

The paradoxes of Russian railways' loan policy

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Abstract. Russian Railways is gradually increasing its loan debt, which reflects the general trend of the economy. But, taking into account the objective economic state of railway transport and its low profitability, the increase in the share of borrowed funds reduces the company efficiency. This contradicts the purpose of using the loan, the purpose of which is to increase the return on equity. While analysing the results of the transport industry, we regarded it as an infrastructure industry, whose goal is primarily to provide macroeconomic indicators, and the problems of making profit recede into the background. An important factor in the development of the Russian economy in consideration of its geographical location is the development of transport networks, in which the predominant (at present and in the future) one is railway transport. However, its technical state requires significant modernization, investments far exceeding its own resources. The state, as a sole shareholder of Russian Railways OAO, does not have the necessary financial resources to handle the modernization, so Russian Railways is turning to the capital market, even reducing profitability. Private capital is willing to invest its capital only in separate modernization projects that can provide an acceptable rate of return for them. This explains the borrowing of capital for modernization at a price far exceeding the return on equity. At present, economic losses are expected to be set off by future revenues and mainly by the multiplicative effect of the economic growth of the national economy and the resolution of geopolitical problems. The purpose of the article is to try to explain the loan policy of Russian Railways.

Keywords: borrowed funds, long-term loans, short-term loans, bond loans

1 Introduction

Since 2003, with the beginning of the reform of railway transport, its status has changed. The railway became a shareholder company, but the state owns 99.99 % of the shares. The reform assumed that the main carriers would be private companies, but the experience of 2004–2006 showed that it is not always expedient from a macroeconomic point of view. One of the fundamental provisions of the reform is the idea that Russian Railways should gradually become an organization granting the right to use the railway structure rather than engage in transportation as the main activity.

One of the provisions of this reform is the technical modernization of infrastructure. The railway transport modernization process has increased dramatically since 2016. If we allocate the railway infrastructure as a separate economic management facility in order to reduce the cost of transportation process by the partial financing of the infrastructure from budget funds, it does not guarantee the actual reduction of tariffs. Tariffs will be supplemented by various surcharges that take into account the interests of the private carrier. This is what hinders the development of reform as a goal of strengthening the commercialization of the transportation process by railway transport.

At present, the role of loans is gaining ground due to the following reasons: firstly, the amount of monetary capital, which is not involved directly in the real capital movement, is increasing. This leads to the reduction of capital price. Secondly, there is growing uncertainty of economic processes, which often drives the need for additional investments, which cannot be covered by their own funds. Thirdly, the increase in financial uncertainty requires borrowed funds to maintain repayment ability. Fourthly, borrowing volumes in the consumer sector are increasing sharply. These phenomena are descriptive of the properties of the new stage in the development of capitalism: the growth of the importance of financial capital, when the credit sphere from the conditions of the real sector development turns into the dominant sphere of development and operation of capital. This raises the question of how the traditional terms of borrowing and credit granting have changed by the example of an individual organization. The answer to this question provides an opportunity to explain the seeming paradox of the loan policy of Russian Railways OAO.

2 Problem Statement

The volumes and stages of the proposed investments in the modernization of the main technical and

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technological base were determined depending on the economic situation in Russia. 2.44 trillion rubles were invested from 2010 to 2019, and it is still expected to invest up to 4.4 trillion rubles by 2022. In 2019, Russian Railways' in-house resources in the form of profit and amortization amounted to only 19.4 % of the funds invested in modernization. Most likely, the State, as the sole shareholder, on the basis of the established priorities, which are advocated by large industries of the first and second redistribution, cannot invest the missing amount from the National Welfare Fund. Private investors are willing to invest only in individual highly profitable projects or those that are needed as elements of their logistics chain. The insufficiency is supposed to be covered by borrowed funds.

The return on equity for the period of 2012–2019 was about zero. It makes one wonder whether it is possible to

form the loan policy of this organization by analogy with a commercial one. Naturally, this poses the question about the effectiveness of borrowing.

3 Research Questions

3.1 Analysis of the long-term borrowed funds utilization efficiency

Let us set ourselves the goal of determining the effectiveness of the utilization of long-term borrowed funds. For this purpose, we will use the data given in Table 1, where the dynamics of the growth of the share of long-term debt in revenue is clearly visible. Their share increased 7.5 times.

Table 1. Analysis of the dynamics of long-term loans and revenues, billions of rubles

Indicators/period of time	Code	2019	2018	2017	2016	2015	2014	2013	2012	2011	2019 to 2011
Borrowed funds	1410	1143.0	997.5	934.8	829.1	900.4	715.7	579.2	359.5	263.2	4.34
Revenue	2110	1848.1	1798.4	1697.6	1577.5	1510.8	1401.7	1376.6	1366.0	1288.3	1.43
Total due interest	2330	72.1	55.9	55.2	64.2	64.5	34.7	25.2	17.2	17.6	4.09
Borrowed funds for 1 ruble of revenue		15.84	17.85	16.93	12.91	13.96	20.63	22.99	20.95	14.92	1.06
Net profit (loss)	2400	53.46	18.36	17.50	6.50	0.32	-44.08	0.74	14.11	16.82	3.18

Source: [11, 12]

The increase of 4.4 times in long-term debt resulted in the increase of 1.2 times in revenue and 1.3 times in cargo turnover. Investments increased only 2.2 times during this period. There is a replacement of in-house and public sources of investments for borrowed funds. A large part of the borrowed funds does not act as capital, which leads not to growth, but, on the contrary, to a decrease in the return on equity. A vicious circle is created: the lack of in-house funds, the necessity to use borrowed funds for investments, and their growth leads to a reduction in their in-house sources.

Debt on borrowed funds includes not only interest on the loan, but also repayment of credit resources.

The main conclusion that can be drawn from Table 02 is that dependence on borrowed funds has increased dramatically. For each ruble of the revenue obtained, the company paid 28 kopecks in 2012 to repay the financial debt. In 2019, it paid 66 kopecks. Although there was a slight decrease in the cost of credit resources during this period, which reflects the general economic trend of the Russian financial market. However, despite the increase in financial risks, the International rating of Russian Railways is stable. This can be explained by the fact that the railway holding is state-owned and the risks will be repaid at the expense of public funds [3].

Another conclusion from Table 2 is an acknowledgement of the negative ratio of the dynamics of net profit and the total interest paid. They grow at a ratio of 3.18 to 4.34.

What would be the profit without the use of credit resources?

During the calculation, we take into account that the interest to pay relates to costs, which reduces the taxable profit and thus the net profit increases by 20 % of the amount of interest accrued.

The accrued net earning for the period from 2011 to 2019 amounted to 83.7 billion rubles, and the total interest paid amounted to 909.7 billion rubles, which is 10.7 times more. State funding for the same period amounted to 2,216 billion rubles. Thus, the financial sector (both national and foreign) increased their income by 909.7 million rubles. It is obvious that taxpayer funds have become a source of profit for private investors. Much of the shortage in the financial resources of the state holding is compensated from state sources. Isn't this financial market a vacuum cleaner that sucks out sources of development from the real sector?

From the standpoint of managing financial flows, it is advisable to analyse the ratio of short-, medium- and long-term borrowed funds, on the one hand.

3.2 Short-term loan policy analysis

What is the content-related difference between short-term loans, on the one hand, and medium-term and long-term loans on the other hand? Analysing this problem, it is necessary to determine the criteria for categorizing loans to a particular group. On the surface, it is quite simple. Banking statistics, carried out by the Bank of Russia, counts loans up to 1 year as short-term, loans up to 3 years as medium-term, and all others are long-term. However, these criteria are formal. Generally, "time" is a very under-researched concept in the economics.

Perhaps the definition of the loan urgency criteria should be based on the concept of loan. If the loan is used as a means of business development, i.e. as capital, the sign of which is self-reproduction, it is a medium- and long-term loan. In this case the price of the loan is tied to the return rate for the industry where the funds received on credit are invested.

The use of loans to maintain repayment ability should be seen as financing not capital, but money in their payment function. Here the invested value does not increase, but creates conditions for growth. This is a

short-term loan. In this case the price of this loan has no objective basis. Only supply and demand determine the price of a short-term loan, as the use of these funds is not aimed at developing or making a profit, but preventing bankruptcy of the business. In accounting, this form of loan is presented as accounts payable.

The amount of short-term loans (calculations on short-term loans and borrowings) increased 2.8 times. There is no clear correlation between the dynamics of short-term loans and revenue.

Table 02. Analysis of the dynamics of short-term borrowing funds and revenue

Indicators/period of time	2019	2018	2017	2016	2015	2014	2013	2012	2011	2010
Short-term borrowing funds, billions of rubles.	334.5	263.67	140.74	91.91	88.49	140.51	36.96	60.17	120.69	42.8
Borrowed funds, total	1477.5	1261.2	1075.5	838.2	988.9	856.2	616.1	323.4	597.8	306.1
Share of short-term debt, %	22.60	20.90	13.10	1.10	8.95 %	16.40	6.00	18.60	20.20	14.0
Revenue, billion rubles	1848.1	1798.4	16975	1577.5	1510.6	1401.7	1376.6	1366.0	1288.3	1848.5
Share of short-term debt in revenue, %	5.53	6.82	120.62	17.16	17.07	9.98	0.04	22.7	10.67	5.53

Calculated: [1, 5, 6].

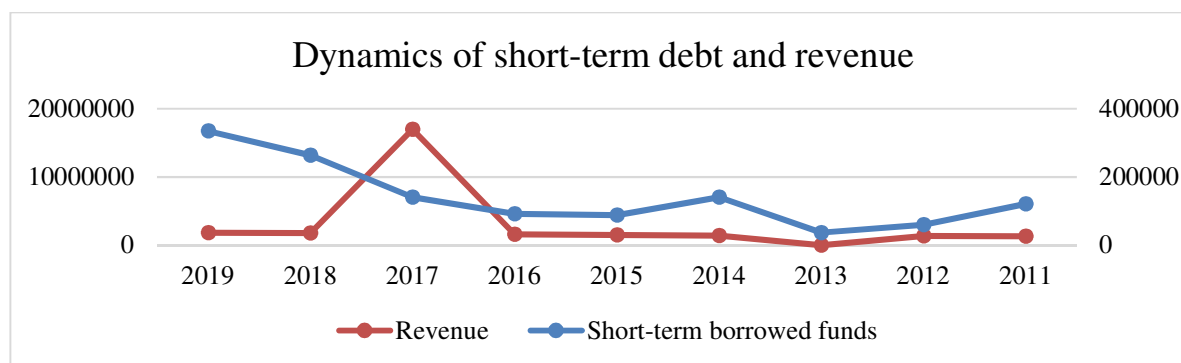


Figure 01. Short-term debt and revenue dynamics

Table 03. Analysis of dynamics of short-term borrowing funds and debts receivable, billion rubles

Indicators/period of time	2019	2018	2017	2016	2015	2014	2013	2012	2011	2011 to 2019
Accounts payable	334	264	141	92	88	141	37	60	121	3
Accounts receivable	139	138	124	122	135	123	57	60	86	2
Payables-receivables ratio	2.41	1.92	1.13	0.75	0.65	1.14	0.64	1.01	1.40	2

Calculated: [12].

Therefore, short-term borrowings are not associated with the changes of working capital, which is usually linked to revenue. Interest payments on this type of financial debt have little influence on prime cost. It is not possible to prove a correlation with long-term investments. It should be borne in mind that a significant part of accounts receivable is the result of late transfer of funds by the state. Thus, in 2016 accounts receivable related to decisions of federal and regional authorities amounted to 148.1 billion rubles [13]. Does short-term debt compensate for the working capital shortage due to the growth of accounts receivable?

Creditors' borrowed funds (except for 2016, 2015, and 2013) exceed accounts receivable. Moreover, this excess increased from 1.4 times in 2011 to 2.41 times in 2019, which reduced the saleability of Russian Railways OAO.

3.3 Analysis of Russian Railways' borrowings from the perspective of urgency

Of interest is an analysis of the debt policy of Russian Railways OAO in relation to the loan structure by maturity. The data is presented in Figure 2.

The general trend is to increase loans received for more than 3 years. However, each year the structure is formed according to the financial situation. This indicates a long-term policy on the structure of the loan portfolio according to due dates and ability to adapt to changing conditions. This structure increases the paying capacity of the organization, more in accord with investment policy, although it increases costs. It is important for Russian Railways to tie the loan periods to the life cycle of implementable investment projects.

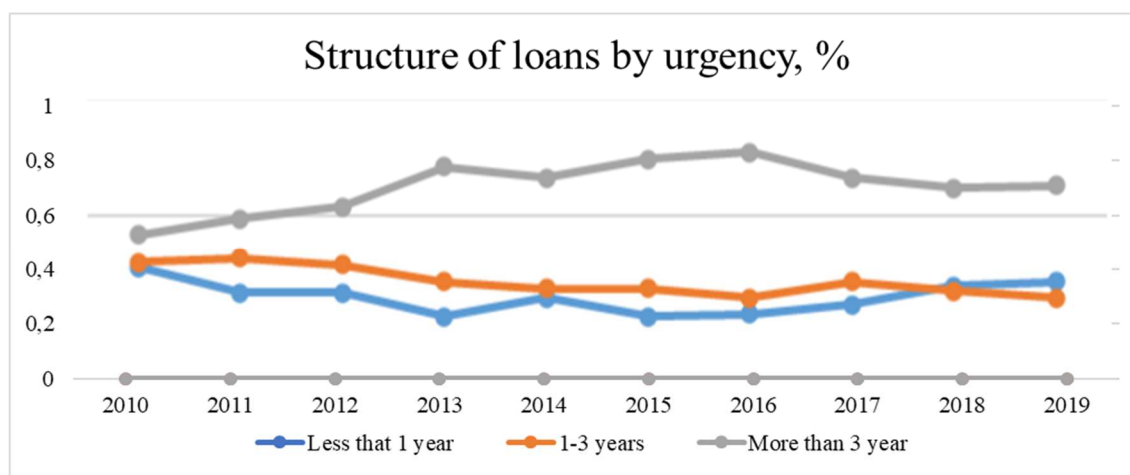


Figure 02. Dynamics of borrowed funds of Russian Railways OAO from the position of urgency . Calculated: [11, 12].

3.4 Analysis of the debt portfolio structure by types of instruments

Data for the analysis of the correlation of bank financing, domestic and foreign bond loans in rubles is presented in

Table 5. The transfer of euros, Swiss francs and pounds into rubles was carried out at the time of the issue.

The dynamics of bond loans tends to grow. The share of bank borrowings in 2019 decreased from 36.0 to 18.0 % when compared to 2010. This is explained by the increasing role of the stock market in long-term financing.

Table 04. The dynamics of the debt portfolio by type of instruments, in billions of rubles

Indicator name/period of time	2010	2011	2012	2013	2014	2015	2016	2017	2018	2018 to 2010
Bank financing	107.28	166.32	169.3	29	76	0	18	103	226	2.1
Eurobonds	149	82.026	156.9	237	398	488	637	430	406	2.7
Local bonds	41.72	129.65	86.73	340	369	481	490	527	612	14.7

Calculated: [2, 4, 9].

The main advantage of bond loans is that it is necessary to repay loans at the end of the period. The bond loans are of a long-term nature. This most fully corresponds to capital-intensive and long-term projects, as the source of bond repayment appears only with the beginning of the business activity. Banks, on the other hand, usually require regular repayment of debt before the project is developed. Bond loans more correspond to the nature of a loan as a source of recapitalization. Moreover, the number of individuals buying bonds increases. In 2020 bond loans have become more diverse. "Green" and perpetual bonds have become available. Their peculiarity consists in the fact that, in compliance with the law, the issuer has the right to unilaterally decide not to make payments by the bond coupons. In the case of Russian Railways' decision not to pay coupon bond yield, the Russian Ministry of Finance provides compensation for the forgone income to investors. The mechanism of the compensation of forgone income is in the process of being agreed upon.

In mid-May acting Prime Minister Andrei Belousov (who is also the head of the Russian Railways Board of Directors) signed an instruction allowing Russian Railways OAO to place "perpetual" bonds worth 370 billion rubles. In terms of the approved bond program, the company will be able to make several issues of perpetual bonds, as well as in foreign currency (within the approved ruble limit) [10].

Let us analyze the correlation of the dynamics of ruble and foreign exchange loans to Russian Railways

OAO. Borrowings in currency are appropriate when using these funds abroad, being able to accurately predict the exchange rate of the national currency.

We will try to analyze the borrowed funds received by Russian Railways in foreign currency. According to the loan policy, during the period 2010–2019 lending in foreign currency changed little and was 35 % on average, although in 2019 it was only 31.0 %. However, it is not indicated anywhere that foreign exchange borrowing should be related to foreign exchange earning amounts. Foreign exchange loans not tied to foreign exchange earnings are very risky because of volatility. In 2018, the total revenue of Russian Railways from foreign activities amounted to 471.8 million rubles, having increased by 33.0 %. This suggests that the risks associated with currency changes are decreasing [12].

Foreign currency loans are made in the form of bonded Eurobond loans. In 2010 bonds worth \$1.5 billion were issued at 5.74 % interest and with the period of repayment in 2017. This amount was equivalent to 45.5 billion rubles (at a rate of 30.4 rubles). The total payout was \$2.1 billion. To pay off this debt, it was necessary to purchase dollars for the sum of 223 billion rubles. The value of the bond loan issued in the national currency for the sum of 45.5 billion rubles would have cost Russian Railways only 75.0 billion rubles. There is no financial explanation of the advantages of bonds issued in foreign currency in the official sources of Russian Railways.

4 Purpose of the Study

Loan policy is determined by the economic state of the railway industry.

Table 01 data shows the steady pace of economic development. The volume of freight transportation

increased by 30.0 %. The GNI grew by 23 % in the same period. The volume of rail transport turnover depends basically on the advance of the economy, but due to the growth of the share of services and mainly due to the increase in transportation distances, the railway industry can achieve better turnover.

Table 05. Some economic characteristics of Russian Railways OAO

Indicator/ periods of time	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2019 to 2010
The amount of long-term debt, trillion rub.	0.26	0.36	2.60	0.58	0.72	0.90	0.83	0.93	1.00	1.14	4.3
The amount of freight transportation, trillion t. km	2.01	2.13	2.22	2.2	2.3	2.316	2.34	2.49	25.9	2.6	1.3
Revenue, trillion rub.	1.3	1.3	1.4	1.4	1.4	1.5	1.7	1.8	1.6	1.64	1.2
The amount of investment, trillion rub.	0.31	0.40	0.48	0.47	0.39	0.42	0.38	0.48	0.53	0.68	2.2
Return on equity, %	2.52	0.78	1	0	0	0	0	-1	0	0	-2.5
Share of long-term debt in revenue, %	0.5	0.6	1.19	1.65	2.36	3.92	3.92	3.09	3.11	7.0	

Calculated: [5, 11]

Revenue increased by 20 %. This points to the fact that there is a relative reduction in transportation costs, which is a positive result. When assessing revenue, it should be taken into account that Russian Railways is a natural monopoly and transportation tariffs are regulated by the state.

The growth of investments 2.2 times shows that all the stakeholders are serious about the implementation of the modernization program. And since the recoupment of infrastructure facilities is objectively very low, the return on investment is low, too. This is shown in the indicators of return on equity. The low return on equity accounts for a fact that, on the one hand, there is high capital intensity and, on the other hand, there is a much higher increase in long-term debt, since the return obtained on additional investments is paid as interest. Loan policy of Russian Railways for 2020–2022 is characterized by the increased activity of Russian Railways in the loan market. It is expected to borrow 297.3 billion rubles in 2020, 382.35 billion rubles in 2021 and 399 billion rubles in 2022. The increase in borrowed funds in 2020 is a consequence of the pandemic. State resources have been reduced and replaced by borrowed funds.

This will provide an opportunity to fulfill plans for investments in modernization. It is expected to spend up to 819 billion rubles in 2020, 842.1 in 2021 and 863.7 billion rubles in the coming year. The average loan rate is 7.7 %. The volume of loans in foreign currency during this period is 100–150 billion rubles, which will keep the share of foreign currency borrowings at the level of no more than 35.0 [10].

5 Research methods

Railway transport belongs to the infrastructure industries, the peculiarity of which consists in the fact that at some historical stage this industry, being socially necessary, however, cannot be profitable. This changes the way its effectiveness is evaluated. Natural indicators that characterize its contribution to the national economy development have top priority. In this case, the financing

of infrastructure development can be provided out at the expense of society, and not only through investment at the expense of in-house funds. The option may be to finance investments at the expense of the state, and to cover current costs from the in-house sources. The multiplier effect, obtained by the process of developing businesses using infrastructure, will exceed the cost of the state's infrastructure financing [7].

The article uses the accounting records of Russian Railways as the most reliable source of information. Information is often distorted in the media because of the amateurism of journalists.

The amount of borrowed funds is taken from the balance sheet, line 1410. Therefore, this does not include the accounts payable submitted by line 1520.

An accounting report was used to obtain information on the amount of long-term debt, line 5110.

Revenue is in accordance with data taken from the financial results report (earnings and losses), line 2010. Net profit is also obtained from this accountability form, line 2400.

Data on planned investment amounts are obtained from the "Investment program disclosure form (about the investment program projects) and reports on their implementation of Russian Railways" for the period of 2014–2016."

The bulk of the information on the quantitative parameters of bond issuance is taken from the website of RUSBONDS of the Interfax Group and from the document "Borrowing policy and debt securities" for different years, posted on the website of Russian Railways. This document presents the structure of loans by various parameters. Payments on loans are most accurately presented in the cash flow report, line 4123.

The complexity of the use of statutory records is related to changes in indicators and accountability forms.

6 Findings

The management of Russian Railways pursues an active loan policy, increasing the share of financial liabilities.

However, this reduces financial results due to the increase of the price of loan resources on the efficiency of their use. But given that the problem of increasing the contribution to the macroeconomic indicators of the long-term development of the national economy is put in the forefront before the Russian railway industry, this kind of a debt policy can be considered necessary. It can be improved by replacing foreign exchange loan resources with local bonds by increasing the share of government financing.

7 Conclusion

The transportation per se should be carried out largely by private companies. Prospects for the development of the economy in Russia which is spatially very extensive and oriented to large flows of raw materials for export face the limited capabilities of transport networks. The structure of domestic and international transportation is focused on railway transport that requires modernization. Modernization requires significant investments from Russian Railways. Due to insufficient in-house funds and severe budgetary restrictions, all these years the management of Russian Railways pursues an active loan policy. The paradox of the loan policy of Russian Railways is explained by the economic role of railway transport in Russia, which is to ensure the effective functioning of the overall public capital of the Russian economy.

References

1. *Balance sheet* (2011). Retrieved from: <https://www.tsum.ru/upload/iblock/133/133dcd68a82b90ca1746ba51835dc7c9.pdf>
2. *Borrowing Policy* (2019). Retrieved from: https://old-ir.rzd.ru/static/public/ru?STRUCTURE_ID=65
3. *Company ratings* (2020). Retrieved from: <https://company.rzd.ru/ru/9474>
4. *Debt portfolio structure* (2014). Retrieved from: <http://ar2013.rzd.ru/ru/investor-relations/loan-portfolio11>
5. *Federal Statistics Service* (2020). Retrieved from: <https://rosstat.gov.ru/storage/mediabank/3TZ2EcWc/gruz-ob.xls>
6. *Financial results analysis, Russian Railways annual report* (2020). Retrieved from: <https://ar2019.rzd.ru/ru/performance-overview/financial-results/income-expenses-analysis>
7. A.S. Merkulov, O.G. Terekhova. The problem of financing transport infrastructure and how to solve it. *Transport Infrastructure of the Siberian Region. Materials of the 7th Int. Sci. and Pract. Conf., dedic. to the 355th anniver. of the found. of the city of Irkutsk*, vol. 4 (IrGUPS, Irkutsk, 2016), pp. 104–110
8. *Russian Railways OAO: accounting and financial analysis* (2020). Retrieved from: https://www.audit-it.ru/buh_otchet/7708503727_oao-rossiyskie-zheleznye-dorogi
9. *Russian Railways placed the issue of perpetual bonds for 30 billion rubles* (2020). Retrieved from: <https://www.rusbonds.ru/nwsinf.asp?id=526570>
10. *Russian Railways raised the loan plan in 2020-22 in contrast to increased investments* (2019). Retrieved from: <https://company.rzd.ru/ru/9401/page/78314?id=18198515>
11. *The 2014 Annual Report of the Russian Railways OAO* (2015). Retrieved from: <https://ar2018.rzd.ru/ru/performance-overview/financial-results/debt-policy>
12. *The 2019 Annual Report of the Russian Railways OAO* (2020). Retrieved from: <https://ar2019.rzd.ru/ru/performance-overview/financial-results/income-expenses-analysis6>
13. *Working capital management* (2016). Retrieved from: <https://ar2016.rzd.ru/ru/financial-results/working-capital>