Kazan high-speed rail line, and construction of the Northern Latitudinal Railway.

Naturally, significant funds are attracted to achieve these goals. And it is not by chance that in the market of transport bonds JSC Russian Railways occupies a leading position. Since its presence in the corporate debt market, the company has received decent ratings from reputable credit rating agencies Moody's, Standard & Poor's, Fitch [6].

Credit ratings are used to assess the solvency of the issuer of debt obligations. The financial implication is that the higher is the credit rating, the safer is the object for investment and the lower is the potential yield on debt instruments. The presence of the rating allows the issuer to offer its securities to a wide range of investors. Overall, the credit rating makes the lender more well-known and raises his reputation in the domestic and international financial markets. Since rating agencies have peculiarities in evaluating factors affecting the position of the issuer of debt obligations, many companies prefer to turn directly to the estimates of several agencies.

Reliability ratings

Credit ratings have two scales: according to the international scale, issuers of debt obligations are compared with other countries and international companies, and according to the national scale, comparison of issuers is carried out within one country. The correspondence of the international scales of the leading world agencies is given in Table 1. At the same time, the organization's international credit rating cannot exceed its country's credit rating.



Table 1

Correspondence of international scales Moody's, Standard & Poor's, Fitch

No.	Moody's Investors Service	S&P Global Ratings	Fitch Ratings
1	Aaa	AAA	AAA
2	Aa1	AA+	AA+
3	Aa2	AA	AA
4	Aa3	AA-	AA-
5	A1	A+	A+
6	A2	A	A
7	A3	A-	A-
8	Baa1	BBB+	BBB+
9	Baa2	BBB	BBB
10	Baa3	BBB-	BBB-
11	Ba1	BB+	BB+
12	Ba2	BB	BB
13	Ba3	BB-	BB-
14	B1	B+	B+
15	B2	B	B
16	B3	B-	B-
17	Caa1	CCC+	CCC+
18	Caa2	CCC	CCC
19	Caa3	CCC-	CCC-
20	Ca	CC	CC
21	C	C	C

According to the group of international projects LLC Cbonds.Ru [5, p. 2].

To assess reliability of the investment object, the forecast is also used, which varies within four options: positive (the rating value may be increased), negative (the probability of decrease), stable (the rating value most likely will not change), developing (the value may be increased or decreased). The forecasting horizon ranges from six months to two years.

Another parameter is the rating category. The rating scale of all agencies is divided into two categories: 1) investment designates a group of stable, successful issuers; 2) speculative – more risky group of issuers. Thus, the ratings BBB+, BBB, and BBB- belong to the investment category and indicate a sufficient ability of the issuer to repay financial liabilities with a high sensitivity to adverse economic conditions. The probability of repayment of the loan and interest is considered adequate, and the degree of risk varies depending on the stage of development of a country's economy. The BBB-rating is the lowest in this category. The highest rating in the speculative category is BB+. It means a small vulnerability of the issuer in the short term and its higher dependence on negative changes in the economic and financial spheres. Loan payments are well protected.

During its presence on the bond market, JSC Russian Railways maintained a stable rating ranging from BB+ to BBB+ (according to the S&P scale). The lowest rates were observed in 2004 and 2016. In

2004, this could be explained by the company's entry into the debt market, and the 2016 rating appears to be a consequence of the depreciation of the Russian currency and the decrease in consumer demand, which affected the results of railways.

Actual ratings and forecasts are shown in Table 2.

S&P and Moody's upgraded the rating of JSC Russian Railways, and Fitch did not rate it in 2018. In general, the company has high ratings: debt obligations transferred from the speculative category to investment. Russian Railways bonds are among the most reliable in the Russian market, and credit ratings from national rating agencies are at the highest AAA level.

Bond types and risks

All bonds issued by JSC Russian Railways are divided into the following types:

- exchange-traded documentary interest non-convertible bearer bonds with obligatory centralized storage of 001P-R series;
- exchange-traded bearer interest-bearing non-convertible bonds with a mandatory centralized storage of BO series;
- non-convertible interest-bearing documentary bearer bonds of 08 series with obligatory centralized storage of BOB series;
- non-convertible interest-bearing documentary Eurobonds of euro series.

An analysis of the structure of bond issues by maturity for the period from 2009 to 2017 shows that

Table 2

Investment ratings and forecasts of JSC Russian Railways

No.	Agency	Last modified	International scale			
			Foreign currency		National currency	
			Rating	Forecast	Rating	Forecast
1.	S&P	27.02.2018	BBB-	Stable	BBB-	Stable
2.	Moody's	29.01.2018	Baa3	Positive	Baa3	Positive
3.	Fitch	29.09.2017	BBB-	Positive	BBB-	Positive

Compiled according to the archive of ratings of JSC Russian Railways [6, p. 1].

the holding company shifts priorities to a differentiated approach to the issue of maturities. In 2014–2015, long-term issues from 16 to 30 years prevailed in the structure of bonds. But in 2016 the situation changed: bonds for a period of 4 to 9 years began to prevail. According to the debt policy of JSC Russian Railways, the company allocates long-term borrowings to finance strategically significant and commercially viable investment projects, as well as to refinancement of repayable obligations. Short-term borrowings provide flexibility in managing current liquidity. The share of foreign currency borrowings in the loan portfolio of JSC Russian Railways in 2017 was 35 % (the marginal value is 40 %), the share of short-term debt was 12 % (the marginal value is 15 %), the average borrowing period is 8 years (the marginal value is 7–10 years) [7, p. 120].

The company attracted funding in both the Russian and international markets. 49,8 % of the loan portfolio of JSC Russian Railways is represented by ruble bonds. Of these, 23,7 % of the issues were placed in favor of market investors for a period of 3 to 20 years and 26,1 % in favor of state funds (the Pension Fund and the National Wealth Fund) in the form of long-term infrastructure bonds placed in 2013–2015 for term from 15 to 30 years.

Between 2009 and 2017, JSC Russian Railways attracted 605,25 billion rubles in the Russian market. At the same time, 40,6 % of the loan portfolio was represented by Eurobonds placed for 4 to 20 years in different currencies (rubles, US dollars, euro, Swiss francs). The purpose of such placement is to attract foreign currency for possible financing of activities and projects abroad, as well as repayment of the currency part of the loan portfolio. It is interesting to note that JSC Russian Railways has become the largest corporate borrower from Russia in international markets, which managed to attract a significant number (up to 40 %) of foreign investors in ruble bonds [7, pp. 121–122].

JSC Russian Railways has been issuing Eurobonds since 2010. The company has a number of international projects in the framework of ITC «North–South», «East–West», «Primorye-1» and «Primorye-2», as well as regarding managing railway systems, engineering and implementation of infrastructure projects abroad. International projects require a large amount of resources in foreign currency. But in the current situation, the issuance of bonds in foreign currency is fraught with serious risks.

The following risks are usually highlighted in the analysis.

Currency – the risk of changes in the exchange rate. It is interconnected with bonds denominated in foreign currency, Eurobonds.

JSC Russian Railways encountered the manifestations of this risk for the first time in 2014. In

order to insure itself against its consequences, the company is forced to take action. For the change in the exchange rate does not affect financial position of the issuer, it is necessary to ensure a stable and sufficient income in the currency to which the bonds belong. A common tool in world practice is hedging: the holding uses it to insure currency, interest and price risks. Transactions are concluded with Russian and subsidiary banks of the largest international banks in the framework of SDA (Securities dealers association), helping to support the practice of swaps and derivatives. At the same time with the issue of bonds, the company can buy a swap, which insures against currency depreciation and the negative consequences of the risk. The policy of risk management of JSC Russian Railways excludes speculative management tools, operations with unreliable counterparties, and the main goal is to reduce volatility of budget parameters.

The assessment of the currency risk of JSC Russian Railways and the use of a tool to manage such risk are based on the size of the open currency position (OCP), which is defined as the difference between incoming and outgoing cash flows in foreign currencies. Accordingly, on a regular basis, monitoring and analysis of cash receipts and outflows in different currencies is performed to calculate OCP.

There is a constant risk of non-placement of the bond issue. Russian Railways holding as an issuer often faces such a risk. For example, due to a lack of demand, a total of nine bond issues were canceled.

Interest risk is the threat of changes in interest rates. It affects both the investor and the issuer. It all depends on which way the rates will move. Their growth may adversely affect the investor, while a decrease has a negative impact on the issuer. JSC Russian Railways, we recall, uses hedging to insure such a risk.

The company also faces reputational risks, although the parent organization JSC Russian Railways is a flawless borrower: it does not violate the terms of repayment of obligations, has the status of a monopolist in its industry and state support. However, the company's financial standing may be affected by the financial position of its subsidiaries and affiliates, of which there were 119 in 2017 [7, pp. 185–187].

For example, the technical default of JSC Russian Railways – Development of railway stations could affect the reputation of the parent company. «Lack of funds» was mentioned as a cause. The default was allowed for bonds at the amount of 250 million rubles. At that time, 25,03 % of the share capital of JSC Russian Railways – Development of railway stations was owned by JSC BAMinvest. In turn, the share of JSC Russian Railways in the share capital of JSC BAMinvest was 82,84 % [7, pp. 185–187; 8]. Thus, the problems of a subsidiary with a



Calculation of duration of a number of bonds of JSC Russian Railways

No.	Bond, issue	Start of placement	Maturity date	Issue volume, mln rub.	Period of circulation (days)	IRR in %	Yield in %	D	D/n
1.	RZD-001P-01R	07.04.2017	18.05.2032	15 000	5441	8,70	7,48	8,76	0,59
2.	RZD-001P-02R	27.04.2017	02.04.2037	15 000	7175	8,50	7,58	10,30	0,52
3.	RZD-001P-03R	18.05.2017	23.04.2037	15 000	7175	8,40	9,05	9,65	0,49
4.	RZD-001P-04R	17.08.2017	29.07.2032	15 000	5382	8,25	7,57	9,00	0,61
5.	RZD-001P-05R	20.02.2018	01.02.2033	20 000	5381	7,30	7,44	9,26	0,63
6.	RZD-11-bob	22.02.2017	04.02.2032	25 000	5382	8,65	8,40	8,69	0,59
7.	RZD-17-bob	27.05.2016	26.04.2041	25 000	8969	9,85	7,62	10,95	0,45
8.	RZD-17-ob	27.07.2009	16.07.2018	15 000	3229	7,50	6,75	6,74	0,76
9.	RZD-18-ob	27.07.2009	15.07.2019	15 000	3588	8,45	7,58	7,01	0,71
10.	RZD-19-ob	27.07.2009	08.07.2024	10 000	5381	8,15	6,98	9,18	0,62
11.	RZD-23-ob	04.02.2010	16.01.2025	15 000	5382	11,75	4,67	9,15	0,62
12.	RZD-28-ob	09.04.2013	21.03.2028	20 000	5382	8,20	7,05	9,15	0,62
13.	RZD-2-bob	29.10.2015	16.10.2025	15 000	3587	11,20	7,15	6,69	0,68
14.	RZD-30-ob	26.11.2013	07.11.2028	15 000	5381	7,65	6,92	9,32	0,63
15.	RZD-41-ob	15.12.2016	27.11.2031	15 000	5382	9,40	7,07	8,90	0,60
16.	RZD-7-bob	06.04.2016	25.03.2026	20 000	3589	10,30	7,15	6,80	0,69

When calculating the data [9, pp. 1–2] were used.

recognizable abbreviation, even if indirectly, might have caused a negative effect for the reputation of the parent company.

Maturity dates

It is important for an investor to understand his risks when making investments in bonds of JSC Russian Railways. Despite the fact that the bond is considered a very reliable tool, the risk is always present. When assessing it, the indicator such as duration is used. Duration is the weighted average maturity or weighted average duration of payments. This concept was first introduced by Frederick Macaulay in order to obtain an estimate of the duration of investment in a bond, and thus an estimate of the risk for its holder [15].

To calculate the duration, we use the formula:

$$D = \frac{\sum \frac{n \cdot S_n}{(1+i)^n}}{\sum \frac{S_n}{(1+i)^n}}, \quad (1)$$

where n – total term of the bond, S – payment amount, i – rate of placement.

The placement rate is based on the income stream, which is determined by the formula:

$$S = \frac{gN}{1+i} + \frac{gN}{(1+i)^2} + \dots + \frac{gN + N}{(1+i)^n}, \quad (2)$$

where g – coupon rate, N – nominal value of the bond, i – placement rate.

The calculation of duration of some of the company's bonds in circulation is presented in Table 3.

The real maturity of bonds is essential for the investor, since it reflects the risk and is an indicator when deciding whether to invest. The buyer always wants to understand how quickly they will be paid off. The relationship between the average term of the bonds and the riskiness is as follows: the greater is the ratio of duration to the full term of bonds, the greater is the risk. According to the results of the calculations, we see that bonds placed in 2009 for a period of nine years have the greatest risk, and the least risky bonds are those issued in 2016 for a period of 16 years.

Duration with load

The use of non-standard methods of financial mathematics allows us to estimate the risk of bonds issued in terms of their redemption. In order to make the right decision regarding investment, bond buyers are encouraged to evaluate indicators such as duration and its relation to the full term of bonds.

At the end of 2017, the total volume of the loan portfolio of JSC Russian Railways increased by 17 % and amounted to 1060,2 billion rubles [10]. A further slight increase in the debt burden of the holding is due to the build-up of the loan portfolio in order to finance the increased investment program, as well as the growth of the ruble equivalent of foreign currency obligations against

the background of the ruble weakening relative to individual world currencies compared to the beginning of 2018. In a certain sense, it is the result of the dynamics of the conjuncture of world commodity markets, which is influenced by the following factors:

- the increase in protectionist measures, which, according to the head of the IMF (International Monetary Fund) C. Lagarde, will entail a deterioration in the forecast of global economic growth. According to the World Bank estimates, by 2020 the growth rate of the GWP (gross world product) will decrease to 2,9 % [11, 12];

- the crisis of the world monetary system, which is expressed, firstly, in the growing popularity of modern surrogates of world money – cryptocurrency; secondly, in the transition to settlements in national currencies and the refusal to settle in US dollars;

- according to R. Dalio, the founder of the world's largest hedge fund Bridgewater Associates, in the next two years, the world expects a new financial crisis. He came to such conclusions as a result of analyzing the structure of the economic cycle [13];

- growing political instability in the global economy;

- expansion of the practice of applying sanctions measures often without the approval of relevant international organizations.

In this regard, the plan for avoiding payments in US dollars in favor of national currencies, outlined by the head of VTBA. Kostin, published in September 2018 seems relevant and noteworthy. One of the points of this plan is the need to transfer to the Russian Eurobond placement site and conduct licensing of all participants in the stock market so that they all work according to the same rules. The measures also include a proposal to create a Russian depository for placement of Eurobonds, i.e. replace the primary depository in the form of Euroclear (the international depository clearing center, founded in 1968, serves the over-the-counter international stock market) with a Russian counterpart [14].

Conclusion.

Selection of the best investment tools with the issue of corporate bonds requires a search for new approaches. We also need to take into account modern realities, and serious scientific study of the theoretical and methodological problems of investing in the fixed capital of Russian companies with the help of securities market instruments, including assessment of effectiveness of such investments.

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