



THE IMPORTANCE OF INVESTOR LOSS RISK AND LEGAL PROTECTION OF REMOTE DIGITAL INVESTMENT TRANSACTIONS FOR FINANCING TECHNOLOGY, INNOVATION AND TELECOMMUNICATIONS

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ABSTRACT

Keywords:

Risk of investor loss, Legal protection, Remote digital investment transactions, Technology financing, Innovation financing

The article is devoted to the study of the prospects for increasing the financing of technologies and innovations through the development of remote digital investment transactions in Russia. Based on the best international experience of countries from the IMD Digital Competitiveness Ranking for 2022, using the method of regression analysis, econometric modelling of the significance of the risk of loss of an investor and the legal protection of remote digital investment transactions for financing technology and innovation was carried out. As a result, it was proved that the risk of investor losses and the legal protection of remote digital investment transactions determine the amount of technology and innovation financing. The development of remote-digital investment transactions in Russia opens up broad prospects for increasing funding for technology and innovation. For this purpose, author's recommendations are proposed. The originality of the article is that it revealed a new look at the financing of technologies and innovations - from the standpoint of remote digital investment transactions.



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1. INTRODUCTION

In the Decade of Science and Technology in the Russian Federation, the key vector of the development of the Russian economic system is high-tech economic growth. Implementation of this vector involves further strengthening of digital competitiveness. This is facilitated by Russia's leadership positions, which were gained in recent years, under the conditions of the Fourth Industrial Revolution.

The most serious barrier on the path of development of the digital economy and high-tech production in Russia

is the deficit of financing of technologies and innovations (Smetanina, 2016). According to the National Research University "Higher School of Economics", in Russia in 2021, state funds account for the largest share (67.5%) in the structure of financing of innovations. The share of the funds of the entrepreneurial sector is 29%, and foreign sources – 1.9%. In China, for comparison, entrepreneurial financing of innovations is 77.5%, and the share of state financing – 19.8%. In India, the share of entrepreneurial investments in innovations is also higher than in Russia, equalling 36.8% (Vlasova et al., 2023).

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In 2022-2023 and, probably, in the years to follow, the deficit of financing of innovations may increase due to the outflow of private investments from the Russian economy, as well as the negative balance of the federal balance and the emerging trend for an increase in budget deficit (Valiakhmetov, 2022). This predetermines the topicality of the research on the prospects for attracting private investments – from legal entities and individuals – in the financing of technologies and innovations in Russia.

As a promising innovative solution to the given problem of strengthening of financial support for technologies and innovations in Russia, we propose the development of remote digital investment transactions. The purpose of this paper is to study the prospects for an increase in financing of technologies and innovations through the development of remote digital investment transactions in Russia.

2. LITERATURE REVIEW

The topic of remote digital investments transactions is relatively new to science, though it has been disclosed in the published works of such researchers as Barasheva et al. (2021), Busurmankulova et al. (2020), Vasyanina (2022), Demchenko and Dakhnenko (2022), Zaynutdinova (2020), Kuznetsova (2021), Sokolova (2021), Temukueva (2022). and Popkova and Sergi (2021).

Based on the works of such scholars as Vronskaya (2021), Ismailov (2022), Matytsin (2022a, b), Smolina (2021, 2022) and Konovalova (2021), remote digital investments transactions are treated in this paper as investment transactions with participation of legal entities and individuals, the economic and legal relations of which are implemented remotely, with the use of the digital means of automatization.

The issues of financing of technologies and innovations were widely researched in the existing literature, in

particular, in the works of such authors as Abuev et al. (2021), Akberov et al. (2020), Akmaletdinova and Dudkina (2021), Akhmadeev (2021), Bochkareva (2020), Gelrud and CuJiangnan (2022), Zotov and Abdikeev (2021), Krivoguzova and Vasyutenko (2022), Lagunova and Nikulin (2022), Polteva (2021), Priyma (2020), Slepak and Pozhilova (2020) and Cherutova and Trusevich (2020a, b).

However, the opportunities and conditions, which determine the financing of technologies and innovations with the help of remote digital investment transactions are poorly studied and unknown, which is a literature gap. The hypothesis of this paper is that the risk of investor losses and legal protection of remote digital investment transactions determine the volume of financing of technologies and innovations.

To check the proposed hypothesis, the institutional and legal conditions of the contribution of remote digital investment transactions to the financing of technologies and innovations are studied in this paper. Also, the econometric modelling of the value of the risk of investor's losses and legal protection of remote digital investment transactions for the financing of technologies and innovations is performed.

3. MATERIALS AND METHODS

The research methodology is based on the use of regression analysis. It is applied to determine the econometric influence of such factors as the risk of the loss of an investor (indicator “entrepreneurial fear of failure”) and legal protection of remote digital investments transactions (indicator “privacy protection by law content”) on the following: 1) financing of technological development (indicator “funding for technological development”); 2) banking and financial services (indicator “banking and financial services”); 3) venture investments (indicator “venture capital”) (IMD, 2022).

Table 1. Risk of the loss of investor, legal protection of remote digital investments transactions, financing of technologies, innovations and telecommunications in the world practice in 2022.

Country	Factor variables		Resulting variables		
	Risk of the loss of investor	Legal protection of remote digital investments transactions	Financing of technological development	Banking and financial services	Venture investments
	eff	ppl	Ftd	Bfs	Vcp
UK	43	46	21	28	20
India	48	48	23	11	16
Qatar	14	47	7	8	12
Colombia	37	52	49	59	54
Malaysia	26	55	31	36	33
USA	17	37	4	9	3
Thailand	50	43	40	23	32
Finland	26	14	1	2	2
Chile	32	36	52	25	44
South Africa	45	49	58	54	60

Source: Compiled by the author based on (IMD, 2022).

The research is performed based on the leading international experience of countries from the IMD World Digital Competitiveness Ranking for 2022 (IMD, 2022; Tsygankov et al., 2023), from which materials the values of the given statistical indicators were taken. The sample contains 10 countries with different level of income, different level and rate of socioeconomic development, and from different geographical regions of the world, which ensures the representativeness of the sample.

Results

As a result of the regression analysis of the data from Table 1, the following system of equations of multiple linear regression was obtained (1):

$$\begin{cases} Ftd = -24.54 + 0.81eff + 0.60ppl; \\ Bfs = -26.32 + 0.41eff + 0.89ppl; \\ Vcp = -23.83 + 0.58eff + 0.74ppl. \end{cases} \quad (1)$$

The system of equations (1) shows that a decrease in the risk of the loss of an investor by 1 leads to an increase in financing of technological development by 0.81, an increase in the development of banking and financial services by 0.41 and an increase in the volume of venture investments by 0.58. An increase in the level of the legal protection of remote digital investment transactions by 1 leads to an increase in financing of technological development by 0.60, an increase in the development of banking and financial services by 0.89 and an increase in the volume of venture investments by 0.74. Detailed results of the regression analysis are presented in Table 2.

Table 2. Results of the regression analysis

Model for Ftd	Regression statistics						
	Multiple R	R-square	Adjusted R-square	Standard error	Observations	k1	k2
	0.67717	0.45856	0.30386	17.338	10	2	7
	ANOVA						
	-	df	SS	MS	Significance F	F-observed	F-table
	Regression	2	1,782.15	891.074	0.1168	2.96424	2.52
	Residual	7	2,104.25	300.608	α=0.15	F-test is passed	
Total	9	3,886.4	-	-		-	
Model for Bfs	Regression statistics						
	Multiple R	R-square	Adjusted R-square	Standard error	Observations	k1	k2
	0.66216	0.43845	0.27801	16.5116	10	2	7
	ANOVA						
	-	df	SS	MS	Significance F	F-observed	F-table
	Regression	2	1,490.07	745.037	0.1327	2.73275	2.52
	Residual	7	1,908.43	272.632	α=0.15	F-test is passed	
Total	9	3,398.5	-	-		-	
Model for Vcp	Regression statistics						
	Multiple R	R-square	Adjusted R-square	Standard error	Observations	k1	k2
	0.63161	0.39893	0.22719	17.9693	10	2	7
	ANOVA						
	-	df	SS	MS	Significance F	F-observed	F-table
	Regression	2	1,500.13	750.066	0.16836	2.32294	2.04
	Residual	7	2,260.27	322.895	α=0.20	F-test is passed	
Total	9	3,760.4	-	-		-	

Source: Calculated and compiled by the author

The results obtained in Table 2 show that the risk of losses of investor and legal protection of remote digital investment transactions determine – by 67.72% - the financing of technological development, by 66.22% - banking and financial services, and by 63.16% - venture investments. All obtained equations of regression passed the F-test and, therefore, are reliable. This proves the proposed hypothesis and helps determine the prospects for an increase in the financing of technologies and innovations through the development of remote digital investment transactions in Russia.

Since Russia was not included in the 2022 IMD ranking, this paper uses Russian statistics for 2021, according to which Russia was placed 38th by the level of risk of

investor’s losses. According to the level of financing of technological development, Russia was placed 49th, according to the level of development of banking and financial services – 49th, and according to the volume of venture investments – 60th.

In the Decade of Science and Technology in the Russian Federation, it is recommended to improve – to the maximum level – the investment climate and to minimise the risk of investor’s losses in Russia (improvement by 97.37%, up to the 1st place). It is also recommended to raise the level of the legal protection of remote digital investment transactions in Russia by 35.94%, up to 41st place. The expected advantages of the implementation of the author’s recommendations for

the financing of technologies and innovations in the Decade of Science and Technology in the Russian Federation are demonstrated in Figure 1.

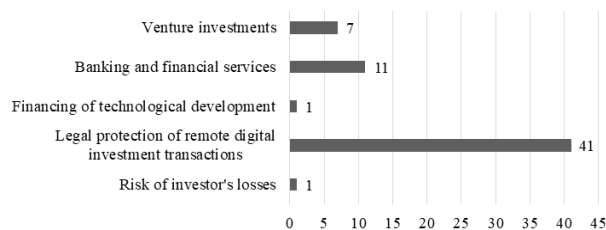


Figure 1. Prospects for an increase in the financing of technologies and innovations through the development of remote digital investment transactions in Russia

Source: Calculated and compiled by the author

As is shown in Figure 1, implementation of the authors' recommendations will allow Russia to go up to the 1st position in the world (+98.24%) by financing of technological development. There will be also an improvement in banking and financial services up to the 7th position in the world (+78.46%) and an increase in the volume of venture investments up to the 7th position (+88.01%).

4. CONCLUSION

As a result of the performed research, it is possible to conclude that the risk of investor's losses and legal protection of remote digital investment transactions determine the volume of financing of technologies and innovations (the hypothesis was proved). The development of remote digital investment transactions in Russia opens large perspectives for an increase in the financing of technologies and innovations. The proposed author's recommendations on the reduction of the risk of investor's losses and strengthening of the

legal protection of remote digital investments transactions will ensure full-scale financing of technologies and innovations in Russia due to private investments even under the conditions of the deficit of the federal budget and limited capabilities of state financing.

The originality of the results obtained is that they provided a new view of the financing of technologies and innovations – from the position of remote digital investment transactions. Due to this, the paper demonstrated substantial potential for the development of private financing of technologies and innovations with the attraction of legal entities and individuals as investors. The theoretical significance of the author's conclusions lies in the identification of the institutional and legal conditions for unlocking the potential of remote digital investment transactions in the sphere of financing of technologies and innovations.

The practical significance of the results obtained lies in their contribution to the strengthening of the scientific and methodological support for the provision of technological sovereignty of Russia. The author's recommendations support the implementation of the national programme "Digital economy" and ensure the in-depth elaboration of the applied issues of the innovative development of the Russian economy in the Decade of Science and Technology in the Russian Federation.

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