

CURRENT TRENDS IN DEVELOPING EDUCATION FUNDING IN THE RUSSIAN FEDERATION

Bulatova E.I., Antonova N.V., Aliakberova L.Z., Tufetulov A.M.

Kazan Federal University, Kazan, 420008, Russia

Abstract

The article aims to analyze theoretical and practical aspects of developing education funding mechanism as a business tool to provide availability of higher professional education in the Russian Federation, taking into consideration the support provided by the state for education funding in order to solve social and economic problems, motivate and support national banking sector. Successful implementation of education funding programmes largely depends on the degree to which the prospective credit party, the banking institution and the state respect each other's interests. Russian banks tend to underestimate education funding potential as a possible way to receive alternative revenue by adding this programme to the product line. The demand for education services is not especially high, but it still exists and is expected to grow in the years to follow. This is above all due to the fact that higher education becomes predominantly fee-based. The results of this analysis allowed us to identify trends and future prospects of developing student loan projects.

Keywords: education loan, student loan, state support, funding of tertiary education.

Introduction

Nowadays maintenance loan projects are implemented in the majority of developed and developing countries. Each country has its own peculiarities but all of them share a basic feature, i.e. they form part of an efficient system of education funding and make it possible to attract additional resources to educational institutions.

Education funding offers an instrument which is able not only to provide an increase in availability of tertiary education and adapt it to social needs, but also to encourage universities to create and extend high quality educational programmes to meet the demands of contemporary economy and labour market. To put in another way, student loans allow implementing new integration and social partnership mechanisms in educational sphere involving all the participants interested in forming graduates' professional competence: prospective employers, educational institutions, credited party (students and their parents), state [1].

Education loan as a repayable form of financing basically corresponds to implementation of the concept of targeted investment in human capital. Such investments are especially efficient on condition that the person obtaining a higher professional education in future can repay the student loan due to a higher income provided by the education obtained.

Successful implementation of education funding programmes largely depends on the degree to which the prospective credit party, the banking institution and the state respect each other's interests.

This study aims to create a model of education funding accessible to the public, which should be adequate to Russian economic background, as well as analyze the current status of Russian education loan market and identify its development trends.

1. Literature review

Analysis of the literature on the problem existing nowadays demonstrates that on the one hand, the majority of researches focus on legal (the greater part of the published studies), social and economic factors, related to building education funding market in the Russian Federation, which is currently under-developed [2]. On the other hand, much attention is paid to implementation of student loan programmes in order to reduce the access barriers to education services for broad layers of population. Considering the rapidly changing economic environment, mutual agreement between these aspects is conceptually vital, and is necessary to create a

model for crediting students, capable of meeting world standards, and at the same time accessible to Russian citizens with various income levels and possibilities [3].

2. Scope of research

Education funding is a specific type of consumer crediting which possesses a number of features:

- credit repayment occurs as a direct transfer to the educational institution's account;
- lower level of interest rates;
- the object of crediting is performed by a non-material asset;
- requires minimum income to initiate repayment;
- does not require any kind of security or warranty;
- adaptive payment date which implies a grace period and payment delay;
- seasonal nature of crediting.

The distinctive feature of student loans consists in their target orientation on paying for educational services and other accompanying expenses.

Interest rate on education credits is lower than that on consumer loans: in large banks the interest rates are 3-6% lower as compared to non-purpose secured credits, in middle-sized and regional banks the difference is 1-3% [4].

Student loan has a prolonged repayment period which approximately lies between 10 and 11 years. Such credits imply a grace period (equal or superior to the term of apprenticeship), when the borrower repays only the interest charge (the principal of the loan is to be paid by the student after his/her graduating from university and starting a working career). It should be noted that we consider an education loan only the kind of loan which is supposed to be repaid directly by the student.

It is important to highlight that the payment can be delayed in case of an academic leave in accordance with statutory provisions or the student being called to military duty. The former case implies a 1 year delay, while in the latter the payment must be postponed for the whole period of military service.

Social protection implemented in the system of education funding cannot be applied to consumer crediting [5].

Taking into account all the features mentioned above we can define education loan as a specific type of consumer credit characterized by a complex object of financing which includes educational services together with other accompanying expenses, a prolonged payment period that can provoke high risk of credit default; such kind of crediting presupposes interaction between at least four interested parties, including the state, the borrower (student), the bank and the higher educational institution. By accessible to public education loan we understand a loan which can be received with no regard to the parents' material situation and credit worthiness, the borrower's professional promotion rate or the prospective increase in revenue of a certain student.

3. Research methodology

Demand for education loans among students and their families is undoubtedly existent and some Russian banks make attempts to meet the current demand. However the number of citizens applying for these programmes still does not exceed several thousand of people, which can have several reasons, both supply-side and demand-side. To reveal the demand-side obstacles we conducted a research into the demand pattern on the part of students as immediate consumers, with the help of such methods as mathematic economic modeling and polling [2].

In order to identify the crediting parameters, which have the most significant effect on the trends in potential demand, in March and April 2015 we conducted a survey among 197 students, taking courses in different subject areas, including economics and management, information technologies, engineering, and applied chemistry.

The questionnaire involved the following logical blocks:

- personal loan readiness test (to apply for a loan in order to pay for education services);

- economic parameters of education funding (interest rate level, credit period, monthly payment amount);

- organizational issues (transparency in the credit scheme, credit decisioning period, set of documents required for a loan application);

In order to assess numerically the obtained data, in conducting the poll we made use of on Harrington's verbal and numerical scale, presented in Table 1.

Table 1.

Harrington's verbal and numerical scale

Grade description	Numerical value
Very high	0,8 - 1,0
High	0,64 - 0,8
Average	0,37 - 0 64
Low	0,2 - 0,37
Very low	0,0 - 02

Multiple regression model was chosen as the basic one and was based on the ordinary least squares technique (OLS regression) which aimed to identify the interconnection between the demand level on the part of potential student-borrowers and the crediting parameters which exert the most substantial influence on it.

The initial regression model included 11 factors, corresponding the issues mentioned in the questionnaire. Following the results of the regression analysis, based on calculating the determination coefficient, multiple correlation coefficient, Student's t-test and Fisher's F-test, we obtained the following data, as presented in table 2.

Table 2.

Model 1-OLC, using observations 1-197

Dependant variable: Demand

Parameter name	Coefficient	Statistical error	t-statistics	P-value	
Interest rate	-0,110414	0,0656426	-1,6820	0,09424	*
Payments	-0,0784447	0,0571753	-1,3720	0,17171	
Security	-0,0937502	0,0577945	-1,6221	0,10647	
Credit term	0,181567	0,0653017	2,7804	0,00599	***
Transparency	0,144324	0,0732249	1,9710	0,05021	*

Advanced repayment	0,107352	0,0632458	1,6974	0,09130	*
Sanctions	-0,0439679	0,060255	-0,7297	0,46649	
Documents	-0,052894	0,0776065	-0,6816	0,49636	
Term	-0,200098	0,0801623	-2,4962	0,01342	**
Grace period	0,109045	0,0785371	1,3884	0,16666	
Deferral	0,0704596	0,0862532	0,8169	0,41504	

Avg. of dependant variable	0,634721	Statistical deviation of dependant variable	0,185510
Residual sum of squares	7,813340	Statistical model error	0,204957
R-square	0,909264	Corrected R-square	0,904386
F(11, 186)	169,4455	P-Value (F)	1,22e-90
Log. verisimilitude	38,36517	Akaike criterion	-54,73033
Schwarz criterion	-18,61509	Hannan Quinn criterion	-40,11061

Despite the high value of determination coefficient, the significance of Fisher's F-criterion value (the critical value equals to 1.34 at the significance level of 1%), t-test value for the majority of coefficients appear non significant according to Student's criterion (p-value of these coefficients did not exceed 0.05).

Having held a series of iteration we constructed model 2, whose main characteristics are presented in table 3.

Table 3.

Model 2: OLS, using observations 1-197

Dependant variable: Demand

Parameter	Coefficient	Statistical error	t-statistics	P-value	
Interest rate	-0,257678	0,0622774	-4,1376	0,00005	***
Payments	-0,157823	0,0574757	-2,7459	0,00661	***
Security	-0,167925	0,0570489	-2,9435	0,00364	***
Credit term	0,333637	0,0597412	5,5847	<0,00001	***

Avg. of dependant variable	0,634721	Statistical deviation of dependant variable	0,185510
Residual sum of squares	9,049177	Statistical model error	0,216534
R-square	0,894912	Corrected R-square	0,893279
F(4, 193)	410,8897	P-Value (F)	3,32e-93
Log. verisimilitude	23,90130	Akaike criterion	-39,80260
Schwarz criterion	-26,66979	Hannan Quinn criterion	-34,48634

Test for validity of both the equation and the regression coefficient allowed to prove statistical certainty and confidence of the model provided. In other words, the

way the parameters included in the model influence each other is not random. Hence, the results of the constructed model can be used for a further analysis of problems and development prospects of education funding and developing corresponding guidelines.

The multiple correlation coefficient $R_{y \cdot x_1 x_2 x_3 x_4}$ equals to 0.946, which testifies to a very strong correlation between the dependent and the independent variables. Moreover, while analyzing this index it is worth taking into consideration the fact, that in multiple regression models we can frequently observe such a phenomenon as multicollinearity.

An analysis into pair correlation coefficient matrix presented in table 2 has demonstrated lack of such an effect between the explanatory variables (the coefficient values do not exceed 0.7 in absolute magnitude).

Table 4.

Pair correlation coefficient matrix

Demand	Interest rate	Payments	Security	Credit period	Parameter name
1,0000	-0,375	-0,318	-0,298	0,165	Demand
	1,0000	0,252	0,0653	-0,1331	Interest rate
		1,0000	0,0157	-0,0930	Payments
			1,0000	-0,0882	Security
				1,0000	Credit period

Due to the specific nature of the data in use we also conducted a heteroscedasticity test.

Heteroscedasticity leads to deviations in variance estimation of linear regression coefficients, and discrepancy between actual confidence intervals and stated ones. Breusch-Pagan test and Koenker test have demonstrated absence of this problem in the resulting regression equation.

Thus, following the above-mentioned facts, we can infer that the results of the model developed can be employed to conduct a further analysis into problems and prospects of education funding and offer corresponding recommendations.

4. Description of results

In accordance with the conducted research one of the principal factors having immediate effect on prospective demand is the credit term. The borrowers found period between 8 and 12 years the most convenient. This option was chosen as the most appealing by 49% of student respondents.

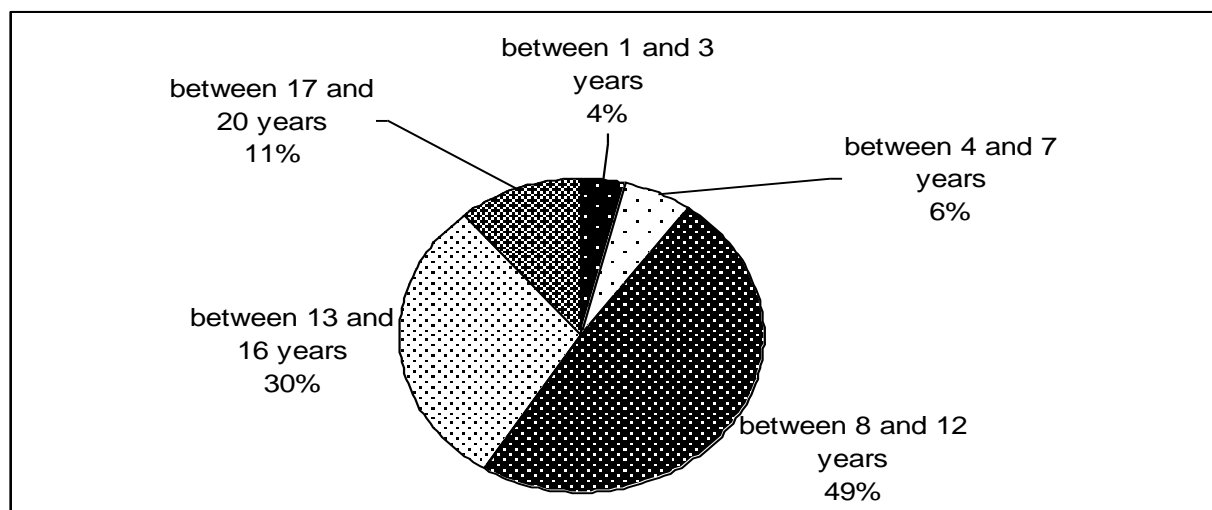


Fig. 1. - Percentage of responses to the question: "What is the most convenient credit period?"

In general it is typical for the existing education funding practice in Russia, including state-backed loans. Meanwhile in Western countries the credit term is usually longer, between 15 and 25 years. The current situation in Russian banking sector does not allow to approach such figures. Limited experience in extending long-term credits by banks and predominantly short-term nature of Russian commercial banks' liabilities scales up banks' risks in long-term crediting, and leads to an increase in allocations to the legal loan loss reserves, which in its turn has an impact on the interest rate.

The cost of debt expressed in the interest rate is also a significant factor for students. According to the respondents its level will be considered optimum if it fluctuates between 5 and 9%.

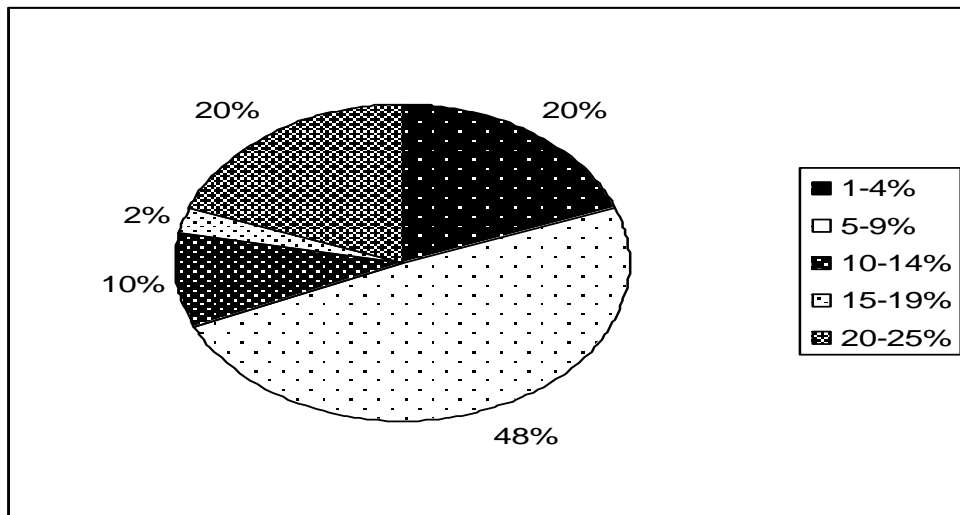


Fig. 2. - Percentage of responses to the question: "What interest rate is acceptable to you?"

The analysis, conducted earlier into currently available programmes of education funding by a number of Russian banks, estimated the interest rate scale between 12 and 25% per annum. Lower interest rates declared by banks tend to be followed by an additional commission charge for opening the account and its maintenance together with transfers which eventually approximates the interest rate to average market level. An education loan during the standard crediting period of 10 years requires double or triple repayment of the principal borrowed sum [6].

A need to lodge security and provide guarantee is the factor that decreases the demand level on the part of students. Being represented by knowledge, the object of education funding possesses no material form and cannot be appropriated by somebody else, as it usually occurs in case of nonpayment of amount due at maturity in accordance with the credit agreement. This induces banks to demand other forms of credit security, in most cases to secure a loan they require cosigners, represented by student's relatives, acquaintances or friends.

Lack of material security which can be exempted in case of nonpayment makes it difficult for the banks to collect loan repayments. Moreover, the probability of nonpayment of the amount due increases, as a typical student-borrower is normally not able to start repaying the loan until he or she finishes the studies and starts

working career, which leaves a prolonged period of time between drawing and repaying the loan. The majority of student respondents did not hesitate in admitting the possibility to work while pursuing their graduate studies..

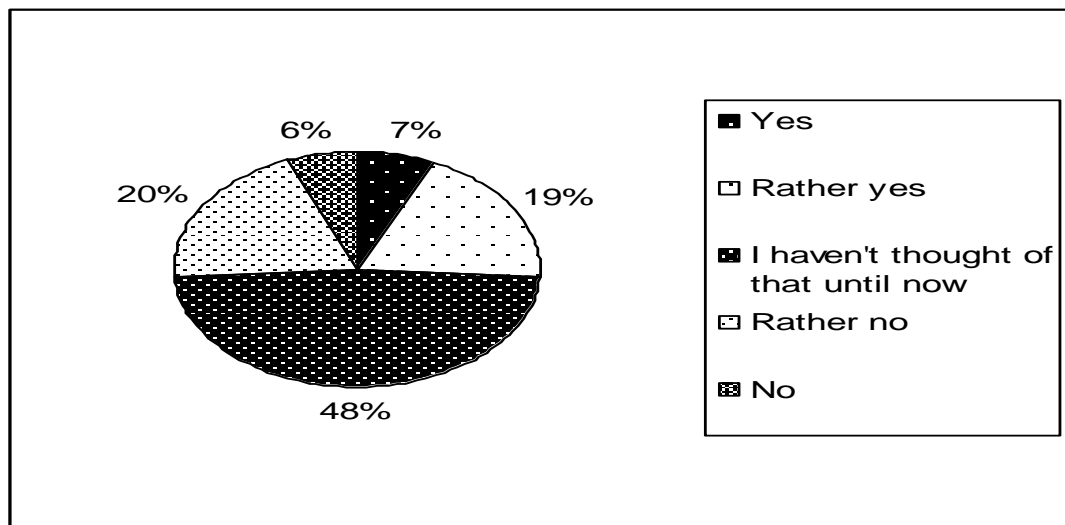


Fig. 3. - Percentage of responses to the question: "Are you ready to combine work with study?"

Banks on their part do not always realize the possible prospects of this form of crediting as an opportunity to build up a reliable long-term customer base: a student holding an education credit from a certain bank is very likely to apply to the same bank in future.

Russian banks tend to underestimate education funding potential as a possible way to receive alternative revenue by adding this programme to the product line. Those who make attempts to integrate this product into market do not pay sufficient attention to increasing public awareness about substantial advantages of this type of service, as compared to standard consumer credits. Approximately 60% of student respondents could not clearly articulate the idea of educational funding.

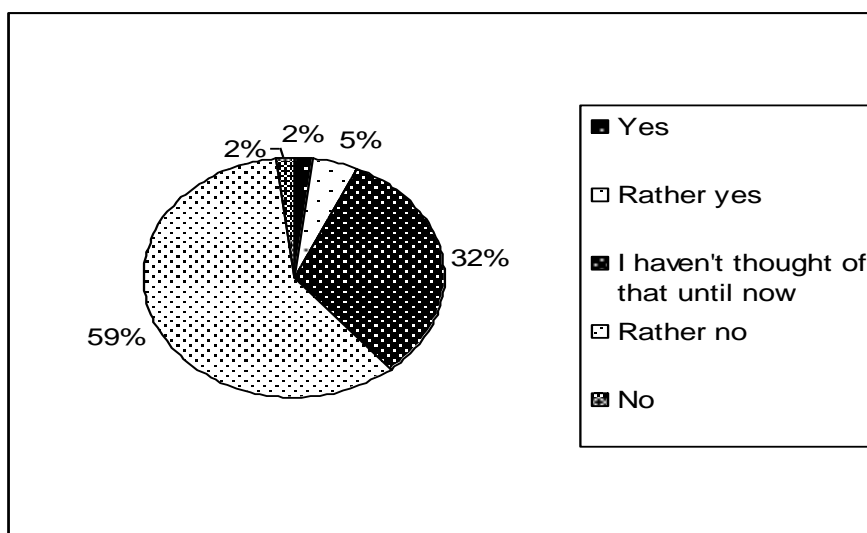


Fig. 4. - Percentage of responses to the question: "Do you understand the basic differences between a student loan and a standard consumer credit?"

However, despite existence of certain problems this form of financing tertiary education has a high potential which has not yet been fully realized.

An analysis into Russian education funding programmes shows that despite its 15 year history, a student loan to pay for higher professional education is still a rare banking product.

In 2001 there existed 1 education funding programme realized by Sberbank, by 2006 their number increased to 15. What is more, credit amount covered only the expenses on tuition while the interest rate on the loan equaled to 18-20% for the period between 1 and 10 years with a credit guarantee as a pre-requisite. In 2007 the number of banks offering education funding programmes grew to 32 (interest rate 8-14% per annum for 1-15 years conditioned upon presence of trustees and ability to cover the accompanying expenses). By 2014 their number reduced to 10 [2].

The terms on existing education loans slightly differ from one another (except for the state-supported Sberbank education loans).

In the recent years the most popular option in Russia is a student loan for one year. It enables to pay for the first years of education. Subsequently in his third year the student finds an employment or transfers to a state-funded place. The interest

rates on short term education credits are the same as on ordinary consumer loans: 16-18% per annum. They suppose no government grants or payment delays.

The procedure of processing a student loan is almost identical to that of obtaining an ordinary consumer credit.

The demand for education services is not especially high, but it still exists and is expected to grow in the years to follow. This is above all due to the fact that higher education becomes predominantly fee-based. Every year about 4-8% of state funded places at universities get eliminated, which primarily concerns humanities (7-8% annually), while sciences "lose" approximately 2-3%. Russian government and business community do not take active part in supporting national education funding system.

Accessible to public education funding system in Russia is still being formed. The last government programme was implemented between 2007 and 2012. 1,000 people participated in that programme. National budget made compensation for 11.65 mln. rubles to commercial banks. Overall volume of cash resources allocated for education funding equaled to 230 mln. rubles. In 2015 the number of students holding education loans is expected to reach 6% of the total number of students. Only 5 years ago this figure did not exceed 1 %. In contrast, in economically developed countries the fraction of students holding education loans reaches 75% [7].

In Russian banks the government's initiative is widely supported: in order to end the stalemate in education funding market the potential borrowers should be offered favorable repayment terms which can be provided by means of substantial cash infusions from the state budget. It is the way that can provide a large multitude of Russian citizens an opportunity to obtain a higher education with the help of banking institutions.

Conclusions

In order to identify trends and future prospects of developing education funding programmes, we analyzed national and foreign crediting practices, polled potential borrowers and as a result formulated several possible scenarios for developing education funding system.

Option 1. Crediting by commercial banks, the borrowers' expenses being subsidized from the state budget.

Option 2. Extend student loans by crediting institutions with concessionary interest rate.

Option 3. Extend student loans using the funds of prospective employers as a part of their social programme.

Option 4. Extend student loans backed by a specially created national foundation aimed to support professional education in the Russian Federation.

Option 5. Extend student loans as a part of target programme "Creation and development of public accessible education funding in the Russian Federation".

Option 6. Education funding under insurance terms.

In order to improve the mechanisms to establish and develop an education crediting system accessible to the public (not only to low risk social groups, but to the vast majority or all students) we suggest a possible way to extend a student loan (Figure 5).

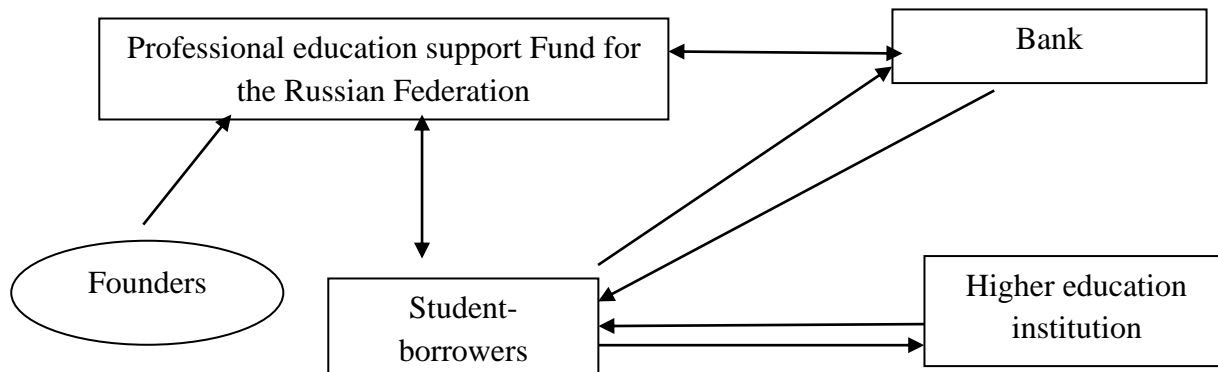


Fig. 5. - General scheme for extending a student loan.

Professional education support Fund for the Russian Federation created by private and state companies together with the national authorities must become the state agency to accumulate information about all the education funding programmes offered by the banks.

Having selected an educational institution, the prospective student-borrower applies to the Fund to get advice and select an appropriate education funding programme.

Having created a preliminary folder for this loan the Fund transfers the information about the student (the prospective borrower) to the credit company, which, pursuant to the existing agreement for providing fee-based education services between the student and the education institution, extends funds to the borrower in an amount not exceeding a half-year tuition fee.

By executing a trilateral loan agreement between the credit company, the Fund and the student-borrower, credit companies get an opportunity to simplify the system for monitoring the quality of knowledge learned through higher education, as to receive the next tranche the student is to submit a certificate proving lack of academic failure and successful undergoing of the training course.

Thus, taking into consideration the need to develop education in Russia, we can positively assume that such type of banking product as student loan will become an efficient tool for developing fee-based education.

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References

- [1] Simanaviciene, Z., Giziene, V., Jasinskas, E., Simanavicius, A. (2015). Assessment of Investment in Higher Education: State Approach. *Procedia - Social and Behavioral Sciences*, 191, pp. 331-346.
- [2] Ruzmanova U., Chuvilayev P. Education loans are becoming popular, 2013. I URL: // <http://www.mk.ru>
- [3] Eckwert, B., Zilchat, I. (2015). The Role of Government in Financing Higher Education, *The Economics of Screening and Risk Sharing in Higher Education*, pp. 101-139.
- [4] Joohnstown, D.B. (2013). *The students credits in the Russian Federation: policy options*, Moscow: Economics education.

- [5] Goksu, A., Goksu, G.G. (2015) A Comparative Analysis of Higher Education Financing in Different Countries. *Procedia Economics and Finance*, 26, pp. 1152-1158.
- [6] Booij, A.S., Leuven, E., Oosterbeek, H. (2012). The role of information in the take-up of student loans, *Economics of Education Review*, 31, pp.31-34.
- [7] Shephard N., (2010) Deferred fees for universities, *Economic affairs*, 2, pp. 40-44.
- [8] Klaas J., Vagizova V. Tools for assessing and forecasting financial stability of the commercial bank under conditions of instability // *Investment Management and Financial Innovations*.- 2014. - № 4. – p. 157-163.
- [9] Lough, B.J., (2010). The Perpetual Education Fund: Providing higher education loans in the voluntary sector, *International Journal of Educational Development*, 30, pp. 345–350.
- [10] Protsko, E., Dornberger, U., Vagizova, V. (2014) The level of market orientation in Tatarstan high technology companies (Russia). *Problems and Perspectives in Management*, Volume 12, Issue 4 (cont.2), p.540-548.
- [11] Teker, S., Teker, D. (2014). Higher Education Financing: A Proposed Model for Turkey. *Procedia - Social and Behavioral Sciences*, 116, pp. 849-853.