



## OPEN ACCESS

## EDITED BY

Elena G. Popkova,  
Peoples' Friendship University of Russia, Russia

## REVIEWED BY

Edwin Ramirez-Asis,  
Universidad Señor de Sipán, Peru  
Aan Komariah,  
Universitas Pendidikan Indonesia, Indonesia  
Yusri Kamin,  
University of Technology Malaysia, Malaysia

## \*CORRESPONDENCE

Varvara G. Krasilnikova  
✉ iggdrassil1@mail.ru

<sup>†</sup>These authors have contributed equally to this work

RECEIVED 07 January 2023

ACCEPTED 11 April 2023

PUBLISHED 16 May 2023

## CITATION

Dianova VY, Krasilnikova VG, Kelina KG and Nazarenko AV (2023) Alternative mechanisms of managing the education's development in the social investment model of Russia's economic growth: standardization versus deregulation.

*Front. Educ.* 8:1139865.

doi: 10.3389/feduc.2023.1139865

## COPYRIGHT

© 2023 Dianova, Krasilnikova, Kelina and Nazarenko. This is an open-access article distributed under the terms of the [Creative Commons Attribution License \(CC BY\)](https://creativecommons.org/licenses/by/4.0/). The use, distribution or reproduction in other forums is permitted, provided the original author(s) and the copyright owner(s) are credited and that the original publication in this journal is cited, in accordance with accepted academic practice. No use, distribution or reproduction is permitted which does not comply with these terms.

# Alternative mechanisms of managing the education's development in the social investment model of Russia's economic growth: standardization versus deregulation

Valentina Yu Dianova<sup>1†</sup>, Varvara G. Krasilnikova<sup>2\*†</sup>,  
Kirena G. Kelina<sup>2†</sup> and Anton V. Nazarenko<sup>3†</sup>

<sup>1</sup>Plekhanov Russian University of Economics, Moscow, Russia, <sup>2</sup>Sechenov First Moscow State Medical University of the Ministry of Health of the Russian Federation (Sechenov University), Moscow, Russia,

<sup>3</sup>Moscow Polytechnic University, Moscow, Russia

Regression analysis is used to determine the contribution of the factors of managing the development of higher education – share of university branches – to increase the population's quality of life. To determine the optimal approach to managing education's development in the social investment model of Russia's economic growth with alternative mechanisms of standardization and deregulation. The results of the research show that absolute standardization, as well as absolute deregulation of higher education, does not allow achieving significant results in the sphere of increase in quality of life in Russia. The determined and substantiated optimal scenario of managing the development of higher education in Russia to increase the quality of life envisages a foundation on a flexible approach, which envisages the combination of standardization and deregulation. It is recommended to entirely refuse branches in favor of main universities, refuse government financing in favor of fee-based education and refuse diversification of education forms in favor of the intramural form of study. This allows raising the quality of life by 13.26% (up to 70.87 points). For practical implementation of this approach, it is offered to allow each region to form their own programs of development of higher education with the foundation of the main federal principles.

## KEYWORDS

alternative mechanisms, management, development, higher education, social investment model, economic growth, Russia, standardization

## Introduction

The transition to a new – social - investment model of Russia's economic growth envisages two key changes. The first one is connected to a new criterion of evaluating economic growth and its new landmark – the population's quality of life, due to which the economic growth rate is replaced by social progress (Iglesias et al., 2022). Acceleration of the economic growth rate is often accompanied by social costs. For example, industrialization and digital modernization of the economy were accompanied by the growth of unemployment and social tension, due to

which the influence of quick economic growth on quality of life was contradictory (Chang et al., 2022). Contrary to this, economic growth is not a goal in itself in the new model but is a task that is solved on the path to increase in quality of life, which forms a socially responsible approach to the acceleration of the rate of economic growth (Bilyalova et al., 2021).

The second change consists in selecting a new source of economic growth, which is higher education. In the social investment model of economic growth, an important role belongs (for the first time) not only to the achieved result but also to its source (Hadi et al., 2022). The advantages of economic growth, which is based on borrowed technologies and unskilled labor, are short-term (Khalifé et al., 2022). Long-term advantages are guaranteed in the case of the use of highly-skilled personnel, which can create and implement innovations (Ranjan et al., 2021). That's why the development of higher education, which stimulates mass lifelong learning and systemic increase in the level of qualification among the economically active population, is the top-priority source of modern economic growth (Wang and Cui, 2021).

Thus, the social investment model of Russia's economic growth is based on the principle of circularity, according to which economic growth is based on higher education, which stimulates the increase in quality of life. The result of economic growth is an increase in quality of life, which expands opportunities for raising the level of education in society. Practical implementation of the described conceptual model is difficult due to the uncertainty of the preferred mechanism of managing education's development in the social investment model of Russia's economic growth (Timchenko et al., 2021).

Chaotic simultaneous use of alternative mechanisms – standardization and deregulation – slows down the development of higher education in Russia. This paper aims to solve the formulated problem and to determine the optimal approach to managing education's development in the social investment model of Russia's economic growth with alternative mechanisms of standardization and deregulation. The hypothesis is as follows: it is necessary to combine these mechanisms in a certain proportion to achieve the best result in the sphere of increase in quality of life.

## Literature review

The approach to managing the development of higher education, which envisages standardization, is described in the works Bentley-Gockmann (2020), Olivier and Burton (2020), Shams and Hasan (2020), and Wright and Horta (2018). The alternative approach to managing the development of higher education, which consists in deregulation, is studied by Goyal and Sergi (2015), Popkova and Zmiyak (2019), Langrafe et al. (2020), Rehman and Iqbal (2020), Ruiz et al. (2020), and Sciarelli et al. (2020).

The main parameters that define the outlines and differences between the mechanisms of managing education's development in the social investment model of economic growth are as follows:

- Share of university branches, the growth of which leads to flexibility of universities and expansion of geography of their presence, but also to reduction of possibilities to control the quality of education. Yang et al. (2020) and Zhang and You (2022) recommend increasing the branch network of universities during

the implementation of the social investment model of economic growth, to raise the accessibility of higher education in society;

- Share of intramural students, the growth of which leads to an increase in the quality of education, but also to the reduction of the flexibility of the educational process. Bilal et al. (2020) and Peng et al. (2022) recommend performing a transfer from the intramural form of study to more modern forms, in particular, to distance education, during the implementation of the social investment model of economic growth to raise the flexibility of higher education and convenience of its receipt;
- Share of state-subsidized students, the growth of which leads to an increase in accessibility of higher education services for wide groups of the population but also to the reduction of the opportunities for receipt of income by universities and the reduction of universities' entrepreneurial activity. Castro-Bedriñana et al. (2022) and Razak et al. (2022) recommend increasing investments in higher education, including budget financing of universities, during the implementation of the social investment model of economic growth.

Standardization in higher education implies a decrease in the share of university branches and reliance on leading universities, as well as the domination of state-subsidized intramural education (Piromalli, 2022). All three conditions are met simultaneously only in the case of absolute standardization (Liu, 2022).

Less strict and, accordingly, more flexible standardization allows for the development of distance education, which implies the almost complete refusal of the intramural form of education (Bağrıacık Yılmaz and Karataş, 2022; Segbenya et al., 2022; Turan et al., 2022; Toumpalidou and Konstantoulaki, 2023), and the development of entrepreneurial universities, which implies the reduction of state-subsidized education (Guerrero and Lira, 2023; Johnson et al., 2023). Here the key feature of the scenarios of standardization in higher education is the refusal of the development of a network of university branches.

Deregulation in higher education implies the expansion of the network of university branches, an increase in the volume of paid educational services provided by universities and the development of alternative – apart from intramural education – forms of education, including distance education. At that, the size of the network of university branches may vary (Wang and Crawford, 2019).

Alternative mechanisms of managing education's development – standardization and deregulation – have been thoroughly studied separately from each other. However, their contribution to the implementation of the social investment model of economic growth has not been studied sufficiently and requires further elaboration.

The main result of implementing the social investment model of economic growth is the growth of the quality of life, for it is actually the return on social investments. As a result of the performed literature review, it is possible to conclude that the issues of raising the quality of life with the help of social investments were thoroughly studied in the existing publications of Erdin and Ozkaya (2020), Litvintseva and Karelin (2020), Kakinuma (2022), Sollis et al. (2022), and Imbulana Arachchi and Managi (2023).

Alternative mechanisms of managing education's development in the social investment model of economic growth – standardization and deregulation – were also thoroughly researched. However, the cause-and-effect links of implementing the alternative mechanisms of

managing education’s development and the quality of life remain uncertain, which is a literature gap.

The need to fill the discovered gap is explained by the fact that because of it, the implementation of the social investment model of economic growth is a “black box,” at the input of which there are alternative mechanisms of managing the education’s development: standardization and deregulation, and at the output – the quality of life. The contribution of alternative mechanisms to the quality of life is unknown, which hinders the management in the considered model. This paper strived toward filling the discovered gap and sets two following research questions (RQs).

RQ<sub>1</sub>: What is the contribution of alternative mechanisms of managing education’s development – standardization and deregulation – to the quality of life?

RQ<sub>2</sub>: What is the perspective of increasing the quality of life based on the improvement of managing the education’s development?

Based on the advantages of both mechanisms of managing education’s development, which are noted in the literature, we propose the following hypothesis: it is necessary to combine these mechanisms in a certain proportion to achieve the best result in the sphere of improvement of the quality of life. To test this hypothesis, we perform the econometric modeling of the influence of implementing the alternative mechanisms of managing the education’s development (standardization and deregulation) on the quality of life, by the examples of regions of Russia.

## Research method

Regression analysis is used to check the offered hypothesis. Contribution of the factors of managing the development of higher education – shares of university branches (their increase means deregulation), the share of intramural students (their increase means standardization), and share of state-subsidized education students (their increase means standardization) to increase in population’s quality of life is determined. Information on the factors is taken from the materials of the [Ministry of Science and Higher Education of the Russian Federation \(2020\)](#).

The data were collected by systematizing the materials of the [Ministry of Science and Higher Education of the Russian Federation \(2020\)](#) on the use of the mechanisms of managing education’s development and the materials of [RIA Rating \(2020\)](#) on the quality of life in regions of Russia. The share of branches was determined according to the following formula:

$$SB = \text{Nbr} * 100\% / \text{Nohe}, \tag{1}$$

where SB–Share of branches;  
Nbr–Number of organizations of higher education;  
Nohe–Number of their branches.

Share of intramural students was determined according to the following formula:

$$\text{SInt} = \text{Nis} * 100\% / \text{Nus}, \tag{2}$$

where Sint–Share of intramural students;  
Nus–Number of university students;  
Nis–Number of intramural students.

Share of state-subsidized education students was determined according to the following formula:

$$\text{Ssses} = \text{Nsses} * 100\% / \text{Nus}, \tag{3}$$

where Ssses–Share of state-subsidized education students;  
Nsses–Number of state-subsidized education students.

The research objects are the top 10 regions of Russia by living standards in 2019, according to [RIA Rating \(2020\)](#). The sample includes the following regions of Russia: Moscow Oblast, Republic of Tatarstan, Belgorod Oblast, Krasnodar Krai, Voronezh Oblast, Leningrad Oblast, Kaliningrad Oblast, Khanty-Mansi Autonomous Okrug – Yugra, Lipetsk Oblast and Yamalo-Nenets Autonomous Okrug. The correctness of the sample is due to its including regions of Russia with the highest quality of life, i.e., regions that achieved the best results in implementing the social investment model of economic growth. This allows using their experience in other regions, to translate successful practices and systemically raise the quality of life in Russia. The empirical data for the research are systematized in [Table 1](#).

The research model has the following form:

$$y = \alpha + \beta_1 * x_1 + \beta_2 * x_2 + \beta_3 * x_3 \tag{4}$$

Where y–the quality of life index ([RIA Rating, 2020](#)), points 1–100.  
x<sub>1</sub>–share of branches ([Ministry of Science and Higher Education of the Russian Federation, 2020](#)), %.

x<sub>2</sub>–share of intramural students ([Ministry of Science and Higher Education of the Russian Federation, 2020](#)), %.

x<sub>3</sub>–share of state-subsidized education students ([Ministry of Science and Higher Education of the Russian Federation, 2020](#)), %.

α–constant;

β<sub>1-3</sub>–coefficients of regression at factor variables.

To search for an answer to RQ<sub>2</sub>, we set the first research task, which is determining the perspective of raising the quality of life based on the improvement of managing the education’s development. To solve this task, based on the research model (4), we determine the consequences for the quality of life of seven alternative scenarios of managing education’s development in the social investment model of Russia’s economic growth. The first three scenarios imply standardization:

- The scenario of absolute standardization, which implies minimization of the share of university branches (10%) and maximization of the share of intramural students (90%) and the share of state-subsidized education (90%);
- The scenario of development of remote education, which implies minimization of the share of intramural students (10%);
- The scenario of the development of entrepreneurial universities, which implies minimization of the share of state-subsidized students (10%).

Other three scenarios envisage deregulation:

- The scenario of absolute deregulation, which implies maximization of the share of university branches (90%) and minimization of the share of intramural students (10%) and the share of state-subsidized students (10%);

TABLE 1 Statistics of higher education in regions of Russia in 2019 and their analysis from the positions of standardization and deregulation.

Region	Quality of life index, points 1–100	Number of organizations of higher education	Number of their branches	Share of branches, %	Number of university students	Number of intramural students	Share of intramural students %	Number of state-subsidized education students	Share of state-subsidized education students, %
	y	-	-	X <sub>1</sub>	-	-	X <sub>2</sub>	-	X <sub>3</sub>
Moscow Oblast	74.500	57	37	64.91	82,670	37,397	45.24	36,263	43.86
Republic of Tatarstan	66.806	41	19	46.34	147,928	86,323	58.35	60,533	40.92
Belgorod Oblast	63.978	11	6	54.55	48,674	23,131	47.52	18,142	37.27
Krasnodar Krai	63.067	46	27	58.70	114,734	57,411	50.04	37,702	32.86
Voronezh Oblast	61.981	23	8	34.78	86,772	48,382	55.76	39,945	46.03
Leningrad Oblast	60.695	10	9	90.00	7,780	2,788	35.84	2,110	27.12
Kaliningrad Oblast	59.247	9	6	66.67	22,613	12,062	53.34	9,079	40.15
Khanty-Mansi Autonomous Okrug - Yugra	58.813	10	5	50.00	23,637	13,522	57.21	12,514	52.94
Lipetsk Oblast	58.466	11	7	63.64	21,185	10,096	47.66	11,299	53.33
Yamalo-Nenets Autonomous Okrug	58.180	3	3	100.00	756	64	8.47	64	8.47

Compiled by the authors based on [Ministry of Science and Higher Education of the Russian Federation \(2020\)](#) and [RIA Rating \(2020\)](#).

- The scenario of reduction of branches, which implies minimization of the share of university branches (10%);
- The scenario of the development of a network of branches, which implies maximization of the share of university branches (90%).

The seventh scenario involves the optimization with the simplex method for the maximization of the quality of life. The research logic is to determine whether any template scenario will coincide with the scenario of maximization of the quality of life. If this does not happen, the proposed hypothesis will be proven.

## Results

To determine the contribution of the factors of managing higher education’s development to the increase in the population’s quality of life, we calculate (based on the data from Table 1) the regression dependence of the quality of life in Russia on the management of higher education’s development:

$$y = 66.40 - 0.06x_1 + 0.04x_2 - 0.05x_3 \quad (5)$$

As shown in Eq. 5, an increase in the share of university branches by 1% leads to a reduction of quality of life in Russia by 0.06 points. Growth of the share of intramural students by 1% leads to a growth of quality of life by 0.04 points. An increase in the share of state-subsidized education students by 1% leads to a reduction in quality of life by 0.05%. This is a sign of the contradictory influence of standardization and deregulation of higher education on the quality of life in Russia. Scenarios of quality of life in Russia depending on the standardization of higher education are shown in Table 2.

As shown in Table 2, absolute standardization, which envisages the reduction of the share of branches down to 10% and the transfer of 90% of students to the intramural form of government-financed study, ensures the growth of quality of life by 4.15% (from 62.57 points in 2020 to 65.17 points). Development of remote education, which envisages almost full refusal from the intramural form of study (its reduction down to 10%) decreases the quality of life by 2.56% (down to 60.7 points). Development of entrepreneurial universities, which envisages the reduction of government-financed study down to 10%, raises the quality of life by 2.33% (up to 64.03 points). Scenarios of quality of life in Russia depending on the deregulation of higher education are shown in Table 3.

As shown in Table 2, absolute deregulation, which envisages an increase in the share of branches up to 90% and a reduction of

state-subsidized education students with the intramural form of study down to 10%, provides growth of quality of life by 2.93% (from 62.57 points in 2020 to 65.17 points). The reduction of branches (down to 0%) raises the quality of life by 5.25% (up to 65.86 points), and their development (up to 90%) decreases the quality of life by 2.69% (down to 60.89 points). The optimal scenario of managing the development of higher education in Russia in favor of an increase in quality of life, which is obtained with the help of the simplex method based on regression dependence from (1), is shown in Figure 1.

As shown in Figure 1, the optimal scenario of managing the development of higher education in Russia in favor of an increase in quality of life envisages full refusal from branches and the use of main universities only, full refusal from budget financing and transfer to fee-based education, and refusal from diversification of the forms of study with preservation of only the intramural form of study. This allows raising the quality of life by 13.26% (up to 70.87 points).

## Discussion

The paper’s contribution to the literature consists in the clarification of the cause-and-effect relationships of the management of universities (by the example of Russia) and the development of a new approach to managing education’s development in the social investment model of Russia’s economic growth. This paper filled the literature gap, strengthened the scientific base and developed the scientific provisions of the works by Erdin and Ozkaya (2020), Litvitseva and Karelin (2020), Kakinuma (2022), Sollis et al. (2022), and Imbulana Arachchi and Managi (2023), as well as answered both RQs.

We found an answer to RQ<sub>1</sub>: alternative mechanisms of managing education’s development – standardization and deregulation – make a contradictory contribution to the quality of life. Growth of the quality of life is ensured during the reduction of the share of university branches (standardization), growth of the share of intramural students (standardization) and reduction of the share of state-subsidized education students (deregulation).

We found an answer to RQ<sub>2</sub>: we determine the perspective of increasing the quality of life based on the improvement of managing the education’s development, manifested in the optimal scenario of managing the development of higher education in Russia in favor of an increase in quality of life. According to the scenario, a flexible combination of the mechanisms of higher education development management – standardization and

TABLE 2 Scenarios of quality of life in Russia depending on standardization of higher education.

Indicator	The initial value in 2020	Scenario of standardization		Scenario of development of remote education		Scenario of development of entrepreneurial universities	
		Value	Growth, %	Value	Growth, %	Value	Growth, %
Share of branches, %	62.96	10.00	–84.12	62.96	0.00	62.96	0.00
Share of intramural students %	45.94	90.00	95.90	10.00	–78.23	45.94	0.00
Share of state-subsidized education students	38.30	90.00	135.01	38.30	0.01	10.00	–73.89
Quality of life index, points 1–100	62.57	65.17	4.15	60.97	–2.56	64.03	2.33

Calculated and compiled by the authors.

TABLE 3 Scenarios of quality of life in Russia depending on the deregulation of higher education.

Indicator	Initial value in 2020	Scenario of deregulation		Scenario of reduction of branches		Scenario of development of a network of branches	
		Value	Growth, %	Value	Growth, %	Value	Growth, %
Share of branches, %	62.96	90	42.95	10.00	-84.12	90.00	42.95
Share of intramural students %	45.94	10	-78.23	45.94	0.00	45.94	0.00
Share of state-subsidized education students	38.30	10	-73.89	38.30	0.01	38.30	0.01
Quality of life index, points 1–100	62.57	60.74	-2.93	65.86	5.25	60.89	-2.69

Calculated and compiled by the authors.

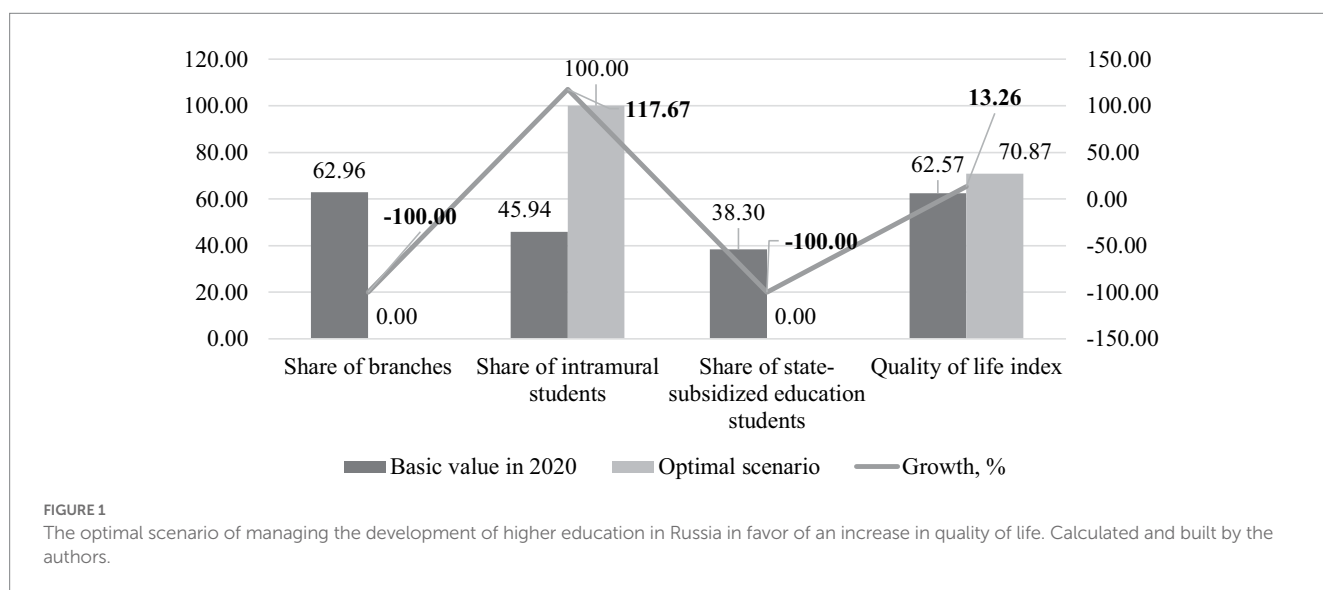


FIGURE 1

The optimal scenario of managing the development of higher education in Russia in favor of an increase in quality of life. Calculated and built by the authors.

deregulation – allows raising the quality of life in regions of Russia by 13.26%.

It was proven that neither absolute standardization [unlike Wright and Horta (2018), Bentley-Gockmann (2020), Olivier and Burton (2020), and Shams and Hasan (2020)] nor absolute deregulation [unlike Goyal and Sergi (2015), Speight (2017), Popkova and Zmiyak (2019), Langrafe et al. (2020), Rehman and Iqbal (2020), Ruiz et al. (2020), and Sciarelli et al. (2020)] allows unlocking the potential of the implementation of the social investment model of Russia’s economic growth.

The authors’ approach involves a flexible combination of the mechanisms of standardization and deregulation, which maximizes their effectiveness. In the new approach to managing education’s development in the social investment model of Russia’s economic growth, the following is recommended:

- Refusing the expansion of the network of university branches, as opposed to its increase, given in the works by Yang et al. (2020) and Zhang and You (2022).
- Relying on intramural education with cautious implementation of modern forms, in particular distance education [as opposed to Bilal et al. (2020) and Peng et al. (2022)].
- Stimulating the entrepreneurial activity of universities, as opposed to Castro-Bedriñana et al. (2022) and Razak et al. (2022)

which describe an increase in investments in higher education, including budget financing of universities.

This scientific article is a significant step forward since it proves the limitations and inexpedience of the use of template mechanisms of managing education’s development in the social investment model of economic growth. The advantage of the new proposed approach is its high flexibility, which allows for the most comprehensive unlocking of the potential of an increase in the quality of life in the social investment model of Russia’s economic growth.

## Conclusion

The task of developing the optimal approach to managing education’s development in the social investment model of Russia’s economic growth was solved. The key result of the research and its key implication are that it is necessary to pass from the use of the mechanisms of standardization and deregulation as alternatives to combining their elements during university management. For this, a new approach to managing education’s development in the social investment model of Russia’s economic growth was proposed.

Results of the performed research have proved the offered hypothesis and have shown that absolute standardization and

absolute deregulation of higher education do not allow achieving vivid results in the sphere of increase in quality of life in Russia. The determined and substantiated optimal scenario of managing the development of higher education in Russia in favor of an increase in quality of life envisages the use of the flexible approach, which, in its turn, envisages a combination of standardization and deregulation.

The required refusal from a network of branches of Russian universities will allow increasing the quality of higher education and will increase control over it. The transfer of all students to fee-based education is a contradictory measure since this will reduce the accessibility of higher education – similar to refusal from state-subsidized education and transfer to fee-based education, which, however, could be successfully replaced by employer-sponsored education. That's why it is recommended to allow each region to form their own programs of development of higher education with the foundation on the main federal principles.

## Suggestions for practical use

It is recommended that the developed approach to managing education's development in the social investment model of Russia's economic growth be used in practice during the management of Russian universities. The critical values of indicators (Figure 1) are landmarks. This approach also allows improving the modern Russian practice of state regulation of higher education.

The practical recommendations for the most complete unlocking of the potential for improvement of the quality of life in the social investment model of Russia's economic growth are as follows. First, refuse the expansion of the network of branches and develop leading universities. Second, rely on intramural education with a cautious introduction of modern form, in particular distance education. Third, stimulate the entrepreneurial activity of universities and gradually reduce the budget financing of universities.

## References

- Bağrıçak Yılmaz, A., and Karataş, S. (2022). Why do open and distance education students drop out? Views from various stakeholders. *Int. J. Educ. Technol. High. Educ.* 19:28. doi: 10.1186/s41239-022-00333-x
- Bentley-Gockmann, N. (2020). Higher education skills and work-based learning article: towards greater inclusion in skills competitions. *Higher Educ. Skills Work Based Learn.* 10, 687–692. doi: 10.1108/HESWBL-03-2020-0050
- Bilal, A. R., Fatima, T., and Imran, M. K. (2020). Why ostracized full-time faculty should not be labeled as "low performer"? A qualitative insight from higher education in Pakistan. *J. Appl. Res. Higher Educ.* 12, 805–827. doi: 10.1108/JARHE-12-2018-0267
- Bilyalova, A., Bazarova, L., Salimova, D., and Patenko, G. (2021). The digital educational environment: the problem of its accessibility for visually impaired students. *Int. J. Emerg. Technol. Learn.* 16, 221–230. doi: 10.3991/ijet.v16i16.23455
- Castro-Bedriñana, J., Chirinos-Peinado, D., and Castro-Chirinos, G. (2022). Emergency remote education satisfaction during COVID-19 at a public University in Central Andes, Peru with low resources and little online teaching experience. *Educ. Sci. Theory Prac.* 22, 46–51. doi: 10.12738/jestp.2022.1.0005
- Chang, T. F. H., Pundir, S., Rayapuraju, A., and Purandare, P. (2022). "Inner engineering" for success—a complementary approach to positive education. *Front. Educ.* 7:745850. doi: 10.3389/feduc.2022.745850
- Erdin, C., and Ozkaya, G. (2020). R&D investments and quality of life in Turkey. *Heliyon* 6:e04006. doi: 10.1016/j.heliyon.2020.e04006
- Goyal, S., and Sergi, B. S. (2015). Creating a formal market ecosystem for base of the pyramid markets—strategic choices for social embeddedness. *Int. J. Bus. Global.* 15, 63–80. doi: 10.1504/IJBG.2015.070224
- Guerrero, M., and Lira, M. (2023). Entrepreneurial university ecosystem's engagement with SDGs: looking into a Latin-American University. *Community Dev.* 1–16. doi: 10.1080/15575330.2022.2163411
- Hadi, S., Abbas, E. W., and Rajiani, I. (2022). Should spirituality be included in entrepreneurship education program curriculum to boost students' entrepreneurial intention? *Front. Educ.* 7:977089. doi: 10.3389/feduc.2022.977089
- Iglesias, E., Esteban-Guitart, M., Puyaltó, C., and Montserrat, C. (2022). Fostering community socio-educational resilience in pandemic times: its concept, characteristics and prospects. *Front. Educ.* 7:1039152. doi: 10.3389/feduc.2022.1039152
- Imbulana Arachchi, J., and Managi, S. (2023). The role of social capital in subjective quality of life. *Human. Soc. Sci. Commun.* 10:31. doi: 10.1057/s41599-023-01502-7
- Johnson, D., Gianiodis, P. T., Harrison, R. T., and Bock, A. J. (2023). From laboratory to clinic: science commercialization within university-centered entrepreneurial ecosystems. *R D Manag.* 53, 3–23. doi: 10.1111/radm.12535
- Kakinuma, Y. (2022). Financial literacy and quality of life: a moderated mediation approach of fintech adoption and leisure. *Int. J. Soc. Econ.* 49, 1713–1726. doi: 10.1108/IJSE-10-2021-0633
- Khalifé, M., Chaker, R., and Gasparovic, S. (2022). Environmental education and digital solutions: an analysis of the Lebanese context's existing and possible digital actions. *Front. Educ.* 7:958569. doi: 10.3389/feduc.2022.958569
- Langrafe, T. D. F., Barakat, S. R., Stocker, F., and Boaventura, J. M. G. (2020). A stakeholder theory approach to creating value in higher education institutions. *Bottom Line* 33, 297–313. doi: 10.1108/BL-03-2020-0021

The advantage of the new approach in practice is the systemic increase in the effectiveness of state and corporate management of universities and the maximization of the contribution of higher education to the increase in the quality of life. The practical implementation of the authors' approach will allow acceleration of the implementation of the social investment model of economic growth in Russia.

## Data availability statement

The original contributions presented in the study are included in the article/supplementary material, further inquiries can be directed to the corresponding author.

## Author contributions

All authors listed have made a substantial, direct, and intellectual contribution to the work and approved it for publication.

## Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

## Publisher's note

All claims expressed in this article are solely those of the authors and do not necessarily represent those of their affiliated organizations, or those of the publisher, the editors and the reviewers. Any product that may be evaluated in this article, or claim that may be made by its manufacturer, is not guaranteed or endorsed by the publisher.

- Litvintseva, G. P., and Karelin, I. N. (2020). Interconnection between the level of people's digital quality of life and investment attractiveness of Russian regions. *IOP Conf. Materials Sci. Eng.* 953:012058. doi: 10.1088/1757-899X/953/1/012058
- Liu, H. (2022). Construction on standardization system of university evaluation mechanism based on data analysis technology. *Lecture Notes Data Eng. Commun. Technol.* 103, 335–341. doi: 10.1007/978-981-16-7469-3\_38
- Ministry of Science and Higher Education of the Russian Federation (2020). The information and analytical materials by the results of monitoring of effectiveness of higher educational organization's activities in 2019. Available at: <http://indicators.miccedu.ru/monitoring/2019/index.php?m=vpo> (Accessed November 21, 2020).
- Olivier, C., and Burton, C. (2020). A large-group peer mentoring programme in an under-resourced higher education environment. *Int. J. Mentor. Coach. Educ.* 9, 341–356. doi: 10.1108/IJMCE-07-2019-0074
- Peng, L., Jin, S., Deng, Y., and Gong, Y. (2022). Students' perceptions of active learning classrooms from an informal learning perspective: building a full-time sustainable learning environment in higher education. *Sustainability* 14:8578. doi: 10.3390/su14148578
- Piromalli, L. (2022). Governing through interconnections: interoperability and standardization in higher education. *Tecnoscienza* 13, 71–96.
- Popkova, E. G., and Zmiyak, K. V. (2019). Priorities of training of digital personnel for industry 4.0: social competencies vs technical competencies. *On the Horizon* 27, 138–144. doi: 10.1108/OTH-08-2019-0058
- Ranjan, R., López, J. L., Lal, K., Saxena, S., and Ranjan, S. (2021). Adopting a New hybrid force model: a survey during Covid-19 in Indian higher education. *Int. J. Emerg. Technol. Learn.* 16, 169–185. doi: 10.3991/ijet.v16i16.23371
- Razak, A. N. A., Noordin, M. K., and Khanan, M. F. A. (2022). Digital learning in technical and vocational education and training (TVET) in public university, Malaysia. *J. Tech. Educ. Train.* 14, 49–59. doi: 10.30880/jtet.2022.14.03.005
- Rehman, U. U., and Iqbal, A. (2020). Nexus of knowledge-oriented leadership, knowledge management, innovation and organizational performance in higher education. *Bus. Process. Manag. J.* 26, 1731–1758. doi: 10.1108/BPMJ-07-2019-0274
- RIA Rating (2020). Quality of life in Russian regions – Rating 2019. Available at: <https://riarating.ru/infografika/20200217/630153946.html> (Accessed November 21, 2020).
- Ruiz, S. M. D. A., Martens, C. D. P., and Da Costa, P. R. (2020). Entrepreneurial university: an exploratory model for higher education. *J. Manag. Dev.* 39, 705–722. doi: 10.1108/JMD-08-2019-0363
- Sciarelli, M., Gheith, M. H., and Tani, M. (2020). The relationship between soft and hard quality management practices, innovation and organizational performance in higher education. *TQM J.* 32, 1349–1372. doi: 10.1108/TQM-01-2020-0014
- Segbenya, M., Bervell, B., Minadzi, V. M., and Somuah, B. A. (2022). Modelling the perspectives of distance education students towards online learning during COVID-19 pandemic. *Smart Learn. Environ.* 9:13. doi: 10.1186/s40561-022-00193-y
- Shams, S. M. R., and Hasan, R. (2020). Capacity building for transnationalisation of higher education: knowledge management for organisational efficacy. *Eur. Bus. Rev.* 32, 459–484. doi: 10.1108/EBR-05-2019-0097
- Sollis, K., Yap, M., Campbell, P., and Biddle, N. (2022). Conceptualisations of wellbeing and quality of life: a systematic review of participatory studies. *World Dev.* 160:106073. doi: 10.1016/j.worlddev.2022.106073
- Timchenko, O. V., Timchenko, A. B., Abakumova, S. I., Mansurova, A. A., and Suyunova, G. B. (2021). *Tools of Intellectual Systems in the Context of Problems of Organization of Open Education. Advances in Research on Russian Business and Management.* pp. 271–278, Charlotte, NC, Information Age Publishing.
- Toumpalidou, S. A., and Konstantoulaki, K. (2023). Education in the pandemic economy: attitudes towards distance learning as a driver of university students' decision making. *Int. J. Organ. Anal.* 31, 50–62. doi: 10.1108/IJOA-09-2021-2965
- Turan, Z., Kucuk, S., and Cilligol Karabey, S. (2022). The university students' self-regulated effort, flexibility and satisfaction in distance education. *Int. J. Educ. Technol. High. Educ.* 19:35. doi: 10.1186/s41239-022-00342-w
- Wang, Z., and Crawford, I. (2019). Who are gaining the highly paid elite placements in UK higher education? *Stud. High. Educ.* 44, 1960–1974. doi: 10.1080/03075079.2018.1476482
- Wang, H., and Cui, J. (2021). Evaluation of teaching effect in higher educational institutions and identification of its influencing factors. *Int. J. Emerg. Technol. Learn.* 16, 226–239. doi: 10.3991/ijet.v16i17.24901
- Wright, E., and Horta, H. (2018). Higher education participation in “high-income” universal higher education systems: “Survivalism” in the risk society. *Asian Educ. Dev. Stud.* 7, 184–204. doi: 10.1108/AEDS-07-2017-0061
- Yang, L., Borrowman, L., Tan, M. Y., and New, J. Y. (2020). Expectations in transition: students' and teachers' expectations of University in an International Branch Campus. *J. Stud. Int. Educ.* 24, 352–370. doi: 10.1177/1028315319861348
- Zhang, M., and You, Z. (2022). International branch campuses of Chinese universities in Europe: motivations, governance and challenges. *Eur. J. Educ.* 57, 78–95. doi: 10.1111/ejed.12488