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# Support of the SDGs as a New Approach to Financial Risk Management in Responsible Universities in Russia

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**Abstract:** The purpose of this paper was to reveal the influence of the support of the sustainable development goals (SDGs) on the financial risks of responsible universities in Russia. This paper fills the gap in the literature that exists regarding the unknown consequences of SDGs' support by responsible Russian universities concerning their financial risks. Based on the experience of the top 30 most responsible Russian universities in 2023, we used regression analysis to compile a model for their financial risk management. This model mathematically describes the cause-and-effect relationships of financial risk management in responsible Russian universities. This paper offers a new approach to financial risk management in responsible Russian universities. In it, financial risks to Russian universities are reduced due to universities accepting responsibility for state and private investors. A feature of the new approach is that the effective use of university funds is ensured not by cost savings but by the support of the SDGs. The potential for a reduction in financial risk in responsible universities in Russia through alternative approaches to financial risk management was disclosed. The proposed new approach can potentially raise (to a large extent) the aggregate incomes of responsible universities in Russia compared to the existing approach. The main conclusion is that the existing approach to financial risk management in Russian universities is based on low-efficiency managerial measures which risk burdening universities. This burden could be prevented with the newly developed approach to financial risk management in responsible universities in Russia through support of the SDGs. The theoretical significance lies in clarifying the specific list of the SDGs whose support makes the largest contribution to reducing financial risks for the universities—namely, SDG 4, SDG 8, and SDG 9. The practical significance is that the new approach will allow for full disclosure of the potential reduction in financial risks in responsible universities in Russia in the Decade of Action (2020–2030). The managerial significance is as follows: the proposed recommendations will allow improved financial risk management in Russian universities through optimization of the support of the SDGs.

**Keywords:** financial risks to universities; universities' support of the SDGs; financial risk management; responsible universities; universities of Russia



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## 1. Introduction

Financial risks have strong effects on the activities of modern organizations, and they have specific features in each sector of the economy. The specifics for the Russian higher education sector consist of the domination of state universities. From a financial perspective, this means that a large share of Russian universities' resources is composed of

state subsidies. Historically, Russian universities were created using the national budget, and their full state provision was planned.

Recent decades have seen a full-scale market reformation of the Russian economy, including the higher education sector. The formation of market relations in this sphere initiated the reconsideration of the strategy of financing Russian universities' activities. To reduce the burden on the state budget and increase the total volume of financing for university activities, the inflow of private investments in the sphere of higher education has been stimulated in recent years in Russia. Private investments mainly take the form of payments for higher education services that are provided by universities and university innovations and technologies that are purchased by private businesses.

Financial risks to universities are treated as a reduction in the volume of financing of universities' activities from various sources. The essence of financial risk management in universities consists in raising their attractiveness for state financing and private investments. The Decade of Action introduced uncertainty in universities' financial risk management. The practice of achieving the Sustainable Development Goals (SDGs) gained significant popularity.

To support the UN (2024a) Global Initiative, respectable organizations, such as THE (2024), began compiling international rankings of universities using the criteria of how they support the SDGs. To preserve global competitiveness, universities had to conform to new criteria set by international university rankings, so they started supporting the SDGs. Universities that support the SDGs can be called "responsible universities" because they accept responsibility for the sustainable development of socioeconomic systems.

The problem is that while striving towards strengthening global competitiveness, universities may face the growth of financial risks. This is because support of the SDGs is connected to additional expenditures by universities. State regulators can potentially treat expenditures for the achievement of the SDGs as unplanned expenditures and ineffective use of the budget assets provided to universities. The reduction in the economic effectiveness of the management of responsible universities may become a reason for a decrease in their state financing and redistribution of assets in favor of more effective universities.

Private investors focus on price. Universities' support of the SDGs can cause the growth of the cost of paid services of higher education, which are provided by universities, and increase the cost of university innovations and technologies, which are available for purchase by private businesses. This may cause a reduction in the pricing competitiveness of educational and research services that are provided by responsible universities, a reduction in demand, and a decrease in sales volume. Consumers of these services would then shift to alternative local and foreign suppliers of these services—universities from other countries.

Striving to solve these problems, this paper seeks to determine the influence of support of the SDGs on the financial risks of responsible universities in Russia. This goal is achieved with the help of the two following tasks. The first is to identify the cause-and-effect relationships of financial risk management in responsible Russian universities. The second is to identify the potential for a reduction in financial risks in responsible universities in Russia through alternative approaches to financial risk management. This paper fills a gap in the literature that is connected to the unknown influence of the support of the SDGs on financial risks to universities in Russia. The paper clarifies this contribution and offers a new approach to financial risk management for Russian universities—through support of the SDGs.

## 2. Literature Review

### 2.1. *The Existing Approach to Financial Risk Management in Responsible Universities in Russia*

The model of financing for state universities in Russia was changed in the market reformation of the Russian economy on the whole and the Russian system of higher education in particular. Several decades ago, only state universities existed in Russia, and all of them were fully funded from the state budget. Market reforms led to the emergence of

private universities, and to the reduction in state financing of state universities (Zheleznov 2023). This created financial risks to state universities in Russia, for the capabilities and volume of state financing decreased, and the mechanisms of attracting private financing were not fully developed.

The Russian model of financing state universities is unique—it is completely different from the system of university financing in Europe, Asia, and the USA, where private universities dominate in developed countries (Kelchen et al. 2024). State financing of their activities is not performed directly, but indirectly—through provisions of grants for tuition and educational loans.

In Russia, as in many other dynamically developing countries, there exists state procurement to universities for training personnel. In the Russian model, the Ministry of Science and Higher Education determines which specialties are in the highest demand in each region and country on the whole and allocates state-funded places to universities, at which students' tuition is financed from the federal budget. Together with this, there is paid education—paid for by students themselves and/or employers (targeted, corporate education) (Mao et al. 2024).

In this regard, the term “investor in higher education” is introduced. It is a private subject financing university activities, namely, students and employers who pay for higher education services, and companies that receive university innovations (Huňady et al. 2023). For comparison, the USA has private commercial institutions that rely on investors, but this is not a very popular practice (Blume-Kohout 2023).

This paper is based on the concept of financial risk management in universities, the provisions of which are given in the works by Bogoviz et al. (2018), Kato et al. (2024), and Zarova and Tursunov (2022). According to this concept, the financial risk to state universities, which is the research object in this paper, is the reduction in the volume of their financing (Dyrstad et al. 2024; Krieger 2024). However, the following should be differentiated:

- Risk of the reduction in the total financing of the activities of universities, whose structure is based on state financing from the national budget (Chairassamee and Hean 2023; Turginbayeva and Domalotov 2019);
- Risk of the reduction in extra-budgetary financing of universities' activities from the funds of private investors: consumers (individual and corporate) services of higher education and B2B consumers of university innovations and technologies (Litvinova 2022; Moll 2023).

The existing approach to financial risk management in responsible universities of Russia involves maximization of the effectiveness of universities' activities due to the following: an increase in the results in the sphere of education (Tovmasyan et al. 2022), research (Bogoviz and Mezhov 2015; Fukugawa 2023), and international activities (Petrenko and Stolyarov 2019), or in combination with the reduction in wages of representatives of academic staff for saving in the interests of the reduction in costs, or in combination with an increase in wages of academic staff as a means of maximization of the above results (Przhedetskaya and Borzenko 2019).

## 2.2. Support of the SDGs in Responsible Universities: International Practice and Russian Experience

Currently, international practice is dominated by responsible universities, which are treated as universities that accept responsibility for:

- The state for the effectiveness of spending the provided budget funds and for the economic, environmental, and social consequences of universities' activities and practical implementation of the created innovations (Dyrstad et al. 2024; Thawesaengskulthai et al. 2024);
- Private investors for the quality and affordability of educational and research services that are provided by universities (Hahn et al. 2024; Khasanov et al. 2019).

Thus, a responsible university is a university that in the course of its activities supports the SDGs, publishes the corresponding reports, and, accordingly, is presented in university rankings, including international ones, which are connected with the achievement of the SDGs. Certain recent research, e.g., Athari et al. (2024), showed that national ESG is very important, although the most objective rankings are international university rankings, among which an important role belongs to the respectable ranking THE (2024).

Accordingly, an irresponsible university could be defined as a university that does not support the SDGs and/or does not publish the corresponding reports on sustainable development and is not in university rankings, including international ones, which are connected with the achievement of the SDGs. That is why we suggest using the presence and position in the THE “Impact Rankings 2023” (2024) as the criterion of differentiation of responsible and irresponsible universities.

Our literature review (Kyambade et al. 2024a; Ncube 2023; Preuss et al. 2023) revealed the high level of support of SDGs among Russian universities, which proves that responsible state universities dominate Russia’s higher education system. Also, the existing publications note the significant contribution of support of SDGs by universities for the growth of their global competitiveness and expansion of their international activities (Kyambade et al. 2024b; Marchigiani and Garofolo 2023; Zhao and Cheah 2023).

However, the consequences of responsible universities’ supporting the SDGs for their financial risks are insufficiently elaborated and largely unknown, which is a gap in the literature. This paper strives to fill the revealed gap, posing the following research question:

RQ: How does support of the SDGs by responsible universities in Russia influence their financial risks?

Certain literature sources—Bock et al. (2018) and Mántica (2022)—put forward an assumption that support of the SDGs by responsible universities can *raise* their financial risks, for it is connected with additional expenditures.

Contrary to them, Abankina et al. (2018) and Liu and Gao (2021) present their point of view that support of the SDGs by responsible universities can *reduce* their financial risks because it raises the loyalty of all interested parties: consumers (students and employers), business partners, and state regulators and employees (academic staff), whose labor efficiency and quality results increase. Based on this, the following hypothesis is proposed in this paper:

H: Support of the SDGs ensures the reduction in financial risks of responsible universities in Russia.

To check this hypothesis, we performed econometric modeling of the influence of the activity of SDG support as an innovative managerial practice, together with traditional managerial practices, on the financial risks to responsible universities in Russia.

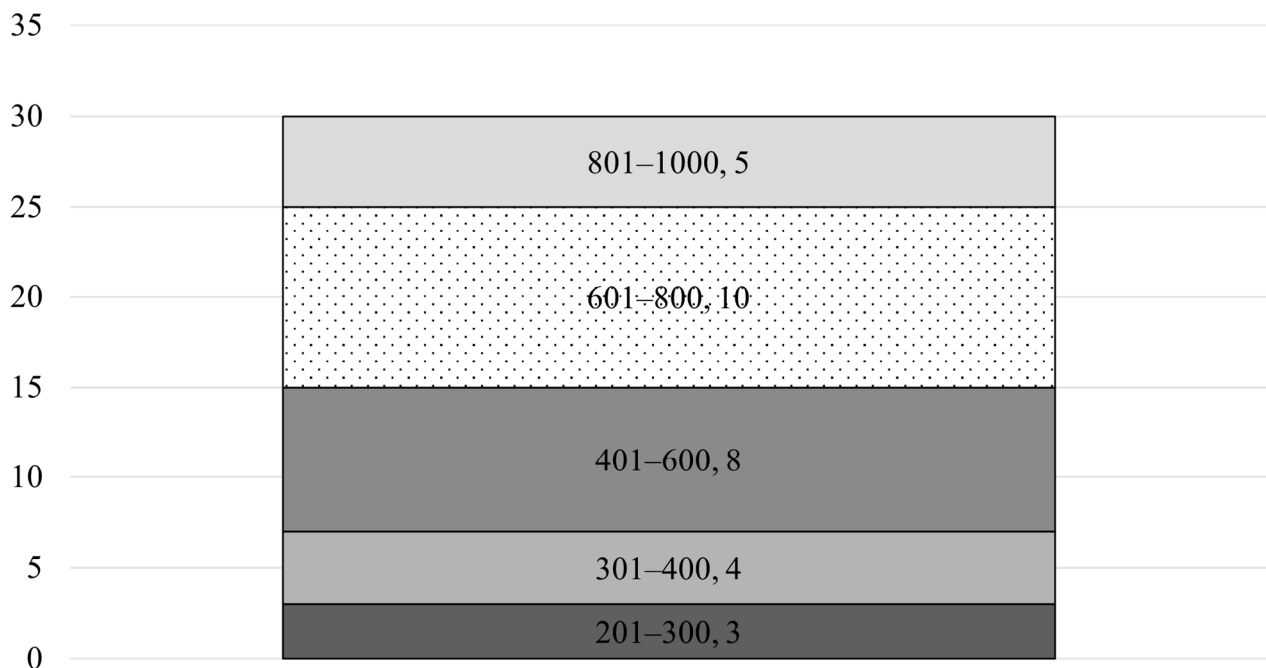
### 3. Materials and Methods

This research sample contains the top 30 responsible Russian universities, which were selected by the criteria of their presence among the top 1000 universities in the world and most active support for the SDGs, in the THE “Impact Rankings 2023” (2024). The sample structure in the aspect of the position of responsible Russian universities in this ranking is shown in Figure 1.

As shown in Figure 1, 10% of the sample (3 universities) are in the category “201–300” in the considered ranking. The category “301–400” includes 13.3% of the sample (4 universities). The category “401–600” contains 26.7% of the sample (8 universities). The category “601–800” contains 33.3% of the sample (10 universities)—this is the largest category among responsible Russian universities. The category “801–1000” has 16.7% of the sample (5 universities).

The sample of the top 30 responsible Russian universities in 2023, which was studied in this paper, is presented in Table A1. Measures of financial risk management, implemented by the top 30 most responsible universities in Russia in 2023, are shown in Table A2. Financial risks of the top 30 most responsible Russian universities in 2023 are characterized

in Table A3. The activity of the implementation of the SDGs by the top 30 most responsible universities in Russia in 2023 is indicated in Table A4.



**Figure 1.** The sample structure, the number of responsible universities. Source: Compiled by the authors based on THE (2024) materials.

To solve the first task, which involves revealing the cause-and-effect relationships of financial risk management in responsible Russian universities, we performed a factor analysis of this management. The task was solved with the help of regression analysis. This method was used to identify high-precision–regression–dependence of the indicators of financial risks—university’s revenues from all sources (Ufr1) and university’s revenues from extra-budgetary sources (Ufr2), according to MIREA, MIC (2024)—on the system of factors, which include, first, alternative financial risk management measures:

- Level of implementation of the SDGs (Resp), score 1–100 (according to THE 2024);
- Educational activity (Ex1): “Average score of the Unified State Examination of accepted students”, score 1–100 (according to MIREA, MIC 2024);
- Research activities (Ex2): volume of R&D per one member of academic staff, thousand rubles (according to MIREA, MIC 2024);
- International activities (Ex3): share of foreign students in the total number of students, % (according to MIREA, MIC 2024);
- Wages of academic staff (Ex4): academic staff wages/average wages in the region’s economy ratio, % (according to MIREA, MIC 2024).

Second, detailed practices of support of SDGs in universities, which include practices that are widespread among Russian responsible universities (share of universities that implement them exceeds 10% in the total sample according to THE 2024): level of support of SDG 4, SDG 5, SDG 8, SDG 9, SDG 11, and SDG 7 by responsible universities. Hypothesis H is deemed proven if the regression coefficient at the factor variable Resp is positive in regression equations for both resulting variables (Ufr1 and Ufr2). We also selected SDGs at which regression coefficients are positive in regression equations for both resulting variables (Ufr1 and Ufr2). The regression analysis results’ reliability was checked with the help of the F-test and *t*-test.

For the most complete consideration and the most correct reflection of the cause-and-effect relationships, we included the macro-level factors in the research model. Among the macro-factors that potentially influence the financial risks to universities, this paper

considers the following: economic (EGI), social (SGI), and political (PGI) globalization (according to [KOF 2024](#)), as well as state financing of higher education (PETE).

To calculate the value of the indicator PETE, we calculated the product of “expenditure on tertiary education (% of government expenditure on education)” ([World Bank 2024a](#)) and “government expenditure on education, total (% of GDP)” (transferred into shares of 100, [World Bank 2024a](#)). Since the macro-level factors influence the system of higher education on the whole, we evaluated their effect not on specific universities but on the general position of the three leading Russian universities in the THE ranking (TopUTHE from the materials of the [UN 2024b](#)). The values of the selected indicators are presented in [Table 1](#).

**Table 1.** Dynamics of the macro-level factors and position of Russian universities in the THE ranking in 2015–2022.

Year	The Times Higher Education Universities Ranking: Average Score of Top 3 Universities (Worst 0–100 Best)	Economic Globalization Overall Index, Score 0–100	Social Globalization Overall Index, Score 0–100	Political Globalization Overall Index, Score 0–100	Government Expenditure on Education, Total (% of GDP)	Expenditure on Tertiary Education (% of Government Expenditure on Education)	Government Expenditure on Tertiary Education, % of GDP
2015	46	49	72	92	3.83	21.14	0.81
2016	17	53	69	92	3.76	21.61	0.81
2017	44	55	69	92	4.69	21.61	1.01
2018	48	54	69	92	4.68	21.61	1.01
2019	49	54	69	92	3.51	21.61	0.76
2020	52	55	69	92	3.70	21.61	0.80
2021	53	53	68	92	3.70	21.61	0.80
2022	52	49	68	92	3.70	21.61	0.80

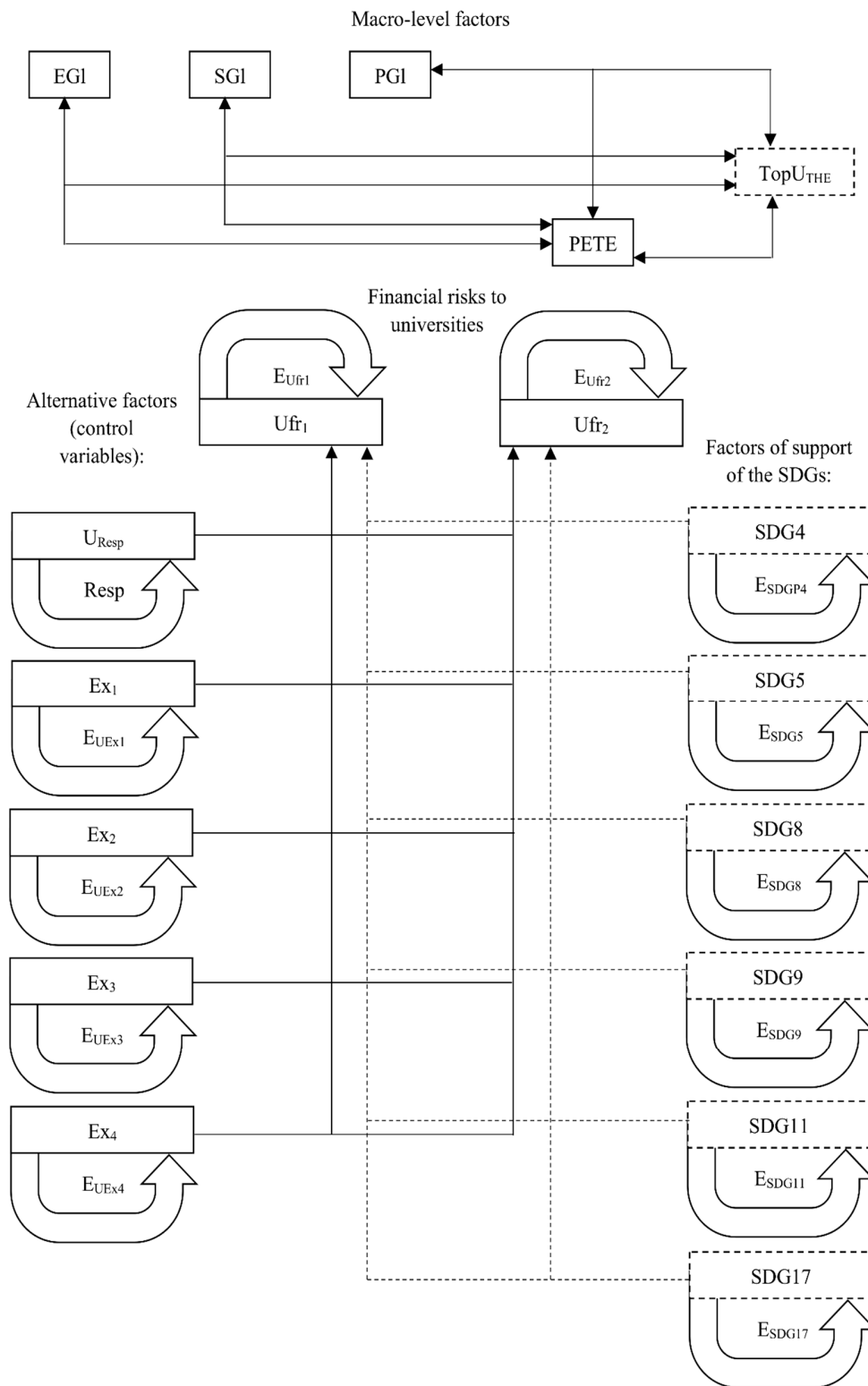
Source: Compiled and calculated by the authors based on ([KOF 2024](#); [UN 2024b](#); [World Bank 2024a](#), [2024b](#)).

Since the period in the Russian economy for which the required statistical data are available is relatively short, the sample is eight years. Therefore, to find the connection between the financial risks to universities and the macro-environment of the Russian economy, we selected the correlation analysis method.

This method was used to identify [Figure 2](#) the interconnection between TopU<sub>THE</sub> and EGI, SGI, PGI, and PETE. The indicator TopU<sub>THE</sub> was selected for this research because it reflects the involvement of universities in sustainable development and their interest in the achievement of the SDGs to improve their position in international university rankings. In this way, the connection between the development of responsible universities in Russia and financial risks to state universities and globalization in various directions was determined.

We also conducted a correlation analysis of the interdependence of PETE and EGI, SGI, and PGI. This demonstrates the connection between various directions of globalization and Russian state universities’ financial risks. The positive connection is demonstrated by positive values of the correlation coefficients, and the negative connection is demonstrated by negative values of the correlation coefficients.

For the systemic reflection of aggregate results of econometric research, we used the structural equations modeling (SEM) method. The research model has the following form ([Figure 2](#)):



**Figure 2.** The research model. Source: Authors.

In the research model SEM in Figure 2, E is errors—a variation in the indicators' values. To solve the second task, which involved identifying the potential of financial risk reduction in responsible Russian universities in case of alternative approaches to financial risk management, we used the obtained regression equations to forecast the consequences for resulting variables (Ufr<sub>1</sub> and Ufr<sub>2</sub>), which reflect financial risks, from the following: (1) maximization of SDGs' support by responsible universities (Resp = 100)

and (2) maximization (achievement of the maximum values in the sample) of the values of control variables (Ex1–Ex4). We selected the optimal combination of the level of support for the selected top-priority SDGs for the maximization of the support of SDGs by Russian responsible universities.

#### 4. Results

##### 4.1. Factor Analysis of Financial Risk Management in Responsible Universities of Russia

To solve the first task, which involves determining the cause-and-effect relationships of financial risk management in responsible Russian universities, we conducted a factor analysis of this management in the top 30 most responsible Russian universities in 2023 (from Table A1). Regression analysis of the dependence of the indicators of financial risks on the alternative measures of financial risk management was conducted in Table 2.

**Table 2.** Regression analysis of the dependence of the indicators of financial risks on the alternative measures of financial risk management.

Analysis Sphere	Analysis Elements	Ufr <sub>1</sub>	Ufr <sub>2</sub>
Regression statistics	Multiple R	0.6743	0.7132
	R-square	0.4547	0.5086
	Adjusted R-square	0.3411	0.4063
	Standard error	3.6789	1.7320
	Observations	30	30
ANOVA and F-Stat	Significance F	0.0088	0.0029
	Level of significance	0.01	0.01
	$k_1 = m$	5	5
	$k_2 = n - m - 1$	$30 - 5 - 1 = 24$	$30 - 5 - 1 = 24$
	F table	3.8951	3.8951
	F observed	4.0025	4.9686
	F-test	passed	passed
Regression coefficients	Y-intercept	−31.4630	−19.1334
	Resp	0.2421	0.1144
	Ex <sub>1</sub>	0.2637	0.1357
	Ex <sub>2</sub>	0.00001	−0.0003
	Ex <sub>3</sub>	−0.0370	0.0470
	Ex <sub>4</sub>	0.0129	0.0177
Standard error	Y-intercept	11.8534	5.5806
	Resp	0.1115	0.0525
	Ex <sub>1</sub>	0.1679	0.0790
	Ex <sub>2</sub>	0.0008	0.0004
	Ex <sub>3</sub>	0.0971	0.0457
	Ex <sub>4</sub>	0.0311	0.0146
t-Stat	Y-intercept	−2.6543	−3.4285
	Resp	2.1709	2.1799
	Ex <sub>1</sub>	1.5705	1.7171
	Ex <sub>2</sub>	−0.0087	−0.8070
	Ex <sub>3</sub>	−0.3812	1.0273
	Ex <sub>4</sub>	0.4137	1.2071

Source: Calculated and compiled by the authors.

The results obtained (Table 2) show that the risk of total financing reduction in Russian universities' activities is 67.43% determined by the implementation of the considered mea-



asures of financial risk management. In turn, the risk of the reduction in extra-budgetary financing of universities' activities from private investor funds in Russia is 71.32% determined by the implementation of the considered measures of financial risk management.

The F-test was passed in both cases at the level of significance of 0.01. Standard errors are relatively small, which proves the correctness of the regression analysis results. However, the *t*-test was passed at the resulting variable Ufr1 only for Resp (at the level of significance of 0.05) and Ex1 (at the level of significance of 0.15), and at the resulting variable Ufr2 for Resp (at the level of significance of 0.05) and Ex1 (at the level of significance of 0.10). Regression analysis assessed how financial risk indicators depend on detailed SDG support practices in universities, as shown in Table 3.

**Table 3.** Regression analysis of the dependence of the indicators of financial risks on detailed practices of support of SDGs in universities.

Analysis Sphere	Analysis Elements	Ufr <sub>1</sub>	Ufr <sub>2</sub>
Regression statistics	Multiple R	0.6972	0.7029
	R-square	0.4861	0.4940
	Adjusted R-square	0.3521	0.3621
	Standard error	3.6481	1.7953
	Observations	30	30
ANOVA and F-Stat	Significance F	0.0112	0.0096
	Level of significance	0.05	0.01
	k <sub>1</sub> = m	6	6
	k <sub>2</sub> = n – m – 1	30 – 6 – 1 = 23	30 – 6 – 1 = 23
	F-table	2.5277	3.7102
	F-observed	3.6263	3.7431
	F-test	passed	passed
Regression coefficients	Y-intercept	–3.0271	–1.7401
	SDG 4	0.0609	0.0304
	SDG 5	0.0215	0.0297
	SDG 8	0.0306	0.0277
	SDG 9	0.0649	0.0306
	SDG 11	0.0164	0.0149
	SDG 17	0.0747	0.0184
Standard error	Y-intercept	3.4809	1.7130
	SDG 4	0.0226	0.0111
	SDG 5	0.0341	0.0168
	SDG 8	0.0224	0.0110
	SDG 9	0.0192	0.0094
	SDG 11	0.0246	0.0121
	SDG 17	0.0542	0.0267
t-Stat	Y-intercept	–0.8696	–1.0158
	SDG 4	2.6902	2.7283
	SDG 5	0.6295	1.7718
	SDG 8	1.3637	2.5124
	SDG 9	3.3791	3.2388
	SDG 11	0.6652	1.2291
	SDG 17	1.3798	0.6890

Source: Calculated and compiled by the authors.

The results obtained (Table 3) show that the risk of total financing reduction in Russian universities' activities is 69.72% determined by support for the SDGs in universities. In turn, the risk of extra-budgetary financing reduction in Russian universities' activities from private investor funds is 70.29% determined by the support for the SDGs in universities. The F-test was passed at the level of significance of 0.05 for Ufr1 and at the level of significance of 0.01 for Ufr2. Standard errors are relatively small, which proves the regression analysis results are correct.

However, the *t*-test was passed at the resulting variable Ufr1 only for SDG 4 (at the level of significance of 0.05), SDG 8 (at the level of significance of 0.20), SDG 9 (at the level of significance of 0.01), and SDG 17 (at the level of significance of 0.20). At the resulting variable Ufr2, the *t*-test was passed only for SDG 4 (at the level of significance of 0.05), SDG 5 (at the level of significance of 0.10), SDG 8 (at the level of significance of 0.01), and SDG 11 (at the level of significance of 0.25).

The established regression dependencies allowed compiling a model of financial risk management in responsible Russian universities, which is the following system of equations of multiple linear regression:

$$\begin{cases} \text{Ufr}_1 = -31.4630 + 0.2421 \times \text{Resp} + 0.2637 \times \text{Ex}_1 + 0.00001 \times \text{Ex}_2 - 0.0370 \times \text{Ex}_3 + 0.0129 \times \text{Ex}_4, \\ \text{Ufr}_2 = -19.1334 + 0.1144 \times \text{Resp} + 0.1357 \times \text{Ex}_1 - 0.0003 \times \text{Ex}_2 + 0.0470 \times \text{Ex}_3 + 0.0177 \times \text{Ex}_4, \\ \text{Ufr}_1 = -3.0271 + 0.0609 \times \text{SDG 4} + 0.0215 \times \text{SDG 5} + 0.0306 \times \text{SDG 8} + 0.0649 \times \text{SDG 9} + 0.0164 \times \text{SDG 11} + 0.0747 \times \text{SDG 17}, \\ \text{Ufr}_2 = -1.7401 + 0.0304 \times \text{SDG 4} + 0.0297 \times \text{SDG 5} + 0.0277 \times \text{SDG 8} + 0.0306 \times \text{SDG 9} + 0.0149 \times \text{SDG 11} + 0.0184 \times \text{SDG 17}. \end{cases} \quad (1)$$

According to model (1), growth of the level of implementation of the SDGs by Russian universities by 1 point leads to an increase in revenues of Russian universities from all sources by RUB 0.2421 billion and an increase in Russian universities' revenues from extra-budgetary sources by RUB 0.1144 billion. An increase in the "average score of the Unified State Examination of accepted students" by 1 point leads to an increase in Russian universities' revenues from all sources by RUB 0.2637 billion and an increase in Russian universities' revenues from extra-budgetary sources by RUB 0.1357 billion.

An increase in the "volume of R&D per one member of academic staff" by RUB 1 thousand leads to Russian universities' revenues from all sources by RUB 0.00001 billion and a decrease in Russian universities' revenues from extra-budgetary sources by RUB 0.0003 billion. An increase in the "share of foreign students in the total number of students" by 1% leads to a decrease in Russian universities' revenues from all sources by RUB 0.0370 billion and an increase in Russian universities' revenues from extra-budgetary sources by RUB 0.0470 billion.

An increase in "academic staff wages/average wages in the region's economy ratio" by 1% leads to Russian universities' revenues from all sources by RUB 0.0129 billion and an increase in Russian universities' revenues from extra-budgetary sources by RUB 0.0177 billion.

The results obtained mean that Russian universities' research activities increase their financial risks, and Russian universities' international activities have a contradictory effect on their financial risks.

The detailed analysis of the dependence of the financial risks of Russian universities on the implementation of concrete SDGs showed that the growth of the activity of Russian universities' support for SDG 4 by 1 point leads to an increase in Russian universities' revenues from all sources by RUB 0.0609 billion and an increase in Russian universities' revenues from extra-budgetary sources by RUB 0.0304 billion. Growth of the activity of Russian universities' support for SDG 5 by 1 point leads to an increase in Russian universities' revenues from all sources by RUB 0.0215 billion and an increase in Russian universities' revenues from extra-budgetary sources by RUB 0.0297 billion.

Growth of the activity of Russian universities' support for SDG 8 by 1 point leads to an increase in Russian universities' revenues from all sources by RUB 0.0306 billion and an increase in Russian universities' revenues from extra-budgetary sources by RUB 0.0277 billion. Growth of the activity of Russian universities' support for SDG 9 by 1 point leads to an increase in Russian universities' revenues from all sources by RUB 0.0649 billion

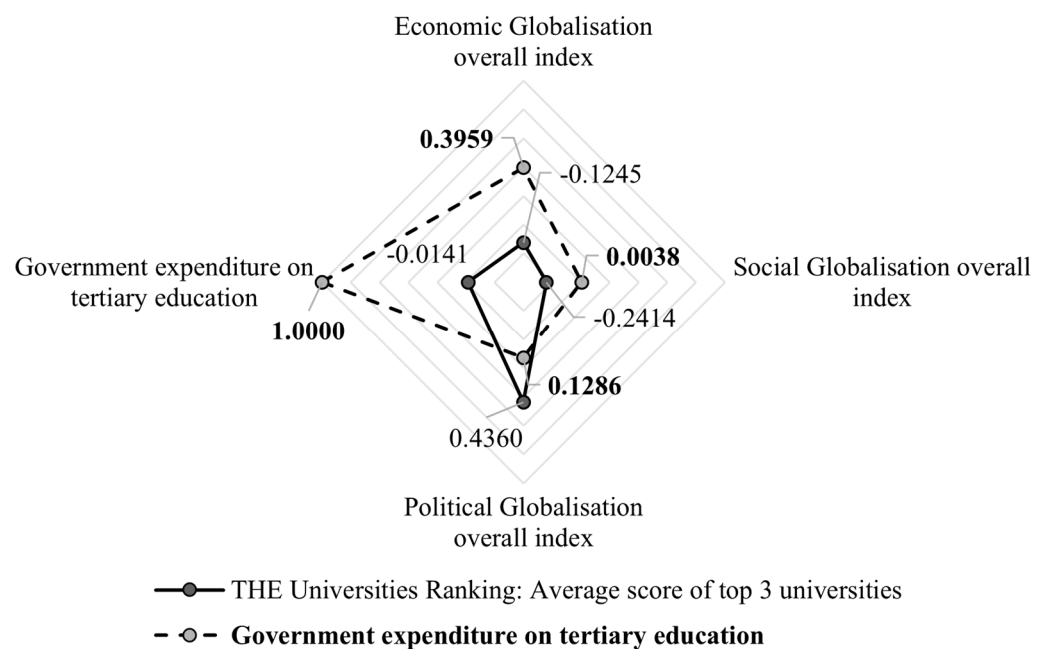
and an increase in Russian universities' revenues from extra-budgetary sources by RUB 0.0306 billion.

Growth of the activity of Russian universities' support for SDG 11 by 1 point leads to an increase in Russian universities' revenues from all sources by RUB 0.0164 billion and an increase in Russian universities' revenues from extra-budgetary sources by RUB 0.0149 billion. Growth of the activity of Russian universities' support for SDG 17 by 1 point leads to an increase in Russian universities' revenues from all sources by RUB 0.0747 billion and an increase in Russian universities' revenues from extra-budgetary sources by RUB 0.0184 billion.

Thus, regression coefficients at the factor variable *Resp* are positive in regression equations for both resulting variables (*Ufr1* and *Ufr2*) and the connection between the variables is statistically significant. Therefore, hypothesis H is deemed proven. It was established that the connection between financial risks to Russian universities and alternative measures of the management of these risks is unstable—it is statistically significant only with educational activities, while the connection with other measures is statistically insignificant, contradictory, and even negative.

We also selected SDGs at which regression coefficients are positive in regression equations for both resulting variables (*Ufr1* and *Ufr2*). These are SDG 4, SDG 8, and SDG 9. Thus, their support should be the focus on efforts of Russian responsible universities for an increase in the effectiveness of management of their financial risks.

For the most complete consideration and correct reflection of the cause-and-effect relationships, we took into account the macro-level factors from Table 1. The results of their correlation analysis are shown in Figure 3.



**Figure 3.** Correlation between the financial risks to Russian universities and the macro-level factors in 2015–2022. Source: Authors.

The results in Figure 3 show that universities' involvement in sustainable development and their interest in the achievement of the SDGs to improve their position in international university rankings increased in the course of political globalization (correlation equals 0.4360), but reduced in the course of economic (correlation equals  $-0.1245$ ) and social (correlation equals  $-0.2414$ ) globalization, as well as in the course of growth of state budget financing of higher education (correlation equals  $-0.0141$ ).

Financial risks to state universities in Russia (which are connected with the reduction in state budget higher education funding volume) are reduced due to economic (correlation

is 0.3959), social (correlation is 0.0038), and political (correlation is 0.1286) globalization. For the systemic reflection of aggregate results of the econometric research, they were joined in one SEM model (Figure 4).

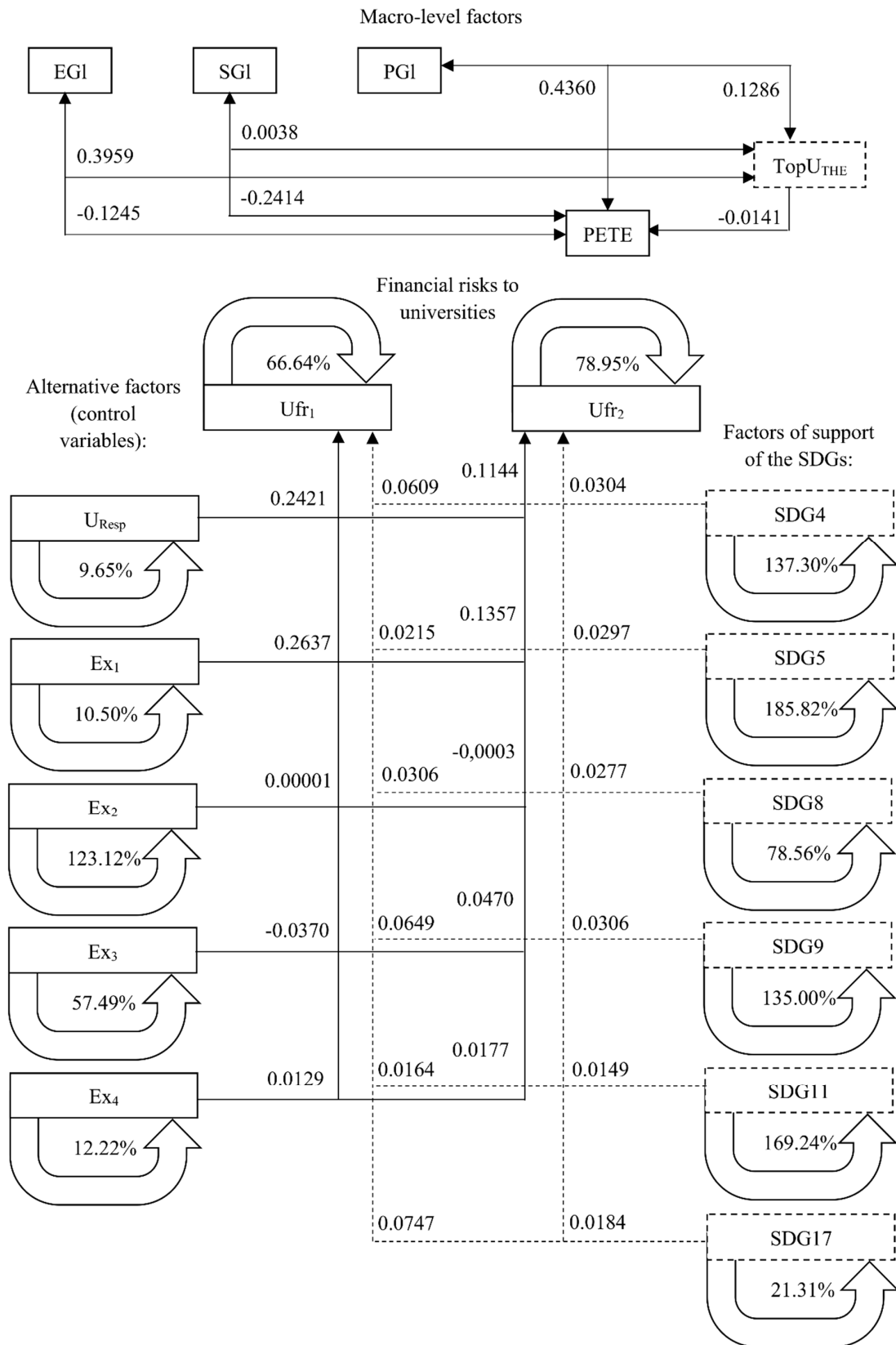


Figure 4. Model SEM. Source: Authors.

The SEM model systematized the results obtained and allowed for the following generalized conclusions: First, the support factors of the SDGs are much more differentiated and have a larger and non-contradictory influence on the reduction in financial risks to universities in Russia than alternative factors. Second, micro-level factors (support of the SDGs and alternative factors) determine the financial risks to universities in Russia to a larger extent. Third, among the macro-level factors, the largest influence on the development of responsible universities in Russia is performed by political globalization, and on the reduction in financial risks to Russian universities—economic globalization.

#### *4.2. Potential of Financial Risk Reduction in Responsible Russian Universities in Case of Alternative Approaches to Financial Risk Management*

To solve the second task, which involved determining the potential of the reduction in financial risks in responsible Russian universities in alternative approaches to financial risk management, we used the obtained regression equations to compile forecasts of the consequences for resulting variables (Ufr1 and Ufr2) in each of the approaches. The forecasts were compiled for the period of the Decade of Action, i.e., until 2030.

According to the economic modeling results, we propose a new approach to financial risk management in responsible Russian universities, based on the support for the SDGs. In this new approach, the responsible Russian universities' financial risks are reduced due to their accepting responsibility to the state for the economic, environmental, and social consequences of the universities' activities and the practical implementation of the created innovations, as well as accepting responsibility to private investors for the quality and affordability of educational and research services provided by universities.

A feature of the offered approach and its essential difference from the existing one is that in the new approach, the high effectiveness of spending of provided budgetary and extra-budgetary funds and, accordingly, universities' high investment attractiveness is ensured not due to saving but to support of SDGs.

In the proposed approach, the focus is on responsible universities' support for SDG 4 through an increase in the quality of higher education services and providing wide groups of the population with the opportunity for life-long learning; SDG 8 through the development of applied skills with students for successful employment in the specialty and career-building by university graduates; SDG 9 through the creation of breakthrough applied innovations for the Russian economy in support for the strengthening of strategic academic leadership and Russian technological sovereignty.

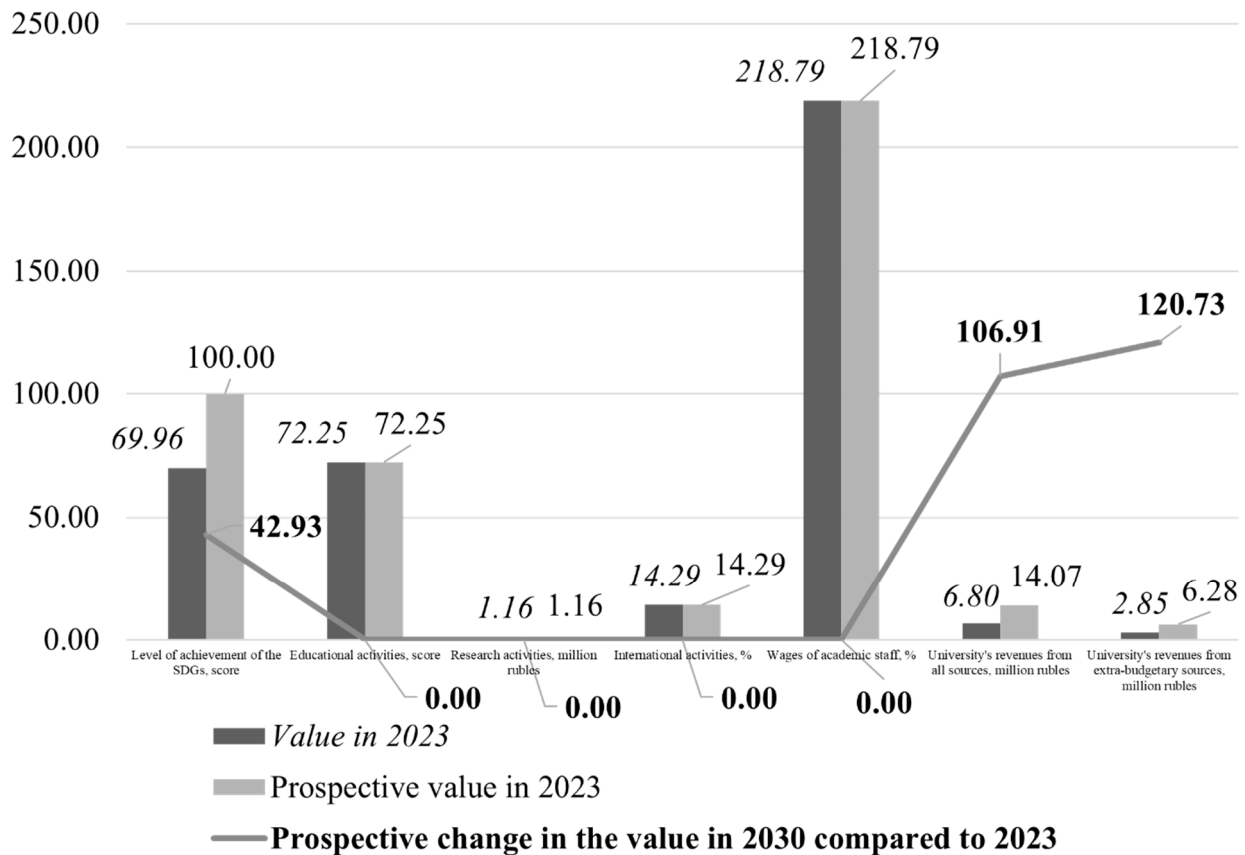
The perspective of improvement of financial risk management in responsible Russian universities through the optimization of SDGs' support reflects the forecasted consequences for financial risks from the maximization of the support of SDGs by responsible universities (Resp = 100), which is shown in Figure 5.

As shown in Figure 5, growing the activity of Russian university's support for SDGs by 42.93% (from 69.96 points in 2023 to 100.00 points by 2030) will lead to an increase in Russian responsible universities' revenues from all sources by 106.91% (from RUB 6.80 billion in 2023 to RUB 14.07 billion by 2030 in 2023 constant prices). Revenues of responsible Russian universities from extra-budgetary sources will grow by 120.73% (from RUB 2.85 billion in 2023 to RUB 6.28 billion by 2030). For this to be implemented in practice, the following recommendations on the improvement of financial risk management in Russian universities through optimization of SDGs' support are offered (Figure 6).

According to Figure 6, to improve financial risk management in Russian universities through the optimization of support of SDGs (achievement of the growth of universities' revenues according to the control values from Figure 2), the following is recommended:

- Growth of the activity of support of SDG 4 by 70.98% (from 25.36 points in 2023 to 43.37 points by 2030);
- Growth of the activity of support of SDG 8 by 130.70% (from 40.90 points in 2023 to 94.36 points by 2030);

- Growth of the activity of support of SDG 9 by 233.56% (from 29.98 points in 2023 to 100.00 points by 2030).



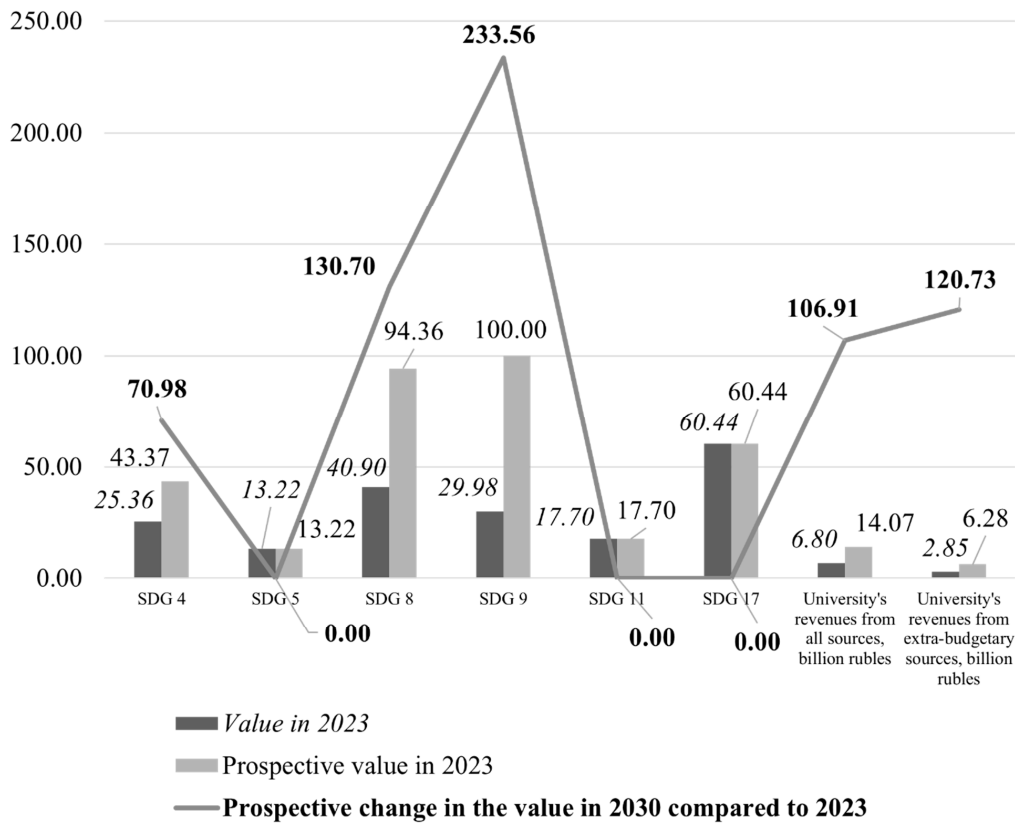
**Figure 5.** Forecast of financial risks to responsible universities in Russia in case of maximization of their support for the SDGs. Source: Authors.

For comparison, let us consider also the perspective of the reduction in financial risks in responsible Russian universities through the development of the potential of the existing approach to financial risk management. This involves maximization (achievement of maximum values in the sample) of the values of control variables (Ex1–Ex4). The forecast of financial risks to Russian universities at the maximization of the results of implementing the current managerial measures is shown in Figure 7.

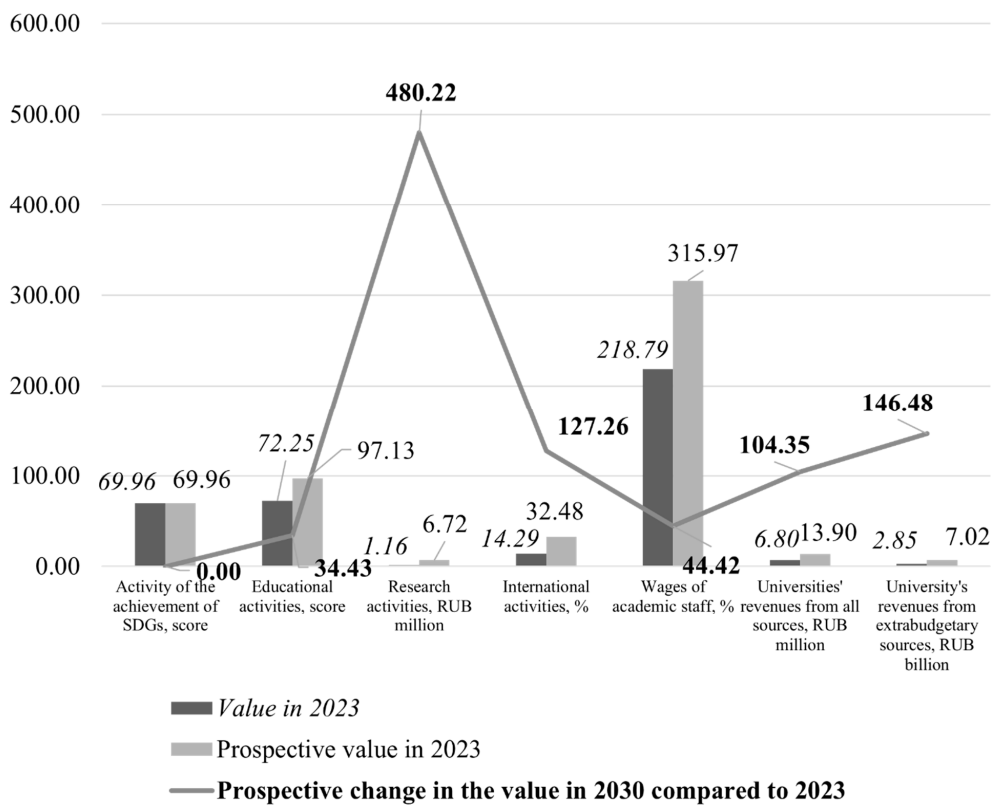
As shown in Figure 7, maximization of the results of implementing the current managerial measures involves the following:

- An increase in the “average score of the Unified State Examination of accepted students” by 34.43% (from 72.25 points in 2023 to 97.13 points by 2030);
- An increase in “volume of R&D per one member of academic staff” by 480.22% (from RUB 1158.22 thousand in 2023 to RUB 6720.25 thousand by 2030);
- An increase in the “share of foreign students in the total number of students” by 127.26% (from 14.29% in 2023 to 32.48% by 2030);
- An increase in “academic staff wages/average wages in the region’s economy ratio” by 44.42% (from 218.79% in 2023 to 315.97% by 2030).

For these reasons, responsible Russian universities’ revenues from all sources will grow by 104.35% (from RUB 6.80 billion in 2023 to RUB 13.90 billion until 2030 in 2023 constant prices). Responsible Russian universities’ revenues from extra-budgetary sources will grow by 146.48% (from RUB 2.85 billion in 2023 to RUB 7.02 billion by 2030).



**Figure 6.** Recommendations for the improvement of financial risk management in Russian universities through optimization of support for SDGs. Source: Authors.



**Figure 7.** Forecast of financial risks to Russian universities at the maximization of the results of implementing the current managerial measures. Source: Authors.

Thus, the newly developed approach, which involves an increase in SDGs' support, has a much larger potential for financial risk reduction in responsible Russian universities than the alternative existing approach to financial risk management, because it increases universities' revenues from all sources to a large extent. Development of this potential in practice in the period until 2030 can be facilitated by the selected optimal combination of the activity of support for the selected top-priority SDGs for the maximization of SDGs' support of SDGs by responsible Russian universities.

## 5. Discussion

This paper's contribution to the literature consists of the development of the concept of financial risk management in universities through clarification of the consequences of SDGs' support by responsible universities in Russia for their financial risks. This paper continues the scientific discussion by [Bogoviz et al. \(2018\)](#), [Kato et al. \(2024\)](#), and [Zarova and Tursunov \(2022\)](#). The influence of the measures of the management of universities' management on their financial risks in Russia, which is estimated in the existing literature and which is specified in this paper, is shown in Table 4.

**Table 4.** The influence of the measures of the management of universities on their financial risks in Russia, which is estimated in the literature and specified in this paper.

Measures of University Management	Influence on Financial Risks to Universities	
	Influence Estimated in the Literature	Influence Revealed in This Paper
Development of educational activities	Reduces financial risks ( <a href="#">Tovmasyan et al. 2022</a> )	Reduces financial risks
Development of research activities	Reduces financial risks ( <a href="#">Bogoviz and Mezhov 2015</a> ; <a href="#">Fukugawa 2023</a> )	Increases financial risks
Development of international activities	Reduces financial risks ( <a href="#">Petrenko and Stolyarov 2019</a> )	Has a contradictory effect on financial risks
Changes in academic staff wages	Reduces financial risks ( <a href="#">Przhedetskaya and Borzenko 2019</a> )	Does not have a statistically significant effect on financial risks
SDGs support	Increases financial risks ( <a href="#">Bock et al. 2018</a> ; <a href="#">Mántica 2022</a> )	Reduces financial risks

Source: Authors.

As shown in Table 4, to confirm the results of [Tovmasyan et al. \(2022\)](#), the results obtained in this paper proved that the development of educational activities of Russian universities does reduce their financial risks. However, the effectiveness of other measures of financial risk management, which conform to the existing approach to the management of these risks, turned out to be low. Thus, unlike [Bogoviz and Mezhov \(2015\)](#) and [Fukugawa \(2023\)](#), we have established that the development of research activities does not reduce but instead raises financial risks. This is demonstrated by the obtained negative values of regression coefficients at the factor variable Ex2 in the model (1).

Unlike [Petrenko and Stolyarov \(2019\)](#), we established that the development of international activities of Russian universities has a contradictory effect on their financial risks, reducing the risk of reduction in extra-budgetary financing of universities' activities due to the funds of private investors, but raising the risk of reduction in total financing of universities' activities. Unlike [Przhedetskaya and Borzenko \(2019\)](#), we proved that the change in wages of academic staff in Russian universities does not have a statistically significant effect on their financial risks (for this factor variable in Model (1), the *t*-test was not passed).

Unlike [Bock et al. \(2018\)](#) and [Mántica \(2022\)](#), we substantiated that support for the SDGs does not raise but reduces financial risks. This was the proof of hypothesis H, to confirm [Abankina et al. \(2018\)](#) and [Liu and Gao \(2021\)](#). Thus, support of the SDGs was set



into the basis of this paper's new approach to financial risk management in responsible universities in Russia, which is the foundation of the scientific novelty and originality of this research.

The scientific novelty and value of the authors' results and recommendations in this paper consist in the development of a new approach to the management of financial risks to Russian universities. The essential difference between the newly offered approach and the existing approach is inclusion in the system of measures of financial risk management, which contains an increase in results in the sphere of educational, research, and international activities with wages for academic staff, of an additional factor—support of the SDGs. In this paper, the significant contribution of SDGs' support to the reduction in financial risks in Russian universities was substantiated for the first time, and the necessity for active support of the SDGs by Russian universities to reduce their financial risks was justified.

## 6. Conclusions

The set goal was achieved: we revealed and proved the positive influence of support of the SDGs on financial risks to responsible universities in Russia, which is expressed in the reduction in these risks. Therefore, the obtained new scientific results filled the literature gap, which is connected with the unknown influence of support of the SDGs on financial risks to Russian universities. Given the revealed positive contribution, a new approach to financial risk management of Russian universities was offered—through support of the SDGs.

This paper's main results are as follows:

First, we identified the cause-and-effect relationships of financial risk management in responsible universities in Russia. Based on the leading experience of the top 30 most responsible Russian universities in 2023, we compiled a model of financial risk management in responsible Russian universities, which mathematically described and quantitatively measured the influence of each managerial measure on the financial risks to Russian universities.

The model showed that among the measures of financial risk management, which are used within the existing approach, only the educational activity of universities ensures the reduction in their financial risks, while the consequences of research, international, and personnel activities of Russian universities for their financial risks are statistically insignificant, contradictory, and even negative. In contrast, support of the SDGs demonstrated a significant and statistically reliable contribution to the reduction in financial risks to responsible Russian universities.

Second, the potential of financial risk reduction in responsible Russian universities using alternative approaches to financial risk management was disclosed and compared. The considered alternatives showed that the existing approach can potentially increase the aggregate revenues of responsible universities in Russia by 104.35% and the new proposed approach by 106.91%. This is a scientific argument in favor of the new approach to raising the effectiveness of financial risk management in Russian universities.

The main authors' conclusion is that the existing approach to financial risk management in Russian universities is based on low-efficiency managerial measures and causes a high risk of burden on universities, which can be reduced by the new approach to financial risk management in responsible universities in Russia through support for the SDGs.

The theoretical significance lies in the specification of the concrete narrow list of the SDGs the support for which contribute the most to the reduction in financial risks of responsible universities in Russia: namely, SDG 4, SDG 8, and SDG 9. The practical significance is that the newly developed approach will allow for the fullest development of the potential for financial risk reduction in responsible universities in Russia in the Decade of Action (2020–2030). The managerial significance is that the proposed author's recommendations will allow financial risk management improvement in Russian universities through the optimization of SDGs' support.

**Author Contributions:** Methodology, Larisa V. Shabaltina; Formal analysis, Nikolai G. Sinyavskiy; Resources, Igor V. Denisov; Writing—original draft, Zhanna V. Gornostaeva; Writing—review & editing, Aleksandra A. Musatkina. All authors have read and agreed to the published version of the manuscript.

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**Data Availability Statement:** The data will be made available upon request.

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

## Appendix A

**Table A1.** Sampler of the top 30 most responsible universities of Russia in 2023.

Rank	International Name of the University	Official Russian Name of the University According to Its Statute	Link to the Information on the University in the Materials of MIREA, MIC (2024),
201–300	Kazan Federal University	Federal State Autonomous Educational Institution of Higher Education “Kazan (Volga) Federal University”	<a href="https://monitoring.miccedu.ru/iam/2023/_vpo/inst.php?id=1519">https://monitoring.miccedu.ru/iam/2023/_vpo/inst.php?id=1519</a> (accessed on 1 May 2024)
201–300	Peter the Great St Petersburg Polytechnic University	Federal State Autonomous Educational Institution of Higher Education “Peter the Great St. Petersburg Polytechnic University”	<a href="https://monitoring.miccedu.ru/iam/2023/_vpo/inst.php?id=240">https://monitoring.miccedu.ru/iam/2023/_vpo/inst.php?id=240</a> (accessed on 1 May 2024)
201–300	RUDN University	Federal State Autonomous Educational Institution of Higher Education “Patrice Lumumba Peoples’ Friendship University of Russia”	<a href="https://monitoring.miccedu.ru/iam/2023/_vpo/inst.php?id=222">https://monitoring.miccedu.ru/iam/2023/_vpo/inst.php?id=222</a> (accessed on 1 May 2024)
301–400	Altai State University	Federal State Budget Educational Institution of Higher Education “Altai State University”	<a href="https://monitoring.miccedu.ru/iam/2023/_vpo/inst.php?id=4">https://monitoring.miccedu.ru/iam/2023/_vpo/inst.php?id=4</a> (accessed on 1 May 2024)
301–400	Bauman Moscow State Technical University	Federal State Budget Educational Institution of Higher Education “Bauman Moscow State Technical University (National Research University)”	<a href="https://monitoring.miccedu.ru/iam/2023/_vpo/inst.php?id=147">https://monitoring.miccedu.ru/iam/2023/_vpo/inst.php?id=147</a> (accessed on 1 May 2024)
301–400	Irkutsk National Research Technical University	Federal State Budget Educational Institution of Higher Education “Irkutsk National Research Technical University”	<a href="https://monitoring.miccedu.ru/iam/2023/_vpo/inst.php?id=82">https://monitoring.miccedu.ru/iam/2023/_vpo/inst.php?id=82</a> (accessed on 1 May 2024)
301–400	National Research Nuclear University MEPhI	Federal State Autonomous Educational Institution of Higher Education “National Research Nuclear University MEPhI”	<a href="https://monitoring.miccedu.ru/iam/2023/_vpo/inst.php?id=165">https://monitoring.miccedu.ru/iam/2023/_vpo/inst.php?id=165</a> (accessed on 1 May 2024)
401–600	Financial University under the Government of the Russian Federation	Federal State Budget Educational Institution of Higher Education “Financial University under the Government of the Russian Federation”	<a href="https://monitoring.miccedu.ru/iam/2023/_vpo/inst.php?id=1767">https://monitoring.miccedu.ru/iam/2023/_vpo/inst.php?id=1767</a> (accessed on 1 May 2024)
401–600	Immanuel Kant Baltic Federal University	Federal State Autonomous Educational Institution of Higher Education “Immanuel Kant Baltic Federal University”	<a href="https://monitoring.miccedu.ru/iam/2023/_vpo/inst.php?id=217">https://monitoring.miccedu.ru/iam/2023/_vpo/inst.php?id=217</a> (accessed on 1 May 2024)
401–600	ITMO University	Federal State Autonomous Educational Institution of Higher Education “National Research University ITMO”	<a href="https://monitoring.miccedu.ru/iam/2023/_vpo/inst.php?id=234">https://monitoring.miccedu.ru/iam/2023/_vpo/inst.php?id=234</a> (accessed on 1 May 2024)
401–600	Kursk State Medical University	Federal State Budget Educational Institution of Higher Education “Kursk State Medical University” of the Ministry of Healthcare of the Russian Federation	<a href="https://monitoring.miccedu.ru/iam/2023/_vpo/inst.php?id=1786">https://monitoring.miccedu.ru/iam/2023/_vpo/inst.php?id=1786</a> (accessed on 1 May 2024)
401–600	Moscow Institute of Physics and Technology (MIPT)	Federal State Autonomous Educational Institution of Higher Education “Moscow Institute of Physics and Technology” (National Research University)	<a href="https://monitoring.miccedu.ru/iam/2023/_vpo/inst.php?id=161">https://monitoring.miccedu.ru/iam/2023/_vpo/inst.php?id=161</a> (accessed on 1 May 2024)
401–600	Russian Biotechnological University (BIOTECH)	Federal State Budget Educational Institution of Higher Education “Russian Biotechnological University” (ROSBIOTECH)	<a href="https://monitoring.miccedu.ru/iam/2023/_vpo/inst.php?id=155">https://monitoring.miccedu.ru/iam/2023/_vpo/inst.php?id=155</a> (accessed on 1 May 2024)

Table A1. Cont.

Rank	International Name of the University	Official Russian Name of the University According to Its Statute	Link to the Information on the University in the Materials of MIREA, MIC (2024),
401–600	Plekhanov Russian University of Economics	Federal State Budget Educational Institution of Higher Education “Plekhanov Russian University of Economics”	<a href="https://monitoring.miccedu.ru/iam/2023/_vpo/inst.php?id=209">https://monitoring.miccedu.ru/iam/2023/_vpo/inst.php?id=209</a> (accessed on 1 May 2024)
401–600	Siberian Federal University	Federal State Autonomous Educational Institution of Higher Education “Siberian Federal University”	<a href="https://monitoring.miccedu.ru/iam/2023/_vpo/inst.php?id=1507">https://monitoring.miccedu.ru/iam/2023/_vpo/inst.php?id=1507</a> (accessed on 1 May 2024)
601–800	Industrial University of Tyumen	Federal State Budget Educational Institution of Higher Education “Industrial University of Tyumen”	<a href="https://monitoring.miccedu.ru/iam/2023/_vpo/inst.php?id=301">https://monitoring.miccedu.ru/iam/2023/_vpo/inst.php?id=301</a> (accessed on 1 May 2024)
601–800	North-Caucasus Federal University	Federal State Autonomous Educational Institution of Higher Education “North-Caucasus Federal University”	<a href="https://monitoring.miccedu.ru/iam/2023/_vpo/inst.php?id=266">https://monitoring.miccedu.ru/iam/2023/_vpo/inst.php?id=266</a> (accessed on 1 May 2024)
601–800	North-Eastern Federal University	Federal State Autonomous Educational Institution of Higher Education “Amosov North-Eastern Federal University”	<a href="https://monitoring.miccedu.ru/iam/2023/_vpo/inst.php?id=1527">https://monitoring.miccedu.ru/iam/2023/_vpo/inst.php?id=1527</a> (accessed on 1 May 2024)
601–800	Novosibirsk State Agrarian University	Federal State Budget Educational Institution of Higher Education “Novosibirsk State Agrarian University”	<a href="https://monitoring.miccedu.ru/iam/2023/_vpo/inst.php?id=1649">https://monitoring.miccedu.ru/iam/2023/_vpo/inst.php?id=1649</a> (accessed on 1 May 2024)
601–800	Perm State University	Federal State Autonomous Educational Institution of Higher Education “Perm State National Research University”	<a href="https://monitoring.miccedu.ru/iam/2023/_vpo/inst.php?id=198">https://monitoring.miccedu.ru/iam/2023/_vpo/inst.php?id=198</a> (accessed on 1 May 2024)
601–800	Russian State Agrarian University—Moscow Timiryazev Agricultural Academy	Federal State Budget Educational Institution of Higher Education “Russian State Agrarian University—Moscow Timiryazev Agricultural Academy”	<a href="https://monitoring.miccedu.ru/iam/2023/_vpo/inst.php?id=1640">https://monitoring.miccedu.ru/iam/2023/_vpo/inst.php?id=1640</a> (accessed on 1 May 2024)
601–800	Southern Federal University	Federal State Autonomous Educational Institution of Higher Education “Southern Federal University”	<a href="https://monitoring.miccedu.ru/iam/2023/_vpo/inst.php?id=337">https://monitoring.miccedu.ru/iam/2023/_vpo/inst.php?id=337</a> (accessed on 1 May 2024)
601–800	South Ural State University	Federal State Autonomous Educational Institution of Higher Education “South Ural State University” (National Research University)	<a href="https://monitoring.miccedu.ru/iam/2023/_vpo/inst.php?id=336">https://monitoring.miccedu.ru/iam/2023/_vpo/inst.php?id=336</a> (accessed on 1 May 2024)
601–800	Tomsk Polytechnic University	Federal State Autonomous Educational Institution of Higher Education “National Research Tomsk Polytechnic University”	<a href="https://monitoring.miccedu.ru/iam/2023/_vpo/inst.php?id=296">https://monitoring.miccedu.ru/iam/2023/_vpo/inst.php?id=296</a> (accessed on 1 May 2024)
601–800	Volgograd State University	Federal State Autonomous Educational Institution of Higher Education “Volgograd State University”	<a href="https://monitoring.miccedu.ru/iam/2023/_vpo/inst.php?id=36">https://monitoring.miccedu.ru/iam/2023/_vpo/inst.php?id=36</a> (accessed on 1 May 2024)
801–1000	Bashkir State University	Federal State Budget Educational Institution of Higher Education “Ufa University of Science and Technology”	<a href="https://monitoring.miccedu.ru/iam/2023/_vpo/inst.php?id=66669204">https://monitoring.miccedu.ru/iam/2023/_vpo/inst.php?id=66669204</a> (accessed on 1 May 2024)
801–1000	Bashkir State Medical University	Federal State Budget Educational Institution of Higher Education “Bashkir State Medical University” of the Ministry of Healthcare of the Russian Federation	<a href="https://monitoring.miccedu.ru/iam/2023/_vpo/inst.php?id=1731">https://monitoring.miccedu.ru/iam/2023/_vpo/inst.php?id=1731</a> (accessed on 1 May 2024)
801–1000	Belgorod State National Research University	Federal State Autonomous Educational Institution of Higher Education “Belgorod State National Research University”	<a href="https://monitoring.miccedu.ru/iam/2023/_vpo/inst.php?id=17">https://monitoring.miccedu.ru/iam/2023/_vpo/inst.php?id=17</a> (accessed on 1 May 2024)
801–1000	Lobachevsky State University of Nizhni Novgorod	Federal State Autonomous Educational Institution of Higher Education “National Research State University of Nizhny Novgorod named after N.I. Lobachevsky”	<a href="https://monitoring.miccedu.ru/iam/2023/_vpo/inst.php?id=170">https://monitoring.miccedu.ru/iam/2023/_vpo/inst.php?id=170</a> (accessed on 1 May 2024)
801–1000	Novosibirsk State Technical University	Federal State Budget Educational Institution of Higher Education “Novosibirsk State Technical University”	<a href="https://monitoring.miccedu.ru/iam/2023/_vpo/inst.php?id=177">https://monitoring.miccedu.ru/iam/2023/_vpo/inst.php?id=177</a> (accessed on 1 May 2024)

Source: Compiled by the authors based on materials of MIREA, MIC (2024); THE (2024).

**Table A2.** Measures of financial risk management that are implemented by the top 30 most responsible universities in Russia in 2023.

Rank	Name	The Activity of Support of SDGs, Score 1–100	Educational Activities	Research Activities	International Activities	Wages of Academic Staff
201–300	Kazan Federal University	82.1	74.94	759.06	20.29	236.42
201–300	Peter the Great St Petersburg Polytechnic University	82.1	79.23	1690.64	17.55	228.24
201–300	RUDN University	82.1	70.54	359.66	29.45	249.15
301–400	Altai State University	76.7	67.95	429.17	22.69	227.76
301–400	Bauman Moscow State Technical University	76.7	78.67	1919.01	5.71	200.59
301–400	Irkutsk National Research Technical University	76.7	63.84	614.90	9.86	203.18
301–400	National Research Nuclear University MEPhI	76.7	88.50	4507.56	21.38	222.09
401–600	Financial University under the Government of the Russian Federation	72.6	81.45	567.12	8.21	200.76
401–600	Immanuel Kant Baltic Federal University	72.6	75.30	953.41	14.50	231.32
401–600	ITMO University	72.6	77.28	3379.59	18.26	315.97
401–600	Kursk State Medical University	72.6	67.91	128.75	30.04	206.53
401–600	Moscow Institute of Physics and Technology (MIPT)	72.6	97.13	6720.25	14.18	222.02
401–600	Russian Biotechnological University (BIOTECH)	72.6	75.11	486.83	13.33	248.90
401–600	Plekhanov Russian University of Economics	72.6	74.98	313.87	9.23	206.21
401–600	Siberian Federal University	72.6	68.53	437.35	4.36	189.78
601–800	Industrial University of Tyumen	66.7	63.95	192.74	7.61	200.63
601–800	North-Caucasus Federal University	66.7	68.06	298.30	9.78	208.00
601–800	North-Eastern Federal University	66.7	62.97	376.13	4.55	201.14
601–800	Novosibirsk State Agrarian University	66.7	61.01	409.22	13.38	171.20
601–800	Perm State University	66.7	69.97	707.80	7.92	188.97
601–800	Russian State Agrarian University—Moscow Timiryazev Agricultural Academy	66.7	67.89	1284.13	4.89	201.59
601–800	Southern Federal University	66.7	74.08	745.48	12.44	212.42
601–800	South Ural State University	66.7	66.47	663.99	10.74	208.94
601–800	Tomsk Polytechnic University	66.7	73.69	2056.92	23.98	232.01
601–800	Volgograd State University	66.7	66.91	127.16	3.71	209.68
801–1000	Bashkir State University	59.6	70.00	513.18	7.09	212.51
801–1000	Bashkir State Medical University	59.6	72.81	611.64	32.48	260.13
801–1000	Belgorod State National Research University	59.6	68.21	1522.27	25.67	214.93
801–1000	Lobachevsky State University of Nizhni Novgorod	59.6	72.12	1036.46	10.21	237.75
801–1000	Novosibirsk State Technical University	59.6	68.03	933.94	15.27	214.95
Maximum value in the sample, score 1–100		82.1	97.1	6720.3	32.5	316.0

Source: Compiled by the authors based on materials of MIREA, MIC (2024); THE (2024).

**Table A3.** Financial risks to the top 30 most responsible universities in Russia in 2023.

Rank	Name	University's Revenues from All Sources, Billion Rubles	University's Revenues from Extra-Budgetary Sources, Billion Rubles	Share of University's Revenues from Extra-Budgetary Sources, %
201–300	Kazan Federal University	13.504122	6.844396	50.68
201–300	Peter the Great St Petersburg Polytechnic University	12.937710	5.717963	44.20
201–300	RUDN University	15.563008	10.132104	65.10
301–400	Altai State University	2.243975	1.045707	46.60
301–400	Bauman Moscow State Technical University	19.151485	4.325470	22.59
301–400	Irkutsk National Research Technical University	3.891520	1.142909	29.37
301–400	National Research Nuclear University MEPhI	7.859391	4.089563	52.03
401–600	Financial University under the Government of the Russian Federation	10.189828	4.764089	46.75
401–600	Immanuel Kant Baltic Federal University	3.189907	0.813055	25.49
401–600	ITMO University	9.717539	5.101974	52.50
401–600	Kursk State Medical University	1.636157	0.935208	57.16
401–600	Moscow Institute of Physics and Technology (MIPT)	13.760323	5.124797	37.24
401–600	Russian Biotechnological University (BIOTECH)	2.199905	0.690459	31.39
401–600	Plekhanov Russian University of Economics	9.037110	4.882867	54.03
401–600	Siberian Federal University	8.388832	2.001505	23.86
601–800	Industrial University of Tyumen	3.896312	1.546146	39.68
601–800	North-Caucasus Federal University	3.164272	1.436112	45.39
601–800	North-Eastern Federal University	6.644250	1.427638	21.49
601–800	Novosibirsk State Agrarian University	1.214777	0.399411	32.88
601–800	Perm State University	2.876025	1.285299	44.69
601–800	Russian State Agrarian University—Moscow Timiryazev Agricultural Academy	5.758056	2.045639	35.53
601–800	Southern Federal University	6.738630	2.702528	40.10
601–800	South Ural State University	4.808992	1.970243	40.97
601–800	Tomsk Polytechnic University	6.904136	2.247028	32.88
601–800	Volgograd State University	1.141863	0.404013	35.38
801–1000	Bashkir State University	5.025474	1.830321	36.42
801–1000	Bashkir State Medical University	6.866067	4.322318	62.95
801–1000	Belgorod State National Research University	5.661811	2.442763	43.14
801–1000	Lobachevsky State University of Nizhni Novgorod	5.492526	2.548206	46.39
801–1000	Novosibirsk State Technical University	4.559561	1.188434	26.06
Maximum value in the sample, score 1–100		1.915148	1.013210	65.1

Source: Compiled by the authors based on materials of [MIREA, MIC \(2024\)](#).





Table A4. Cont.

Rank	Name	SDG 1	SDG 2	SDG 3	SDG 4	SDG 5	SDG 6	SDG 7	SDG 8	SDG 9	SDG 10	SDG 11	SDG 12	SDG 13	SDG 14	SDG 15	SDG 16	SDG 17
601–800	Tomsk Polytechnic University	0.0	0.0	0.0	50.9	0.0	0.0	0.0	0.0	87.2	67.0	0.0	0.0	0.0	0.0	0.0	0.0	75.5
601–800	Volgograd State University	0.0	0.0	0.0	0.0	51.5	0.0	0.0	62.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	61.0
801–1000	Bashkir State University	0.0	0.0	0.0	58.6	51.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	75.5
801–1000	Bashkir State Medical University	0.0	0.0	73.4	43.5	51.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	45.2
801–1000	Belgorod State National Research University	0.0	0.0	63.8	0.0	0.0	0.0	0.0	62.2	60.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	61.0
801–1000	Lobachevsky State University of Nizhni Novgorod	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	72.9	57.5	60.0	0.0	0.0	0.0	0.0	0.0	53.3
801–1000	Novosibirsk State Technical University	68.4	0.0	0.0	0.0	0.0	0.0	51.8	57.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	45.2
Maximum value in the sample, score 1–100		68.4	72.8	78.9	84.5	67.7	49.1	67.8	74.3	91.1	73.3	76.0	76.6	66.3	-	72.2	-	81.7
Number of non-zero values in the sample		4	4	3	11	7	1	3	19	11	5	8	2	1	0	3	0	30
Share of non-zero values in the sample, %		9.52	9.52	7.14	26.19	16.67	2.38	7.14	45.24	26.19	11.90	19.05	4.76	2.38	0.00	7.14	0.00	71.43

Source: Compiled by the authors based on materials of [MIREA, MIC \(2024\)](#); [THE \(2024\)](#).



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