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Article

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Risks

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Suggested Citation: Kharlanov, Alexey S.; Bazhdanova, Yuliya V.; Kemkhasvili, Teimuraz A.; Sapozhnikova, Natalia G. (2022) : The case experience of integrating the SDGs into corporate strategies for financial risk management based on social responsibility (with the Example of Russian TNCs), *Risks*, ISSN 2227-9091, MDPI, Basel, Vol. 10, Iss. 1, pp. 1-19, <https://doi.org/10.3390/risks10010012>

This Version is available at:

<https://hdl.handle.net/10419/258323>

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Article

The Case Experience of Integrating the SDGs into Corporate Strategies for Financial Risk Management Based on Social Responsibility (with the Example of Russian TNCs)

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Citation: Kharlanov, Alexey S., Yuliya V. Bazhdanova, Teimuraz A. Kemkhashvili, and Natalia G. Sapozhnikova. 2022. The Case Experience of Integrating the SDGs into Corporate Strategies for Financial Risk Management Based on Social Responsibility (with the Example of Russian TNCs). *Risks* 10, 12. <https://doi.org/10.3390/risks10010012>

Academic Editor: Wing-Keung Wong

Received: 2 December 2021

Accepted: 22 December 2021

Published: 4 January 2022

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Abstract: The motivation of this research consists in the following: the traditional commercial approach to financial risk management amid economic crises implies the reduction of corporate social responsibility, based on the assumption that this responsibility raises the financial risk of business. Due to this, the contribution of business to the achievement of the SDGs is not stable and is often negative, since practices of business management contradict the SDGs in crisis periods and hinder their achievement in society and the economy. However, the refusal from corporate social responsibility during a crisis does not guarantee the following increase in the level of business development in the period of stability. A study of the case experience of integrating the SDGs into corporate strategies of the largest Russian companies during the COVID-19 crisis improved the understanding of the contribution of corporate social responsibility to financial risk management of the business. Dynamic modelling showed that, in a crisis period, corporate social responsibility leads to a reduction of the financial risks of business—it is commercially profitable, similarly to the phase of stability, and critically important. Based on this, an alternative (new) approach to financial risk management is developed, which allows raising the effectiveness of this management amid economic crises (including the COVID-19 crisis) through the integration of the SDGs into corporate strategies and the manifestation of high social responsibility during crises.

Keywords: case study; Russian TNCs; SDGs; corporate strategies; financial risk management; social responsibility; COVID-19 crisis

1. Introduction

Financial risks largely determine the success of enterprises in the modern market economy. The traditional commercial approach to financial risk management in the conditions of a stable and favourable market environment supposes optimization (purchase of the required and refusal from unnecessary) assets and stimulation of sales through the improvement of technical properties (quality) of products and other elements of the marketing mix. Corporate social responsibility in the commercial approach has an important role and is widely used among other tools of financial risk management, but only in the favourable market environment (in the conditions of stability and economy's growth). The advantages of corporate social responsibility for financial risk management are acknowledged and emphasized in the works of Hichri and Moez (2021) and Kalaitzoglou et al. (2021), including the increase of the market share (through the increase of the target audience's loyalty) and the increase of sales' volume and profit.

The criticism of the commercial approach is based on the fact that, in the unfavourable market environment (especially during economic crises), this approach supposes the reduction of the level or refusal of corporate social responsibility in favour of the commercial interests of the business (Carroll 2021; Sun and Li 2021). Thus, to reduce the cost and to increase the pricing competitiveness of products during economic crises, the companies' personnel is reduced, and certain technical properties of the products decrease (the products' quality is reduced). A quick reduction of the products' level during economic crises could and often—in practice—does derail the results (achieved in the stable conditions) of corporate social responsibility for sustainable development. This means that the contribution of business to the implementation of the Sustainable Development Goals (SDGs) is not only unstable (reducing during crises), but often negative since during the crisis periods the practices of business management come into collision with the SDGs and hinder their implementation in society and economy.

The problem is that, on the one hand, insufficient support for business does not allow achieving the planned results in the sphere of sustainable development and, instead of progress, might lead to a regress in implementing the SDGs, which is especially peculiar for developing countries. For example, under the influence of the COVID-19 crisis in China, the sustainable development index reduced from 73.89 points in 2020 (UN 2021a) to 72.06 points in 2021 (UN 2021b). Similarly, the sustainable development index in India dropped from 61.92 points in 2020 (UN 2021a) to 60.07 points in 2021 (UN 2021b).

On the other hand, business, instead of the expected strengthening of positions in the market due to the economy on the measures of corporate social responsibility, often suffers larger losses and is ousted from the target market. This problem demonstrates the imperfection of the traditional commercial approach to financial risk management, for, first, it shows low effectiveness during economic crises (the approach is not developed in practice). Second, the traditional approach does not explain the reasons for a business's inability to overcome financial risks during a crisis, despite the reduction or refusal from corporate social responsibility (the approach is contradictory and not well developed in theory).

Based on the publications, which note a high level of corporate social responsibility and support for the SDGs in Russia's business environment in the conditions of the COVID-19 crisis (Kovalin et al. 2020; Stojanović et al. 2021; and Varyash et al. 2020), and the works that contain proofs of the success of financial risk management at Russian enterprises in the conditions of the COVID-19 crisis (Spitsin et al. 2021), this paper tests the following general hypothesis: successful management of financial business risks in the conditions of the COVID-19 crisis is achieved due to integration of the SDGs and social responsibility into the corporate strategies of Russian companies.

When studying this problem, it is necessary to pay special attention to the unique experience of Russia, which, unlike many other developing countries (in particular the given examples of China and India) in the conditions of the COVID-19 crisis, demonstrated progress in the sphere of sustainable development: the corresponding index grew from 71.92 points in 2020 (UN 2021a) to 73.75 points in 2021 (UN 2021b). That is why this paper aims to study the case experience of embedding the SDGs in the strategies of financial risk management during economic crises based on social responsibility with the example of the largest Russian companies during the COVID-19 crisis. This purpose is achieved with the help of the following three research tasks:

- Studying the case experience of financial risk management of the largest Russian companies in the conditions of the COVID-19 crisis and performing an overview of their practice of integration of the SDGs and social responsibility into corporate strategies;
- Evaluating the success of financial risk management of the largest Russian companies amid the COVID-19 crisis;
- Determining the contribution of embedding the SDGs and social responsibility in corporate strategies to this success.

The novelty of the research is its development of an alternative (new) approach to financial risk management, which allows to increase the effectiveness of this management during economic crises (including the COVID-19 crisis) by embedding the SDGs in the corporate strategies, and its manifestation (preservation) of high social responsibility during crises. The originality of this research consists in elaborating on the unique and valuable case experience of the largest Russian companies and in considering the experience of the COVID-19 crisis during the study of corporate financial risk management, as well as its critical reconsideration from the positions of corporate social responsibility and sustainable development.

2. Theory

“The Sustainable Development Goals (SDGs), also known as the Global Goals, were adopted by the United Nations in 2015 as a universal call to action to end poverty, protect the planet, and ensure that by 2030 all people enjoy peace and prosperity” (UNDP 2021). The integration of the SDGs into corporate strategies supposes the companies’ support for the philosophy of the SDGs, the adoption of obligations for support of the practical implementation of the SDGs (systemically and in isolation), and the specific initiatives that contribute to the implementation of the SDGs and evaluate their efficiency (Kurniatama et al. 2021). The integration of the SDGs into corporate strategies is performed on the interests of the reduction of financial risks (Riaz et al. 2021). The financial risks of business are connected to the change of the sales volume, profit, value of assets, and market share. The financial risks are managed in a TNC by a financial manager and/or sales manager (Indriastuti and Chariri 2021).

The report by UNCTAD (2021) notes that investment in sustainable development evolved since the moment of their appearance up until now. Initially, in the age of the Millennium Development Goals and before the 2008 financial crisis, sustainable investment was focused on the most profitable spheres of the economy—mainly infrastructural projects in FinTech. Reporting in the sphere of sustainable development determined customers’ loyalty, so companies (especially TNCs) paid a lot of attention to it (Goettsche et al. 2016).

After the 2008 financial crisis, investors strived toward the diversification of sustainable investments (Miralles-Quirós et al. 2020). After the adoption of the SDGs in 2015 and before the start of the pandemic, more than 150 countries in the world adopted national strategies for sustainable development and supported corporate sustainable investments (UNCTAD 2021). In this period (2015–2019), there were many investments in infrastructure, renewable energy sources, water and sanitation, agriculture, and education. The integration of the SDGs into investment strategies was performed in different ways and differed depending on world stock markets (Mohanty 2019; and Sarwar et al. 2018).

With the start of the COVID-19 pandemic and crisis, according to UNCTAD (2021), a dramatic drop took place: investments in infrastructure reduced by 54%, in renewable energy sources by 8%, in water and sanitation by 67%, in agriculture by 49%, and in education by 35%. It should be noted that even a drop in sustainable investments in healthcare took place, by 54%.

The framework of the traditional commercial approach to financial risk management (Bouri et al. 2021; Drozdowski et al. 2021; Gennaro 2021; and Lisicki 2021) and the corresponding specifics of corporate social responsibility at different phases of the economic cycle (in the period of stability and during a crisis) (Gonçalves et al. 2021; Jan et al. 2021; Tanggamani et al. 2020; and Zhao and Xiao 2019) formed the existing theory of financial business risks management.

As a result of the systematization of scientific knowledge, accumulated in the given literature sources, the cyclicity of managing financial business risks, according to the traditional commercial approach, is presented in Figure 1.

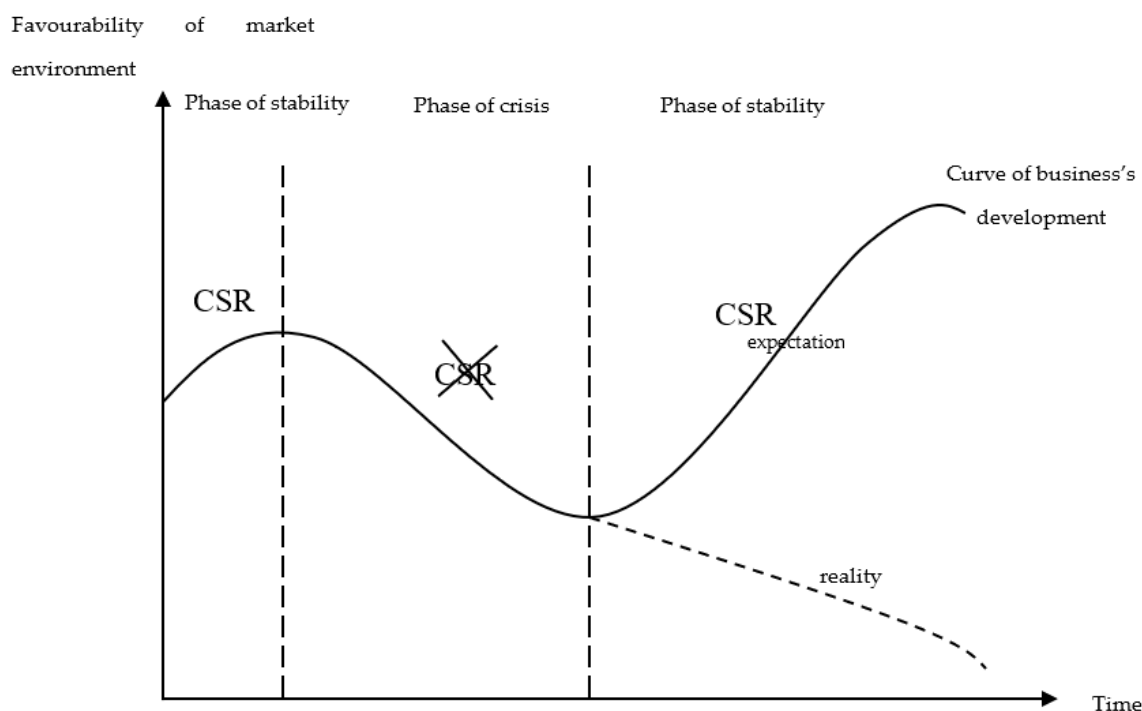


Figure 1. Cyclicity of managing financial business risks according to the traditional commercial approach. Note: CSR—corporate social responsibility. Source: Authors.

According to Figure 1, the traditional approach implies that corporate social responsibility is conducted only during the phase of stability, since during this phase, the commercial interests of business and non-commercial interests of society coincide, due to which corporate social responsibility stimulates the reduction of the financial risks of business (it is commercially profitable) (Hsiao et al. 2019; Yang and Lai 2021; Zahoor et al. 2021).

During the phase of the crisis, according to the traditional approach, corporate social responsibility should not be conducted, since, during this phase, the commercial interests of business and non-commercial interests of society diverge (contradict each other), due to which corporate social responsibility does not allow overcoming and even increases the financial risks of business (it is commercially unprofitable) (Koseoglu et al. 2021; Sharma et al. 2021; Shields et al. 2021; and Singh et al. 2021a).

Implementing the traditional approach, business structures expect that, with the normalization of the market environment (after the crisis and after the beginning of stability), the level of their development will grow, but, in reality, this level often reduces (Auer 2021; Popescu et al. 2021; Zenghelis 2021; and Zhuravlyov et al. 2019). This reduction is not explained by the traditional approach—the uncertainty of the causal connections of the reduction of the level of business's development in the period of stability, despite the refusal from corporate social responsibility in the preceding crisis period, is a gap in the existing knowledge.

This gap leads to the following research questions: why does the refusal of corporate social responsibility during a crisis period not guarantee the following increase of the level of business's development during a stable period? and What are the ways of avoiding the reduction of this level? An answer to this research question could be given by the offered general hypothesis, according to which the decline of business after a crisis could be explained by the refusal of corporate social responsibility during the crisis—this can be avoided with the help of preserving corporate social responsibility during a crisis period.

3. Methodology

According to the general hypothesis, several sub-hypotheses, which specify its sense, were offered:

Hypothesis 1 (H1). *SDGs are embedded in the corporate strategies of the largest Russian companies, and the level of their corporate social responsibility grew in the conditions of the COVID-19 crisis (in 2021 compared to 2020). To test this hypothesis, we study the experience of the manifestation of corporate social responsibility by the largest Russian companies, using the case study method. Moreover, using the method of trend analysis, we study the dynamics and evaluate the growth of the index “Responsibility and openness” (MRRT), calculated by [Moscow Exchange \(2021\)](#), which should be non-negative.*

Hypothesis 2 (H2). *The management of the financial business risks of the largest Russian companies in the conditions of the COVID-19 crisis is successful—the risks reduced (most of the following conditions must be observed simultaneously: sales volume, profit, asset value, and market share increased) in 2021 compared to 2021. To test it, we study the dynamics and use the methods of horizontal and trend analysis to assess the growth of sales volume, profit, asset value, and market share of the largest Russian companies in 2021 (reflecting the data as a result of 2020) compared to 2020 (reflecting the data as a result of 2019)—it must be non-negative for most of the indicators. The sources of the data are the materials of [Forbes \(2021\)](#).*

Hypothesis 3 (H3). *The level of corporate social responsibility of the largest Russian companies determines the success of overcoming their financial risks (sales volume, profit, asset value, and market share—at least some of them). To test it, we use the method of regression analysis and determine the dependence of change (growth in 2021 compared to 2020) of the indicators of financial risks (sales volume, profit, asset value, and market share—in isolation) on the weight in the index “Responsibility and openness” (MRRT) of the largest Russian companies in 2021.*

The economic and mathematical sense of the general hypothesis is reflected by the research model of this paper:

$$\text{FinRisk} = I + j \times \text{CorpResp},$$

where

FinRisk—change (growth) of the financial risk of a company (sales volume, profit, asset value, and market share—in isolation) in 2021 compared to 2020;

i—constant;

j—regression coefficient;

CorpResp—company’s weight in the index “Responsibility and openness” (MRRT).

The research model was obtained with the use of the method of regression analysis and was specified with the help of the modelling of structural equations (SB-SEM). For this, first, we established the connections between all five variables with the help of the calculation of determination coefficients. Second, we calculated the Chi-square in the following sequence:

- 1st step: aggregating the observed values of the variables (observed values, OV) in one table and calculating the sums for columns ($\text{total}_{\text{col}}$) and lines ($\text{total}_{\text{lines}}$) and the integral sum $I_{\text{Total}} = \sum \text{total}_{\text{col}} = \sum \text{total}_{\text{lines}}$;
- 2nd step: determining the expected values (expected values, EV) by the following formula: $\text{EV} = \text{total}_{\text{col}} * \text{total}_{\text{lines}} / I_{\text{Total}}$;
- 3rd step: calculating Chi-square points by the following formula: $(\text{OV} - \text{EV}) * 2 / \text{EV}$;
- 4th step: calculating Chi-square as the integral sum of all Chi-square points: $\text{Chi-Square} = \sum \text{Chi-Square Points}$. Comparing the obtained value of Chi-square with the critical value of Chi-square for the given number of observations at the set significance

level (0.05). Automatised calculation of Chi-test (P)Value by the MS Excel formula with the same name and its comparison with the significance level 0.05.

The interpretation of the obtained results was performed in the following way:

- If the obtained Chi-square exceeds (or equals) the critical value of Chi-square and, at the same time, the Chi-test (P)Value is below the significance level (0.05), the variables are dependent (correspond to each other, explain each other);
- In the opposite case, if the obtained Chi-square is below the critical value of Chi-square, and (which is not mandatory), at the same time, the Chi-test (P)Value exceeds (or equals) the significance level (0.05), the variables are independent (do not correspond to each other, do not explain each other).

The research objects were the largest Russian enterprises (mainly transnational corporations, TNCs) from the ranking GLOBAL 2000 in 2021 (Forbes 2021), since, unlike the subjects of small and medium entrepreneurship that have limited capabilities to manifest corporate social responsibility, they (as representatives of large and mega-entrepreneurship) possess wide capabilities and implement large-scale initiatives in the sphere of corporate social responsibility. Increased sustainability (larger financial lever) makes large companies less susceptible to economic crises as compared to the subjects of small and medium entrepreneurship.

Though financial risks are equally high for companies of all sizes, small and medium enterprises are more susceptible to critical losses and bankruptcy. Unlike them, most large enterprises can live through a crisis—they could use their financial reserves and temporarily free financial resources to implement the initiatives of corporate social responsibility.

The experience of Russian companies is illustrative and interesting due to the following. First, they are susceptible to the influence of the crisis phenomena in the economy to a larger extent, since they are under the simultaneous impact of two crises. The first one is the COVID-19 crisis, caused by the COVID-19 pandemic, which influenced the world economy on the whole. The second one is the sanction crisis of the Russian economy, which makes it a unique object for research.

Large Russian companies embody the experience and specific features of similar large companies from other developing countries. They are peculiar for especially high (as compared to companies from developed countries, which—over several decades—have been characterized by the large corporate responsibility and are leaders in achieving the Millennium Development Goals, as predecessors of the Sustainable Development Goals) response to the goals in the sphere of sustainable development and prominent progress of corporate social responsibility.

Therefore, the experience of the largest Russian companies allows for the most vivid tracking of the economic crises' influence on them and reflects the general regularities of the impact of financial risks and financial risk management of large companies in developing countries. The sample included 20 companies, and to which sector they belong is reflected in Supplementary Material Table S1—most of these companies (6 companies) belong to Oil and Gas Operations, and 3 companies belong to Iron and Steel.

4. Results

4.1. Case Experience of Financial Risk Management and CSR of the Largest Russian Companies in the Conditions of the COVID-19 Crisis—Testing Hypothesis H1

Let us consider the case experience of financial risk management and corporate social responsibility of the top three largest Russian companies according to Forbes (2021) in 2021 in the conditions of the COVID-19 crisis (in 2020). BankInform (2021) notes that Sberbank was awarded the prize for “Best social projects of Russia” in several nominations, for projects in the sphere of corporate social responsibility in 2020:

- Project to increase the population's financial literacy, aimed at the growth of various social categories' awareness of due payment during the COVID-19 pandemic;

- Project “Social account”, which allows for the remote execution and receipt of social assistance in the conditions of requirements of social distancing and self-isolation due to the COVID-19 pandemic;
- Project “BRIS ZKK”, which allows for the remote payment of utilities, which is especially urgent after the closure of places that receive such payments due to the lockdown amid the COVID-19 pandemic.

[Rosneft \(2021\)](#) implemented the following projects in the sphere of corporate social responsibility:

- Special corporate program of employees’ healthcare, which is especially topical and expanded during the COVID-19 pandemic;
- Implementation of corporate initiatives to increase labour safety and improve labour conditions, supplemented by the measures of provision of sanitation during the COVID-19 pandemic.

[Surgutneftegaz \(2021\)](#) was concerned with the following projects in the sphere of corporate social responsibility:

- Creation of new (additional) jobs (completely safe from a medical point of view) and support for employment in regions where the company’s branches are based in the conditions of the COVID-19 pandemic;
- Providing employees with expanded social guarantees (subsidies and payments), which was especially required in the lockdown period due to the COVID-19 pandemic.

The case experience shows that the largest Russian companies did not reduce, but, on the contrary, expanded and supplemented their programs of corporate social responsibility in the conditions of the COVID-19 crisis. To consider the experience of other of the largest Russian companies, let us elaborate on the dynamics of the index “Responsibility and openness” (MRRT) for the whole period of its calculation by the [Moscow Exchange \(2021\)](#), from 1 September 2020 to 1 November 2021 (Figure 2).

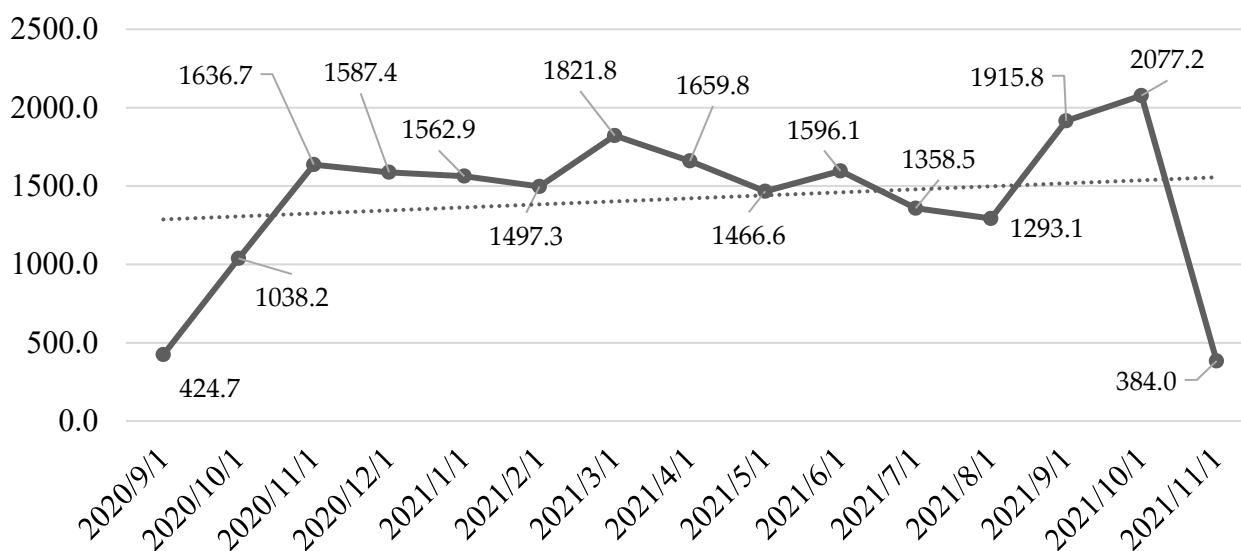


Figure 2. Dynamics of the index “Responsibility and openness” (MRRT) for the whole period of its calculation, 1 September 2020—1 November 2021, RUB billion. Source: Compiled by the authors based on the [Moscow Exchange \(2021\)](#).

As shown in Figure 2, the index “Responsibility and openness” (MRRT), despite a quick decline in November 2021, which disrupted the tendency (probably due to macroeconomic reasons, which go beyond corporate responsibility), demonstrated an upward tendency during the period of calculation. The data for November 2021 will have a delayed effect, and thus we cannot evaluate those consequences in this paper. Thus, it is expedient

to focus on the data for 2020, the consequences of which are visible in 2021 and have already been statistically reflected.

In October 2020 (RUB 1038.2 billion), the MRRT index grew by 144.45% as compared to its initial value in September 2020 (RUB 424.7 billion). November saw the continued growth of the index (RUB 1636.7 billion), which equalled 57.65% as compared to October, and 285.38% as compared to September 2020. By 1 January 2021, the MRRT index reduced to RUB 1562.9 billion—by 4.51% as compared to the maximum for November, but exceeded the September level by 268.00%. October 2021 saw the record high level of the MRRT index (RUB 2077.2 billion), which exceeded the level of October 2020 by 100.02%.

Therefore, the SDGs are embedded in the corporate strategies of the largest Russian companies, and the level of their corporate social responsibility grew in the conditions of the COVID-19 crisis (in 2021 as compared to 2020)—Hypothesis H1 is confirmed.

4.2. Evaluation of the Successfulness of Financial Risk Management of the Largest Russian Companies Amid the COVID-19 Crisis—Testing Hypothesis H2

To evaluate the successfulness of financial risk management of the largest Russian companies amid the COVID-19 crisis, let us dwell on the dynamics of the financial risks of the largest Russian companies in 2020–2021 (as a result of the previous year). The data for 2021 were found in open access at the official website of [Forbes \(2021\)](#), and the archive data for 2020 were absent at this website, so they were obtained from the dataset [Data World \(2021\)](#). Table 1 systematizes the data and evaluates the growth of the indicators of financial risks in 2021 compared to 2020 (trend analysis was used).

Table 1. Dynamics and growth of the financial risks of the largest Russian companies in the conditions of the COVID-19 crisis in 2020–2021 (as a result of the previous year), \$ billion.

Rank 2021	Name	Sales			Profit			Assets			Market Value		
		2021	2020	Growth *, %	2021	2020	Growth *, %	2021	2020	Growth *, %	2021	2020	Growth *, %
51	Sberbank	47.3	47.6	−0.6	10.4	10.6	−1.9	486.9	0.4	118,656.1	85.7	59.9	43.1
99	Rosneft	70.8	126.9	−44.2	2.0	10.9	−81.7	207.5	208.5	−0.5	77.7	48.1	61.5
309	Surgutneftegas	18.8	24.7	−23.9	8.4	6.8	23.5	79.4	80.8	−1.7	16.7	17.9	−6.7
367	Gazprom	90.5	122.6	−26.2	−0.9	22.7	−104.1	294.9	331.7	−11.1	73.5	60.8	20.9
388	Norilsk Nickel	15.7	13.6	15.4	3.5	5.8	−39.7	20.7	19.4	6.7	53.2	43.8	21.5
467	Lukoil	71.5	116.3	−38.5	209.7	9.9	2018.2	81.5	95.7	−14.8	52.3	41.2	26.9
513	Transneft	14.3	16.4	−12.8	2.1	2.8	−25.0	44.1	54.3	−18.8	13.9	13.4	3.7
530	Novatek	9.6	13.2	−27.3	0.9	13.4	−93.0	27.9	32.5	−14.2	58.4	42.6	37.1
597	VTB Bank	17.1	23.0	−25.7	0.9	2.9	−68.9	245.3	249.8	−1.8	8.1	6.1	32.8
751	Tatneft	10.2	14.8	−31.1	1.4	3.0	−53.3	17.1	19.9	−14.1	17.3	16.7	3.6
861	Novolipetsk Steel	9.2	10.1	−8.9	1.3	1.2	8.3	9.9	9.7	2.1	20.9	10.4	101.0
908	Severstal	7.3	7.9	−7.6	1.7	1.4	21.4	7.5	7.0	7.1	19.6	10.1	94.1
944	Rosseti	13.8	15.9	−13.2	0.5	1.2	−54.5	35.2	43.5	−19.1	3.8	3.5	8.6
1001	Polyus	5.0	4.0	25.0	1.6	1.9	−15.8	7.3	8.3	−12.0	26.7	21.8	22.5
1155	Inter Rao	13.6	16.0	−15.0	1.0	1.3	−23.1	12.3	12.4	−0.8	4.8	5.0	−4.0
1335	Magnit	21.5	21.2	1.4	0.5	0.1	210.2	13.0	15.3	−15.0	6.9	5.1	35.3
1591	Moscow Exchange	0.7	0.7	−1.5	0.3	0.3	11.2	66.7	64.9	2.8	5.2	3.7	40.5
1605	Magnitogorsk Iron & Steel	6.4	7.4	−13.5	0.6	0.8	−19.2	7.6	8.4	−9.5	10.1	6.1	65.6
1779	Credit Bank of Moscow	2.5	2.3	8.7	0.4	0.1	170.1	38.1	39.0	−2.3	2.8	2.2	27.3
1818	Sistema	9.6	10.2	−5.9	0.1	0.4	−77.8	19.2	20.3	−5.4	4.7	1.9	147.4

* Growth calculated by the authors. Source: Compiled by the authors based on [Data World \(2021\)](#) and [Forbes \(2021\)](#).

Generalizing (calculating arithmetic means for the columns) the data from Table 1, it is possible to conclude that the sole indicator that demonstrates the negative dynamics is sales, which reduced by 12.27% in 2021 compared to 2020. The profit of the largest Russian companies grew by 90.25%, assets by 5926.69%, and market value by 39.14%. Therefore,

managing the financial business risks of the largest Russian companies in the conditions of the COVID-19 crisis was successful: most of the risks were reduced in 2021 compared to 2021. Thus, hypothesis H2 is confirmed.

4.3. Analysis of the Contribution of Embedding the SDGs and CSR in the Corporate Strategies to the Success of Financial Risk Management—Testing Hypothesis H3

To determine the contribution of the embedding the SDGs and CSR in the corporate strategies to the success of financial risk management, let us consider the weight of the largest Russian companies in the MRRT index (Figure 3). It should be noted that not all the largest Russian companies from the ranking of [Forbes \(2021\)](#) are included in the index “Responsibility and openness” (MRRT). The basis for calculation (values of the leading companies from the index) is given in Supplementary Material Figure S1.

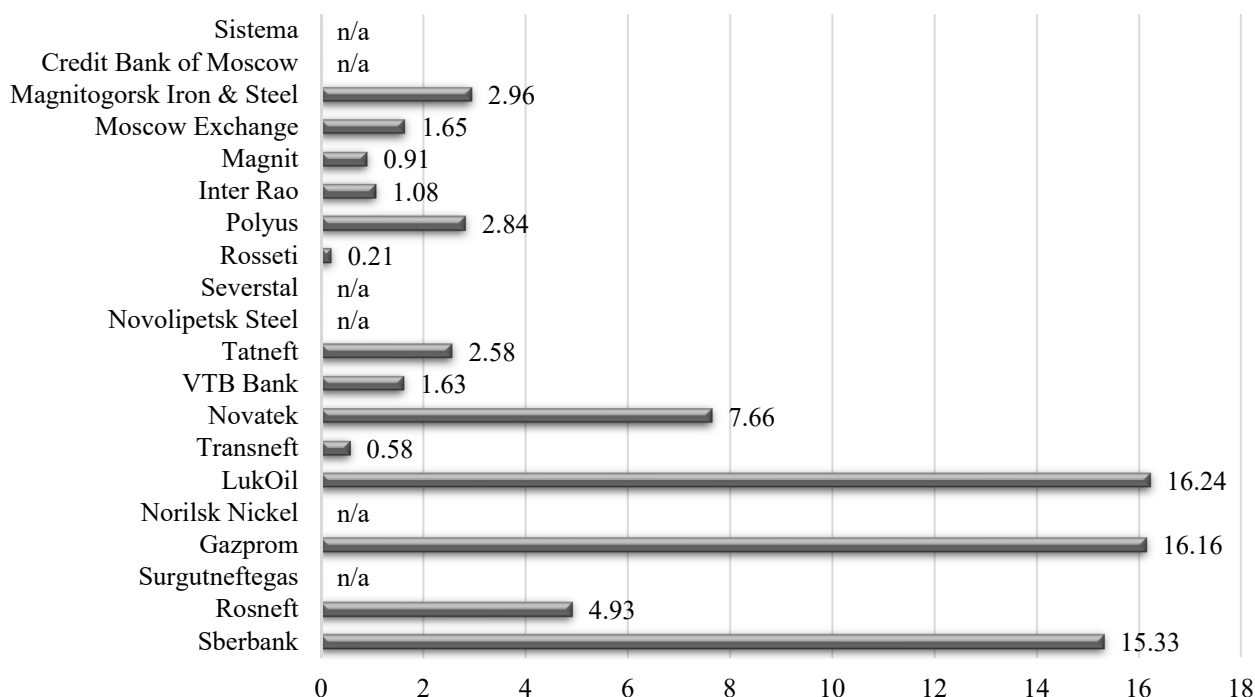


Figure 3. Responsibility and openness (weight in the MRRT index), %. Source: Formed, compared to the sample, and compiled by the authors based on [Moscow Exchange \(2021\)](#).

As shown in Figure 3, the largest weight in the MRRT index is that of Lukoil (16.24%), followed by Gazprom (16.16%) and Sberbank (15.33%). The aggregate weight of the largest Russian companies, according to [Forbes \(2021\)](#), in the MRRT index in 2021 (as of November 8) equals to 74.76%, i.e., it is very large. Regression analysis of the dependence of growth of the financial risks from Table 1 on the weight of companies in the index MRRT from Figure 3 is given in Table 2.

The results of the regression analysis from Table 2 show that only two (of the four considered) financial risks demonstrate a statistically significant dependence on the weight of companies in the MRRT index: profit (FinRisk₁) and assets (FinRisk₂). The regression models, received with the participation of these variables, have the following form:

$$\text{FinRisk}_1 = -54.39 + 38.69 \times \text{CorpResp}$$

$$\text{FinRisk}_2 = -2718.17 + 2312.69 \times \text{CorpResp}$$

According to the obtained model, an increase in the companies' weight in the MRRT index by 1% leads to an increase in their profit under the conditions of the COVID-19 crisis in 2021 by 38.69%, and an increase in market value by 231.269%.

Table 2. Regression analysis of the sample.

Analytical Procedure	Indicators	Sales	Profit (FinRisk ₁)	Assets (FinRisk ₂)	Market Value	
Regression statistics	Multiple R	0.37	0.47	0.49	0.12	
	Number of observations			20		
	df			19		
	Constant	−7.96	−54.39	−2718.17	42.18	
	Regression coefficient	−1.15	38.69	2312.69	−0.81	
Significance level	Significance F	0.11	0.04	0.03	0.62	
	Estimate F	2.78	5.10	5.61	0.25	
F-test	Critical F *			4.41		
	Result		F-test is not passed	F-test is passed	F-test is passed	F-test is not passed
Student's t-test	Estimate t	−1.67	2.26	2.37	−0.50	
	Critical t *			2.093		
	Result		t-test is not passed	t-test is passed	t-test is passed	t-test is not passed

* at the significance level of 0.05. Source: Authors.

To specify and demonstrate the all-round ties between the change of company's financial risks and company's significance in the indicator "Responsibility and openness", let us supplement the results of the regression analysis with the modelling of structural equations (SB-SEM). The model of the structural equation for the considered variables is presented in Figure 4.

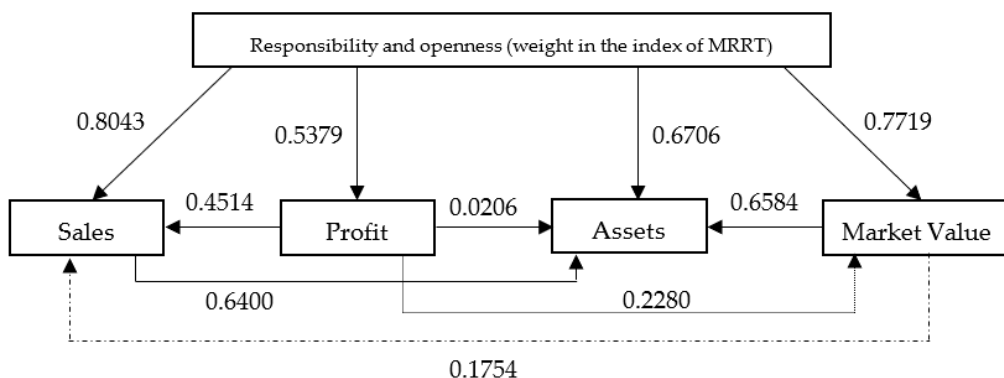


Figure 4. The model of the structural equation. Source: calculated and compiled by the authors.

The model in Figure 4 shows that, first, responsibility and openness (weight in the index of MRRT) is closely connected to all selected variables: sales (coefficient of determination equals 0.8043), profit (0.5379), assets (0.6706), and market value (0.719). Second, the indicators of financial risks are greatly interdependent (but not multicollinear, because the coefficients of determination do not reach 0.9). Thus, the change of sales explains the change of profit by 45.14% and the change of market value by 75.40%. The change of assets

explains the change of sales by 64%, the change of profit by 45.14%, and the change of market value by 65.84%. The change of profit is 22.80%, explained by the change of market value.

Let us calculate the Chi-square to check the correctness of the regression analysis results. First, let us check whether the full set of independent variables (all four indicators of financial risks: sales, profit, assets, and market value) do not explain responsibility and openness (weight in the index of MRRT). In this case, we use the Chi-square criterion on the variables' independence. For this, at the first step, Table A1 presents the observed values of all variables and the calculated sums (total) for columns and lines. The integral sum (sum of all totals, which is identical for columns and lines) equals 3060.96.

At the second step, Table A2 presents the expected values. For example, for Sberbank, the expected value for sales is calculated in the following way: $(455.40 \times 645.63)/3060.96 = 96.05$. At the third stage, Table A3 presents the calculated Chi-square points. For example, for Sberbank, the Chi-square point for sales is calculated in the following way: $(47.30 - 96.05) \times 2/96.05 = -1.02$. At the fourth step, we calculated the Chi-square as the integral sum of the values of all indicators from Table A3, which equals to 4.53. The critical value of Chi-square for 20 observations (companies in the sample) and 5 variables (i.e., number of degrees of freedom, $df = 20 - 5 = 15$) at the significance level of 0.05 equals 4.60092.

Since the critical value of Chi-square exceeds the obtained Chi-square ($4.60092 > 4.53$), this proves that the full set of independent variables (all four indicators of financial risks: sales, profit, assets, and market value) do not explain responsibility and openness (weight in the index of MRRT).

Now, let us check whether the two selected independent variables (profit and assets) do explain responsibility and openness (weight in the index of MRRT). In this case, we used the Chi-square criterion on the dependence (correspondence) of variables. For this, at the first stage, Table A4 presents the observed values of the three considered values and the calculated sums (total) for columns and lines. The integral sum (sum of all totals, which is identical for columns and lines) equals to 2043.26.

At the second step, Table A5 presents the expected values. For example, for Sberbank, the expected value for profit is calculated in the following way: $(246.40 \times 512.63)/2043.26 = 61.82$. At the third stage, Table A6 presents the calculated Chi-square points. For example, for Sberbank, the Chi-square point for profit is calculated in the following way: $(10.40 - 61.82) \times 2/61.82 = -1.66$. At the fourth stage, the Chi-square was calculated as the integral sum of all indicators' values from Table A6, which equals to 13.811. The critical value of Chi-square for 20 observations (companies in the sample) and 3 variables (i.e., number of degrees of freedom, $df = 20 - 3 = 17$) at the significance level of 0.05 equals to 5.69722.

We also calculated the Chi-test (P)Value, which is almost zero (3.1299×10^{-226}). Since the obtained Chi-square exceeds the critical value of Chi-square ($13.811 > 5.697$), and, at the same time, the Chi-test (P)Value is below the significance level of 0.05, this proves that the selected independent variables (profit and assets) do explain responsibility and openness (weight in the index of MRRT).

Therefore, the results of the modelling of structural equations (SB-SEM) supplemented and confirmed the results of the regression analysis: the level of corporate social responsibility of the largest Russian companies determines the success of overcoming their financial risks (profit and assets)—hypothesis H₃ is confirmed.

5. Discussion

The considered case experience of integration of the SDGs into the strategies of financial risk management based on social responsibility with the example of the largest Russian companies allows specifying the theory of financial business risks management that is given in the works of (Bouri et al. 2021; Drozdowski et al. 2021; Gennaro 2021; Gonçalves et al. 2021; Jan et al. 2021; Lisicki 2021; Tanggamani et al. 2020; and Zhao and Xiao 2019), as well as reconsidering the cyclicity of financial business risks management (Figure 1).

Unlike Hsiao et al. (2019); Yang and Lai (2021); and Zahoor et al. (2021), during a crisis phase, corporate social responsibility not only has to be implemented at the level that is not below the level during the phase of stability—it must be implemented in the expanded form. Unlike Koseoglu et al. (2021); Sharma et al. (2021); Shields et al. (2021); and Singh et al. (2021b), during a crisis, the commercial interests of business and non-commercial interests of society coincide, due to which corporate social responsibility stimulates the reduction of financial risks of business (it is commercially profitable, the same as in the phase of stability).

This allows suggesting a new (alternative)—non-commercial—approach to financial risk management, which implies embedding the SDGs in the corporate strategies and manifesting high (preferably, increased) social responsibility during the crises. Unlike Auer (2021); Popescu et al. (2021); Zenghelis (2021); and Zhuravlyov et al. (2019), with the implementation of this newly developed approach, the expectations of business structures will coincide with the normalisation of the market environment (after the crisis and after the beginning of the stable period) and the level of their development will increase.

The obtained results and conclusions allow answering the research questions. When using the traditional commercial approach and refusing corporate social responsibility during a crisis period, the following increase of the level of business's development in the period of stability is not guaranteed, because corporate responsibility is critically important in crisis conditions, and rejecting instead of reducing its application, raises financial risks significantly. Most companies are not able to cope with these risks. This could be avoided by using the authors' (non-commercial) approach and increasing (according to it) corporate social responsibility during the crisis.

6. Conclusions

Thus, as a result of the performed research, the following new scientific results were obtained:

- The case experience of the financial risk management of the largest Russian companies amid the conditions of the COVID-19 crisis was studied, and an overview of their practices of embedding the SDGs and social responsibility in corporate strategies was performed. It was determined that October 2021 saw a record high level in the MRRT index (RUB 2077.2 billion), which exceeded the level of October 2020 (RUB 1038.2 billion) by 100.02%. Based on this, it was substantiated that SDGs are built in the corporate strategies of the largest Russian companies, and the level of their corporate social responsibility grew in the conditions of the COVID-19 crisis (in 2021 compared to 2020);
- The success of the financial risk management of the largest Russian companies amid the COVID-19 crisis was evaluated. It was established that the profit of the largest Russian companies grew by 90.25%, assets by 5926.69%, and market share by 39.14%. Based on this, it was proved that managing the financial business risks of the largest Russian companies in the conditions of the COVID-19 crisis was successful: most of the risks (apart from the risk of reduction of sales) reduced in 2021 as compared to 2021;
- The contribution of embedding the SDGs and social responsibility in corporate strategies to these successes was determined. It was found out that an increase in the company's weight in the MRRT index by 1% led to an increase in their profit in the conditions of the COVID-19 crisis in 2021 by 38.69%, and the market value of their assets by 231,269%. Based on this, it was substantiated that the level of corporate social responsibility of the largest Russian companies determines the level of success of overcoming their financial risks (profit and value of assets).

The obtained results prove the general hypothesis—the successful management of financial business risks in the conditions of the COVID-19 crisis is achieved due to embedding the SDGs and social responsibility in the corporate strategies of Russian companies. The experience of Russian companies, which is presented in this paper, is universal and

could be useful for large companies from other developing countries, including China and India.

The contribution of this paper to the literature (theoretical significance of the research) consists in specifying the theory of managing the financial business risks through the reconsideration of the cyclicity of financial business risks management. It is proved for the first time that the commercial interests of business and non-commercial interests of society coincide in the crisis conditions, due to which corporate social responsibility stimulates the reduction of the financial risks of business—it is commercially profitable, same as in the period of stability, and critically important.

The theoretical implications consist in the paper's explaining the systemic interconnection among financial risks and between financial risks and corporate social responsibility. The created model of structural equation allowed for the quantitative measuring of these connections and set a reliable foundation for future applied studies of integration of the SDGs into corporate strategies. The received results also ensured the transition from the abstract advantages of integration of SDGs into corporate strategies for financial risks to specific advantages, demonstrating that they could be manifested in the increase in profit and assets. This allows focusing future studies on these advantages and improving the management methodologies through the maximisation of the effectiveness of managing the selected financial risks.

The practical significance of the research consists in developing an alternative (new, non-commercial) approach to financial risk management, which allows increasing the effectiveness of this management during economic crises, in particular the COVID-19 crisis, by embedding the SDGs in the corporate strategies and manifesting high social responsibility during crises.

The managerial implications are due to the paper's proposing practical recommendations for integration of the SDGs into corporate strategies and explaining the expected advantages for financial risk management. Due to this, the integration of the SDGs into corporate strategies transformed from a "black box" into a guide for action for managers of TNCs.

However, the obtained results are limited in the sense that they demonstrate the value of corporate social responsibility for managing the financial business risks only in crisis conditions. Taking into account the received new knowledge, it is expedient to specify the volume—as compared to the crisis period—the contribution of corporate social responsibility to the reduction of financial business risks in stable conditions. We suggest that this be conducted in future scientific works.

It should be noted that the advantages if the integration of the SDGs into corporate strategies for sales and market value of TNCs were not determined. This causes uncertainty as to what the justified growth of profit and market value of assets is achieved. The modelling of structural equations showed a close connection between the indicators and demonstrated that the growth of profit could be achieved by means of the increase of sales and market value, but evidently, there are other dependencies, which are beyond the scope of this research.

Profit could be increased not only by means of sales and market value, but also, for example, by means of the increase of prices for the products of TNCs and alternative measures. The change of assets could be explained by the change of goodwill. This raises new research questions, which deserve attention and require further elaboration during the thorough study of consolidated reporting, as well as the case studied with the example of individual TNCs.

Supplementary Materials: The following supporting information can be downloaded at: <https://www.mdpi.com/article/10.3390/risks10010012/s1>, Table S1: Sectors of companies of the sample; Figure S1: Screenshot of the official web site of Moscow Exchange 9 November 2021, 02:10 p.m. Index "Responsibility and openness" (MRRT): basis for calculation (values of the leading countries that are included in the index).

Author Contributions: Conceptualization, A.S.K. and Y.V.B.; methodology, T.A.K.; formal analysis, A.S.K.; investigation, T.A.K.; resources, Y.V.B.; data curation, T.A.K.; writing—original draft preparation, A.S.K.; writing—review and editing, Y.V.B.; visualization, N.G.S.; supervision, N.G.S.; project administration, A.S.K. All authors have read and agreed to the published version of the manuscript.

Funding: This research received no external funding.

Conflicts of Interest: The authors declare no conflict of interest.

Appendix A

Table A1. Observed values of five variables in 2021.

Company	Sales	Profit	Assets	Market Value	Responsibility and Openness (Weight in the Index of MRRT), %	Total for the Line
Sberbank	47.30	10.40	486.90	85.70	15.33	645.63
Rosneft	70.80	2.00	207.50	77.70	4.93	362.93
Surgutneftegas	18.80	8.40	79.40	16.70	0.00	123.30
Gazprom	90.50	−0.90	294.90	73.50	16.16	474.16
Norilsk Nickel	15.70	3.50	20.70	53.20	0.00	93.10
Lukoil	71.50	209.70	81.50	52.30	16.24	431.24
Transneft	14.30	2.10	44.10	13.90	0.58	74.98
Novatek	9.60	0.90	27.90	58.40	7.66	104.46
VTB Bank	17.10	0.90	245.30	8.10	1.63	273.03
Tatneft	10.20	1.40	17.10	17.30	2.58	48.58
Novolipetsk Steel	9.20	1.30	9.90	20.90	0.00	41.30
Severstal	7.30	1.70	7.50	19.60	0.00	36.10
Rosseti	13.80	0.50	35.20	3.80	0.21	53.51
Polyus	5.00	1.60	7.30	26.70	2.84	43.44
Inter Rao	13.60	1.00	12.30	4.80	1.08	32.78
Magnit	21.50	0.50	13.00	6.90	0.91	42.81
Moscow Exchange	0.70	0.30	66.70	5.20	1.65	74.55
Magnitogorsk Iron & Steel	6.40	0.60	7.60	10.10	2.96	27.66
Credit Bank of Moscow	2.50	0.40	38.10	2.80	0.00	43.80
Sistema	9.60	0.10	19.20	4.70	0.00	33.60
Total for the column	455.40	246.40	1722.10	562.30	74.76	3060.96

Source: calculated and compiled by the authors.

Table A2. Expected values of five variables.

Company	Sales	Profit	Assets	Market Value	Responsibility and Openness (Weight in the Index of MRRT), %
Sberbank	96.05	51.97	363.23	118.60	15.77
Rosneft	54.00	29.22	204.18	66.67	8.86
Surgutneftegas	18.34	9.93	69.37	22.65	3.01
Gazprom	70.54	38.17	266.76	87.10	11.58

Table A2. Cont.

Company	Sales	Profit	Assets	Market Value	Responsibility and Openness (Weight in the Index of MRRT), %
Norilsk Nickel	13.85	7.49	52.38	17.10	2.27
Lukoil	64.16	34.71	242.62	79.22	10.53
Transneft	11.16	6.04	42.18	13.77	1.83
Novatek	15.54	8.41	58.77	19.19	2.55
VTB Bank	40.62	21.98	153.61	50.16	6.67
Tatneft	7.23	3.91	27.33	8.92	1.19
Novolipetsk Steel	6.14	3.32	23.24	7.59	1.01
Severstal	5.37	2.91	20.31	6.63	0.88
Rosseti	7.96	4.31	30.10	9.83	1.31
Polyus	6.46	3.50	24.44	7.98	1.06
Inter RAO	4.88	2.64	18.44	6.02	0.80
Magnit	6.37	3.45	24.08	7.86	1.05
Moscow Exchange	11.09	6.00	41.94	13.69	1.82
Magnitogorsk Iron & Steel	4.12	2.23	15.56	5.08	0.68
Credit Bank of Moscow	6.52	3.53	24.64	8.05	1.07
Sistema	5.00	2.70	18.90	6.17	0.82

Source: calculated and compiled by the authors.

Table A3. Chi-square points for five variables.

Company	Sales	Profit	Assets	Market Value	Responsibility and Openness (Weight in the Index of MRRT), %
Sberbank	-1.02	-1.60	0.68	-0.55	-0.06
Rosneft	0.62	-1.86	0.03	0.33	-0.89
Surgutneftegas	0.05	-0.31	0.29	-0.53	-2.00
Gazprom	0.57	-2.05	0.21	-0.31	0.79
Norilsk Nickel	0.27	-1.07	-1.21	4.22	-2.00
Lukoil	0.23	10.08	-1.33	-0.68	1.08
Transneft	0.56	-1.30	0.09	0.02	-1.37
Novatek	-0.76	-1.79	-1.05	4.09	4.00
VTB Bank	-1.16	-1.92	1.19	-1.68	-1.51
Tatneft	0.82	-1.28	-0.75	1.88	2.35
Novolipetsk Steel	0.99	-1.22	-1.15	3.51	-2.00
Severstal	0.72	-0.83	-1.26	3.91	-2.00
Rosseti	1.47	-1.77	0.34	-1.23	-1.68
Polyus	-0.45	-1.08	-1.40	4.69	3.35
Inter RAO	3.58	-1.24	-0.67	-0.41	0.70

Table A3. *Cont.*

Company	Sales	Profit	Assets	Market Value	Responsibility and Openness (Weight in the Index of MRRT), %
Magnit	4.75	−1.71	−0.92	−0.25	−0.26
Moscow Exchange	−1.87	−1.90	1.18	−1.24	−0.19
Magnitogorsk Iron & Steel	1.11	−1.46	−1.02	1.98	6.76
Credit Bank of Moscow	−1.23	−1.77	1.09	−1.30	−2.00
Sistema	1.84	−1.93	0.03	−0.48	−2.00

Source: calculated and compiled by the authors.

Table A4. Observed values of three variables in 2021.

Company	Profit	Assets	Responsibility and Openness (Weight in the Index of MRRT), %	Total for the Line
Sberbank	10.40	486.90	15.33	512.63
Rosneft	2.00	207.50	4.93	214.43
Surgutneftegas	8.40	79.40	0.00	87.80
Gazprom	−0.90	294.90	16.16	310.16
Norilsk Nickel	3.50	20.70	0.00	24.20
Lukoil	209.70	81.50	16.24	307.44
Transneft	2.10	44.10	0.58	46.78
Novatek	0.90	27.90	7.66	36.46
VTB Bank	0.90	245.30	1.63	247.83
Tatneft	1.40	17.10	2.58	21.08
Novolipetsk Steel	1.30	9.90	0.00	11.20
Severstal	1.70	7.50	0.00	9.20
Rosseti	0.50	35.20	0.21	35.91
Polyus	1.60	7.30	2.84	11.74
Inter RAO	1.00	12.30	1.08	14.38
Magnit	0.50	13.00	0.91	14.41
Moscow Exchange	0.30	66.70	1.65	68.65
Magnitogorsk Iron & Steel	0.60	7.60	2.96	11.16
Credit Bank of Moscow	0.40	38.10	0.00	38.50
Sistema	0.10	19.20	0.00	19.30
Total for the column	246.40	1722.10	74.76	2043.26

Source: calculated and compiled by the authors.

Table A5. Expected values of three variables.

Company	Profit	Assets	Responsibility and Openness (Weight in the Index of MRRT), %
Sberbank	61.82	432.05	18.76
Rosneft	25.86	180.73	7.85
Surgutneftegas	10.59	74.00	3.21

Table A5. *Cont.*

Company	Profit	Assets	Responsibility and Openness (Weight in the Index of MRRT), %
Gazprom	37.40	261.41	11.35
Norilsk Nickel	2.92	20.40	0.89
Lukoil	37.07	259.12	11.25
Transneft	5.64	39.43	1.71
Novatek	4.40	30.73	1.33
VTB Bank	29.89	208.88	9.07
Tatneft	2.54	17.77	0.77
Novolipetsk Steel	1.35	9.44	0.41
Severstal	1.11	7.75	0.34
Rosseti	4.33	30.27	1.31
Polyus	1.42	9.89	0.43
Inter RAO	1.73	12.12	0.53
Magnit	1.74	12.15	0.53
Moscow Exchange	8.28	57.86	2.51
Magnitogorsk Iron & Steel	1.35	9.41	0.41
Credit Bank of Moscow	4.64	32.45	1.41
Sistema	2.33	16.27	0.71

Source: calculated and compiled by the authors.

Table A6. Chi-square points for three variables.

Company	Profit	Assets	Responsibility and Openness (Weight in the Index of MRRT), %
Sberbank	−1.66	0.25	−0.37
Rosneft	−1.85	0.30	−0.74
Surgutneftegas	−0.41	0.15	−2.00
Gazprom	−2.05	0.26	0.85
Norilsk Nickel	0.40	0.03	−2.00
Lukoil	9.31	−1.37	0.89
Transneft	−1.26	0.24	−1.32
Novatek	−1.59	−0.18	9.48
VTB Bank	−1.94	0.35	−1.64
Tatneft	−0.90	−0.08	4.69
Novolipetsk Steel	−0.07	0.10	−2.00
Severstal	1.06	−0.07	−2.00
Rosseti	−1.77	0.33	−1.68
Polyus	0.26	−0.52	11.22
Inter RAO	−0.85	0.03	2.11

Table A6. Cont.

Company	Profit	Assets	Responsibility and Openness (Weight in the Index of MRRT), %
Magnit	−1.42	0.14	1.45
Moscow Exchange	−1.93	0.31	−0.69
Magnitogorsk Iron & Steel	−1.11	−0.38	12.50
Credit Bank of Moscow	−1.83	0.35	−2.00
Sistema	−1.91	0.36	−2.00

Source: calculated and compiled by the authors.

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