

## PROBLEMS OF ALTERNATIVE FINANCING FOR INNOVATIVE SME IN RUSSIA

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### Abstract

The article considers the current state of the alternative financing market through crowdfunding in Russia. The development of innovation economy directly depends on the innovation activities of small and medium enterprises. Alternative financing is an important type of financing for small and medium-sized innovative enterprises, as currently there are difficulties in obtaining financing from traditional sources. Funding through crowdfunding online platforms has several advantages over traditional sources. This instrument has important role for startups and can be the only financial source for innovation (among R&D grants). The main models of such financing and their advantages and disadvantages are considered in paper. It is conducted the regression analysis of the dependence of research and development expenditures and the volume of alternative financing in the UK, since this type of expenditure affects both innovation and the country's economic growth. The weak development of the alternative financing market in Russia and the main problems that served this situation were noted. In Russia, there is no regulation of this market so investors as well as enterprises have no legal status and rights, and they cannot use any government stimulation measures (i.e. tax reduction). Now only seven-ten crowdfunding platforms are operating in Russia, mainly offering debt financing at a high percentage. This situation limits the use of these financial instruments by young enterprises, and at the pre-seed and seed stage. The main directions of market regulation are proposed in order to expand the use of crowdfunding in Russia.

**Keywords:** SME, innovation, alternative financing, crowdfunding.

### 1 INTRODUCTION

In modern economic conditions, the basis for innovative development is precisely small and medium innovative enterprises, which are technological leaders in the emerging industries, and also open new market segments, create new industries, contributing to the formation of completely new scientific and technological structures.

Aks and Audresh (1987), Lee Dong So (1999) with their studies have shown empirically that for industries and with a high level of competition, small enterprises have advantages, and also highlighted the inverse relationship between the enterprise size and the intensity of innovation. Akcigit and Kerr (2010) also proved the importance of small businesses in the scientific field and creating innovation.

Due to scale of their activities, turnover, they are much more limited in their own resources and need external sources of financing much more than large enterprises. Innovative SMEs face several barriers for accessing finance, such as asymmetric information and financing gaps between investors and entrepreneurs. They also suffer from resource constraints, insufficient collateral, and lack of a track record. The quality of a business plan, in terms of due diligence, can be a very influential factor in funding decisions (OCED 2012).

Mayer (1996) suggests, the most important aspect of financial structures for promoting innovative activity is perhaps the exit possibility for early stage investors.

At the same time, it is difficult for SMEs to obtain financing from traditional sources - bank loans. The volume of bank loans granted to Russian SMEs in comparable prices has been declining for the last 7 years (to 2018). Financial institutions refuse up to 80% of all potential borrowers. Venture financing of innovative enterprises has also been declining since 2014, as investors began to select innovative projects with caution and care. Such trends are inherent not only in Russia, but also in other countries. Lopez de Silanes, McCahery, Schoenmaker and Stanistic (2015) have proved the significant difference between the estimated demand and supply of equity for SMEs. DiCaprio, Beck and Daquis (2014), Panteia (2013), Baeck, Collins and Zhang (2014) conducted the study which proved the lack of awareness by SMEs of the existence of non-bank sources of finance.

These objective reasons triggered the growth of the alternative financing market through online tools (Mills, J. and McCarthy, 2014). These include platform solutions that operate on the basis of crowd technology and allow to involve additional funds necessary for the development of innovative projects. These tools have a number of advantages in comparison with classical ones, which is due to their innovative nature, due to the use of advanced technologies (Internet, Fintech, payment systems and cyber security systems, etc.), speed, convenience, and transparency offered by these platforms (Zhang, Colins, Baeck, 2014). Commonly this tools united it term "Crowdfunding" - possibility to raise financial resources from the large crowd - any individuals who are willing to support further development of a certain idea or project (Belleflamme et al., 2014, Mollick and Robb, 2016).

The main research question is to identify if alternative online financing is linked to grow of R&D expenditures; to identify the reasons of the weak spread of alternative online financing in Russia and offer an optimal alternative online financing model for innovative SMEs in Russia.

## 2 METHODOLOGY

There are various models of alternative financing for SMEs, including invoice trading, crowdfunding, crowdinvesting and loans. Cambridge Centre for Alternative Finance allocates various types of alternative financing, depending on the source of funding; financing objectives; financing instruments (Cambridge Centre for Alternative Finance, 2016):

- Crowdfunding: equity-based Crowdfunding or Crowdinvesting, Real Estate Crowdfunding, Revenue Sharing/Profit Sharing Crowdfunding, Donation-based Crowdfunding, Reward-based Crowdfunding;
- Lending or Crowdlending: Marketplace/P2P Consumer Lending, Marketplace/P2P Business Lending, Marketplace/P2P Property Lending, Balance Sheet Consumer Lending, Balance Sheet Business Lending, Balance Sheet Property Lending,
- Invoice Trading (or Crowdfactoring);
- Debt-based Securities;
- Mini-bonds.

All these instruments are united by the fact that they are implemented through online platforms. The development of these instruments contributed to the inflow of financial resources that were not previously involved in the turnover or played a minor role in the economy - funds from private investors (HSE, 2019).

### 2.1 Model Specification

The need of the alternative online funding expansion can be seen on the example of its impact on scientific and innovative activities. Due to the lack of sufficient statistical data on Russia, we consider the impact of alternative online financing volume on the research and development expenditure (R&D) in the UK.

To identify dependencies, we used the method of least squares, where Y is R&D expenditures in billion pounds, X is amount of alternative online financing in billion pounds. Number of Observations is seven (7 years from 2011 till 2017) (Table 1).

**Table 1. R&D expenditures and alternative online financing in UK**

T (year)	X (R&D expenditures)	Y (alternative online financing)
2011	0,31	17,452
2012	0,49	17,409

2013	0,67	18,617
2014	1,74	19,982
2015	3,2	21,018
2016	4,58	22,587
2017	6,19	23,685

**Source:** 5th UK Alternative Finance Industry Report, Business enterprise research and development, UK Statistics

The results of regression and tests calculated with using Eviews and GREPL Programs (Table 2).

**Table 2. Model Equation with Least Squares Method**

Model 1: Method - Least Squares, used observations 2011-2017 (T = 7)				
Dependent variable: Y				
	Variable	Coefficient	Std. Error	t-Statistic Prob
	const	17,5051	0,295321	59,27 <0,0001 ***
	X	1,06021	0,0912342	11,62 <0,0001 ***
Mean dependent variable	20,10714	S.D. dependent variable	2,461245	
Sum squared residues	1,297685	Std. Error	0,509448	
R- Squared	0,964297	Adjusted R-Squared	0,957156	
F-statistic (1, 5)	135,0431	Prob ( -statistic)	0,000083	
Log likelihood	-4,033920	Akaike info criterion	12,06784	
Schwarz criterion	11,95966	Hannan–Quinn criterion	10,73076	
rho	0,224368	Durbin-Watson stat	1,376718	

$$\text{Estimated Equation: } Y = 17.505 + 1.06 \cdot X \quad (1)$$

Interpretation of Estimates: A 1 billion pounds increase in the alternative online financing increases R&D expenditures by 1,06 billion pounds. Correlation Coefficient (Multiple R=0,98) shows strong positive relationship between two variables). Coefficient of Determination (R<sup>2</sup>=0,96) means that 96% of our values fit the regression analysis model. Coefficients and estimated equation are significant.

We will also check the significance of the model obtained with the test of White (Table 3), Breusch-Pagan (Table 4), Breusch-Godfrey (Table 5).

**Table 3. White Test for Heteroskedasticity**

Method - Least Squares, used observations 2011-2017 (T = 7)				
Dependent variable: uhat <sup>2</sup>				
	Coefficient	Std. Error	t-Statistic	Prob
Const	0,294849	0,124773	2,363	0,0774 *
X	-0,0757516	0,116031	-0,6529	0,5495
sq_X	0,00729639	0,0182971	0,3988	0,7104
Obs*R- Squared = 0,251333				
F-statistic: TR <sup>2</sup> = 1,759330,				
Prob = P(Chi-Square(2) > 1,759330) = 0,414922				

White's Test statistic showed no problem with Heteroskedasticity.

**Table 4. Breusch-Pagan Test for Heteroskedasticity**

Method - Least Squares, used observations 2011-2017 (T = 7)				
Dependent variable: uhat <sup>2</sup>				
	Coefficient	Std. Error	t-Statistic	Prob
Const	1,40892	0,452086	3,116	0,0264**
X	-0,166615	0,139664	-1,193	0,2864
Exp R- Squared = 0,86559				
Breusch-Pagan: LM = 0,432795,				
Prob = P(Chi-Square (1) > 0,432795) = 0,510621				

Breusch-Pagan Test statistic showed no problem with Heteroskedasticity.

**Table 5. Breusch–Godfrey tests for autocorrelation**

Method - Least Squares, used observations 2011-2017 (T = 7)				
Dependent variable: uhat				
	Coefficient	Std. Error	t-Statistic	Prob
Const	0,0607971	0,340409	0,1786	0,8669
X	-0,0318299	0,116245	-0,2738	0,7978
uhat_1	0,316762	0,610569	0,5188	0,6313
Obs*R-squared = 0,063046				
Breusch-Godfrey: LMF = 0,269152,				
Prob = P(F(1,4) > 0,269152) = 0,631				
Alternative stat: TR^2 = 0,441320,				
Prob = P(Chi-Square (1) > 0,44132) = 0,506				
Ljung-Box Q' = 0,415943,				
Prob = P(Chi-Square (1) > 0,415943) = 0,519				

Breusch–Godfrey test showed no autocorrelation.

This evidence, the positive sign of the coefficient estimate, suggests that higher alternative financing increases the R&D expenditures. We have identified a close positive relationship between the amount of alternative online funding and research and development expenditures. With an increase in online funding of £ 1 billion, research and development expenditures could increase by 1.06 billion pounds.

R&D expenditures is important component for every country because it is positively linked with the export-import ratio, economy integration (Salim, Bloch, 2008) and also have positively impact on innovation and economic growth (Guloglu, Tekin, Baris, 2012) So according to empirical results it is necessary to expand the use of use alternative financing for financing innovation projects.

### 3 DATA

In Russia, the alternative financing market is in its infancy, which is due to both a small number of platforms and involved investors, and the lack of established approaches to its government regulation.

The most common tool for online financing is crowdlending, donation-based crowdfunding and crowdinvesting implemented by Russian crowdfunding platforms.

The first crowdfunding platforms in Russia appeared in 2012, and worked as donation-based crowdfunding platforms. Total amount of financing for the period of existence of the online financing market in Russia is about 35 billion rubles (about 528 million dollars), while the online platforms in the UK during this time financed 16,87 billion pounds (about 21,46 billion dollars) (Figure 1). Average sum of investment in Russians platforms is about 1000-1500 rubles.

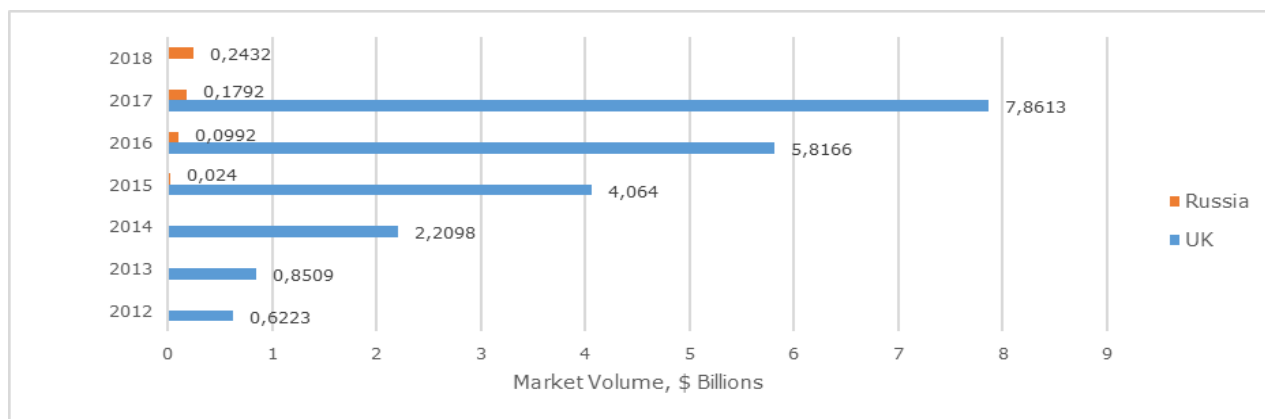


Fig. 1. Total Russia and UK Alternative Finance Market Volume, 2012-2018 (\$ Billions)

Note: For Russia, data is available for 2015-2018. For UK data for 2012-2017.

**Source:** 5th UK Alternative Finance Industry Report, Bank of Russia

There are eight crowdfunding platforms, which are successfully operating in Russia - City of Money (Город денег), Potok (Поток), StartTrack, VentureClub, Planeta.ru, Penenza, Boomstarter, and InvoiceCafé (Table 6).

The overwhelming majority of Russian platforms are crowdlending (90% of the total funding). Loan agreements are concluded at 20-30% per annum for a period of up to 6-12 months. Projects in IT, wholesale and retail trade, services and production receive primarily financing. The only crowdfunding platform in Russia is InvoiceCafé, which offers 70-90% of financing of invoice.

**Table 6. Crowdfunding Platforms in Russia.**

Platform	Types of alternative financing	Platform comission, %	Amount of funding	Requirements
Venture Club	Crowdinvesting	1-5	From 3 mln rub	Positive turnover
StartTrack	Crowdlending, crowdinvesting	5	From 3 mln rub	Revenue from 36 mln rub and it's projected increases by 30% per year
City of Money	Crowdlending	2-6	From 50 thousand to 15 mln rub	Annual revenue from 1,5 mln rub, no overdue loans
Potok	Crowdlending	6,7	From 100 thousand to 2 mln rub	Functioning from 10 months Positive turnover from 100 thousand per month No negative credit history
Penza	Crowdlending	3,5	-	Projects with public procurement
Planeta.ru	Donation-based Crowdfunding	10-15	From 10 thousand to 99 mln rub	Opened bank account
Boomstarter	Donation-based Crowdfunding	3,5	-	Opened bank account
InvoiceCafé	Crowdfactoring	1000 rub	70-90% of invoice	Contract with a debtor

**Source:** author conclusion from official sites of crowdfunding platforms

In 2017, the average amount of a crowdfunding transaction amounted to almost 900 thousand rubles to one SME. The average amount raised through crowdfunding platforms amounted to 8,1 million rubles. The average amount raised by the crowdfunding project is 53 thousand rubles. There is no official statistics on crowdfactoring, only generalized information from the InvoiceCafé site. The average transaction amount in crowdfactoring platform is 281 thousand rubles.

As a borrowing tool, crowdlending is more interesting for companies with a stable cash flow and is used both to finance new projects and to increase working capital and cover cash gaps. As a rule, it is used fast-growing companies of the traditional sector or later stages start-ups.

Young SMEs cannot afford to pay loan interest from time to time, so crowdfunding is more attractive for them. On the other hand, crowdlending is more accessible compared to crowdfunding (due to the simplicity and speed of the transaction) and is understandable for both sides of the investment process.

The requirements imposed by Russian crowdlending platforms are not suitable for new innovative companies, young entrepreneurs, companies at the pre-seed and seed stage because they do not have start-up capital, revenues and turnover. Thus, they can use donation-based crowdfunding type of financing, offered by only two platforms in Russia. The advantage of using this tool is gratuitous funding, relative simplicity in presenting your idea to investors, the ability to get necessary amount of money. However, there is a risk of not collecting the entire amount if the idea is not realistic and understandable to potential investors.

Crowdfactoring can be important financing instrument for SMEs in growth stage, allowing quickly sell receivables, close the cash gap, receive free cash for current operations, wages, taxes, research, loan payments, etc.

### 3.1 Problems of Crowdfinancing in Russia

The reasons that contributed to the weak spread of crowdfinancing in Russia include the following.

First, it is the lack of legal market regulation. The draft regulatory law was submitted by the Ministry of Finance of the Russian Federation and the Bank of Russia only in 2017 and has not been adopted yet. This creates barriers to alternative financing using, as unreliable and high-risk instrument. Investors are afraid to use it, because they are not sure of their rights and control over the funds invested.

Crowdfinancing platforms are not financial agents; they have status of information systems that provide services. Accordingly, both the platforms themselves and their users are not subject regulating by the Civil Code of Russian Federation or Bank of Russia.

Investors of crowdfunding platforms do not have their own financial account, since the platforms has no status of financial institutions, and investors cannot use their bank account. So the invested funds are not insured. Therefore, in case of platform problems (bankruptcy, theft of money, fraud), the risks fall on investor.

In addition, operations on crowdfunding platforms are subject to VAT, as they provide services, rather than issue loans or grants. Small innovative enterprises receive income (financing from crowdplatforms) that should be taxed (Income Tax is 20%), despite its targeted use for research purposes.

In the case of crowdinvesting, there may be a problem of considering enterprises as SME, if the number of shares of crowdplatform investors exceeds 49%, but the essence of crowdinvesting in investing with a large number of individuals or legal entities.

Second, most SMEs in Russia demonstrate an extremely low level of financial literacy, cannot form accounting statements or draw up a business plan.

Third, there is no incentives for creating crowdfunding platforms or invest through it such as grants for platforms creating, tax benefits. Despite the fact that investors in the crowdplatforms inherently also invest their money in companies, they are not endowed with tax incentives as reducing personal income tax on the sum of investment.

#### **4 CONCLUSIONS**

Crowdfinancial instruments are the least common instruments for financing SME in Russia, despite its wide using abroad. These instruments have advantages over traditional sources of financing such as the speed of obtaining financing, the simplified procedure for receiving funds, as well as the involvement of a large number of private and institutional investors. Crowdfinancing is supported and regulated by the government abroad, it is the serious competitor to other financing instruments, due to which they also become more accessible over time.

In Russia, these instruments have not yet received legal regulation, which means that the rights of investors and SMEs are not protected. Both investors and SMEs cannot use existing methods of stimulations of SMEs functioning or innovation. For SMEs in the early stages crowdfunding and crowdinvesting may be the only acceptable financing instrument due to the simultaneous involvement of a large number of investors in the project evaluation and obtaining the required funding in a short period of time. Crowdlending and crowdfactoring platforms spreading will reduce the role of traditional financial institutions by increasing their competition, increasing the availability of credit and factoring financing.

We believe that in order to spread crowdfunding in Russia it is necessary:

- To introduce the legal regulation of the crowdfunding market. Investors and platforms should receive the status of investors and investment platforms.
- To implement government guarantee for investors (as guarantees for SMEs bank loans) to attract more investors and lower the risks;
- To introduce the tax incentives for investors. For private investors it can be incentives as for private investors on the stock exchange (Moscow Exchange), how use an individual investment account - getting a tax deduction in the amount of the invested amount (or setting a maximum deduction limit). For corporate investors incentives can be in the form of reducing the tax base by 35-40% of the invested amount.
- To stimulate the creation of crowdfinancial platforms by freeing them from income tax for the first 1-2 years.
- To create a unified database of financing instruments for SMEs, not only public instruments but also private ones.
- To create a base of operating crowdfinancial platforms and oblige them to control the use of funds

received by SMEs, for example, using a public report on the platform website.

## REFERENCE LIST

- 5th UK Alternative Finance Industry Report // University of Cambridge, <https://www.jbs.cam.ac.uk/faculty-research/centres/alternative-finance/publications/5th-uk-alternative-finance-industry-report/#.XIIU61PVKUk>.
- Acs, Z., Audretsch, D. (1987). Innovation, Market Structure and Firm Size. *The Review of Economics and Statistics*. N 4. Vol. 69. P. 567–574
- Akcigit, U. and Kerr, W.R. (2010). Growth Through Heterogeneous Innovations. Working Paper 16443.
- Baeck, P. et al. (2014). “Understanding alternative finance: The UK finance alternative finance industry report 2014”, Nesta/University of Cambridge, November 2014.
- Belleflamme et al. (2014). Crowdfunding: tapping the right crowd. *J. Bus. Ventur.*, 29 (2014), pp. 585-609. <https://doi.org/10.1016/j.jbusvent.2013.07.003>
- Breaking New Ground: The Americas Alternative Finance Benchmarking Report 2016 // Cambridge Centre for Alternative Finance. URL: [https://www.jbs.cam.ac.uk/fileadmin/user\\_upload/research/centres/alternative-finance/downloads/2016-americas-alternative-finance-benchmarking-report.pdf](https://www.jbs.cam.ac.uk/fileadmin/user_upload/research/centres/alternative-finance/downloads/2016-americas-alternative-finance-benchmarking-report.pdf).
- Business enterprise research and development, UK Statistics. URL: <https://www.ons.gov.uk/economy/governmentpublicsectorandtaxes/researchanddevelopmentexpenditure/bulletins/businessenterpriseresearchanddevelopment/2017>, last accessed 2019/05/06.
- DiCaprio A., et al. (2014). ADB trade finance gap, growth, and jobs survey. ABD Brief, no 25, December 2014. URL: [www.adb.org/sites/default/files/publication/150811/adb-trade-finance-gapgrowth.pdf](http://www.adb.org/sites/default/files/publication/150811/adb-trade-finance-gapgrowth.pdf).
- Dong-Soo, L. (1999). A Study of Firm Size and Technology Innovation. *Journal of Economic Research*. Vol. 4. N 1. P. 67.
- Guloglu, B., & Tekin, R. Baris. (2012). A panel causality analysis of the relationship among research and development, innovation, and economic growth in high-income OECD countries. *Eurasian Economic Review*, 2(1), 32-47. <https://doi.org/10.1016/j.sbspro.2015.06.474>
- Lopez de Silanes et al. (2015). The European Capital Markets Study: Estimating the Financing Gap of SMEs, Duisenberg School of Finance, Amsterdam.
- Mayer, C. (1996). Corporate governance, competition and performance, OECD Economic Department Working Paper, 164
- Mills, J. and McCarthy, B. (2014). The State of Small Business Lending: Credit Access during the Recovery and How Technology May Change the Game. Working Paper 15-004. July 22, 2014.
- Mollick, E., & Robb, A. (2016). Democratizing Innovation and Capital Access: The Role of Crowdfunding. *California Management Review*, 58(2), 72–87. <https://doi.org/10.1525/cm.2016.58.2.72>
- New tools to attract funding for the development of technology companies: the practice of use and development prospects in Russia. Analytical report. April 2018, HSE. <https://publications.hse.ru/mirror/pubs/share/direct/219492205>.
- OECD (2012), OECD Science, Technology and Industry Outlook 2012, OECD Publishing, Paris, [https://doi.org/10.1787/sti\\_outlook-2012-en](https://doi.org/10.1787/sti_outlook-2012-en).
- Panteia (2013). Leasing en factoring: Kansrijke financieringsinstrumenten: Onderzoek naar de beleving en ervaring van ondernemers in het MKB. URL: <http://ondernemerschap.panteia.nl/main/download/id/a201302>.
- Review of direct and venture investments market of the Russian Venture Capital Association. URL: <http://www.rvca.ru/rus/resource/library/rvca-yearbook/> (in russ).
- Salim, R. and Bloch, H. (2008). Expenditures on Business R&D and Trade Performance in Australia: Is

There a Link? (August 13, 2008). Applied Economics, 2007. Available at SSRN:  
<https://ssrn.com/abstract=1222310>

Statistics of the Bank of Russia, <https://www.cbr.ru/statistics/>, last accessed 2019/05/10

The 3rd Americas Alternative Finance Industry Report 2018,  
[https://www.jbs.cam.ac.uk/fileadmin/user\\_upload/research/centres/alternative-finance/downloads/2019-05-ccaf-3rd-americas-alternative-finance-industry-report.pdf](https://www.jbs.cam.ac.uk/fileadmin/user_upload/research/centres/alternative-finance/downloads/2019-05-ccaf-3rd-americas-alternative-finance-industry-report.pdf).