Measurement of Mutual Trust Level Between Small Enterprises and Banks

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Abstract-**The article justifies the importance of trust factor in relations between economic subjects, particularly between small enterprises and banks. Present ways of measuring trust level between them have been analyzed and classified. Furthermore, drawbacks of these ways have been revealed and the conclusion of absence of an adequate way of measuring trust level between small enterprises and banks has been made. Synthesis index measuring the level of trust relations between banks and small companies has been worked out. Calculations of the indices, suggested by the authors, have been made and the results have been compared with the macrolevel index Edelman Trust Barometer; the hypotheses, explaining the difference of the data trends, have been formulated. The results of the research might be used for calculating indices of mutual trust in other countries in order to choose the ways of improving the climate in interaction of banks with small companies.**

Keywords-mutual trust, small and medium enterprises, measurement of trust level, trust indices

I. INTRODUCTION

The studying of trust level is one of the most actual trends of modern economic science. The importance of this phenomenon as the economy growth factor is noted by Nobel Prize winners J. Stiglitz [1] and K. Arrow [2]. Modern statistics prove the fact that those countries which have the higher trust value estimated by applying different indices, form favorable environment for effective development of both business, in general, and small enterprises, in particular (for example, leading European countries, the USA, Japan, etc.). Russia, on the contrary, as well as Slovenia, Egypt, Mexico, has been listed for many years as the country with a shortage of trust [3].

Trust is a necessary condition of agreeing on economic interests during negotiation process between small and medium enterprises (SME) and the banks, which act as the supporters of credit and investment resources for developing small enterprises. Negative influence of the low trust level is indirectly revealed in worsening business climate, effecting transaction of SME with banks. It is proved by the international experience that in the countries where a high trust level is an integral part of running business, small companies, as a result, are credited actively, and small enterprises are the leading part of the national economy.

Measurement of trust represents a special significance for economic research; however, its peculiarity (subjectivity, facets, etc.) makes estimation difficult. Nowadays there are a lot of ways of measuring trust level between the subjects but they are not classified and too far from reflecting in full all the diversity of relations between different economic agents. Thus, a great part of methods is orientated to macro- and mesolevel [4-6]; a far fewer ones – to microlevel [7]; besides, techniques with one-sided assessment of trust level, based on surveys [8-11], prevail. Available techniques classifications are over-simplified and do not correspond to the mentioned requirements of system and comprehensiveness (using many different criteria). The classification worked out by the authors, and given in [12], makes it possible to reveal the gaps in measurements of trust relationship level. Particularly, it has been found out that there is no research on measurement of mutual trust level, made on microlevel (between the banks and SME); and which would take into account the idea of reciprocity and applied the synthesis way to calculations of trust indices (economic and statistics calculations and the results of surveys).

II. MAIN PART

The analysis of the techniques of measuring trust level proves that relative values are usually applied as the measurement of trust – they are indices which are based either on some economic and statistic indicators or on the survey results, i.e. either economic or social and institutional methods are applied. The authors have suggested a synthesis method of measuring trust level which generalizes the advantages of formerly made research. The suggested method of measuring mutual trust level between SME and banks is a modification of the method worked out by the audit and consulting company 'FBK' [4], but unlike this company, this method takes into account both economic and institutional component. The integral index of mutual trust between SME and the banks is a multiplication of two partial indices and is calculated following 3-step procedure:

$$D^{in} = D^e \times D^i, \qquad (1),$$

where D^e is an economic component calculated on the basis of the statistics on the chosen indicators; D^i is an

institutional component based on the results of the surveys of the have-already-been-made research.

At first stage an economic component of mutual trust index is calculated - D^e, which implies the calculation of index on the basis of statistics on the chosen indicators in accordance with the following formula:

$$D^e = \sum_{i=1}^{n} w_i \cdot \frac{I_i}{I_i^o}, \qquad (2),$$

where: I_i is a current figure of the chosen economic indicator; I_i^o is a basic value of this indicator; w_i is a weight coefficient specified by the expert.

Hypotheses accepted while choosing economic indicators for calculating index D^e, as well as weight coefficients given to these indicators, are shown in Table 1. At second stage the calculation of trust index is made accounting institutional components (D^i) based on the research carried out by a number of Russian companies. At third stage the integral index D^{in}, which is a multiplication of two separate components, is formed.

TABLE 1. HYPOTHESES ACCEPTED AT CHOOSING INDICATORS FOR CALCULATING INDEX D^E AND WEIGHT COEFFICIENT OF ECONOMIC INDICATORS (W_i)

Indicator (*I*)	I_i	Main hypotheses	W_i
Relation of the loans given to SME to their turnover	I_1	Reflects the banks trust to the objects under consideration as the enterprise scale of activity is related to crediting	0,18
Share of SME's loans in the bank assets	I_2	Identify the intensity of interaction in the sphere of credits and investments	0,16
Profitability of SME's assets	I_3	Is a key indicator for the bank at taking decision on crediting (the higher the profitability, the higher the trust level of the bank to the business)	0,26
Spread of the interest rate for SME (difference between the interest and key rate of the Bank of Russia)	I_4	Estimate crediting risks (the less the spread, the higher the trust level of SME and the banks)	0,24
Bank's security	I_5	Reflects the level of the bank stability (the higher the bank assets, the more reliable it is and the stronger the SME trust to it)	0,16

The chart of index D^e, estimated in accordance with the Eq.2, is presented in Fig. 1 together with the chart of the combined Index of the people's trust to financial institutions, estimated by such good companies as National Agency for Financial Studies (NAFS), National Research University Higher School Of Economics (HSE) [5].
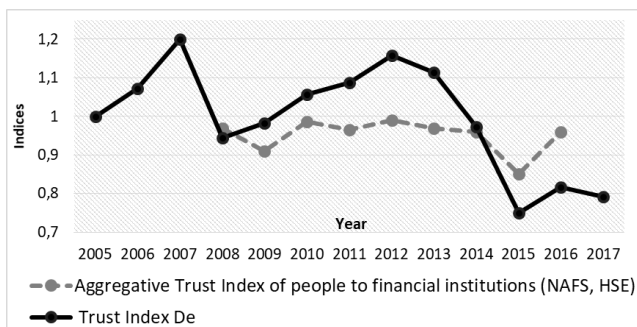

Figure 1. Trust Index D^e (author's technique) and Aggregative Index of people's trust to financial institutions (NAFS, HSE).

This comparison is correct enough as both indices are quiet close in the sense of economic content. Despite the fact that ascending and descending trends of the charts coincide, index D^e is characterized by a greater sensitivity to financial and economic situation, in particular, to the key rate of the Russian Federation and, correspondingly, to the dynamics of crediting value of SME. The discrepancy of the curves on the graph during 2008-2009 may be explained by the crisis period, when bank crediting became absolutely unavailable for small business. In general, the shown chart consistency testifies a good ability of interpreting the results with the index dynamics calculated on the basis of the tested technique (NAFS, HSE).

The partial institutional index D^i, calculated on the basis of averaging the available research- surveys, and the integral index D^{in}, obtained by the Eq. 1, are given in Table 2.

TABLE 2. TRUST INDICES CALCULATED BY GOOD RUSSIAN COMPANIES, AND INTEGRAL MUTUAL TRUST INDEX D^{IN} (MESOLEVEL)

Year	1*	2*	3*	Integral Mutual Trust Index		
				Averaged Index D^u	D^e	D^{in}
2015	1,000	1,000	1,000	1,000	1,000	1,000
2016	1,136	1,088	1,057	1,094	1,090	1,192
2017	1,017	1,117	1,228	1,172	1,056	1,238
2018	1,102	1,029	1,204	1,117	-	-

Note: 1 – Aggregative Trust Index of people to financial institutions (NAFS, HSE); 2 – Pulse of Small Business (JSC «ALFA-BANK »); 3 - Small Business Index RSBI (OPORA Russia) [5, 13, 14].

Generally, obtained Index D^{in} reflects, in many ways, the same upward tendencies as the values of indices given in Table 2, except for the year of 2017, when the economic component of the integral index D^e descended. It testifies that the research, based on the survey method, reflects a more optimistic trend in relations between the business and the banks, as inertia prevails in expert assessment and the

information on dynamics of economic indicators is not always taken into account.

Comparison of the dynamics of the international macrolevel Trust Index ETB for the Russian conditions with the Integral Mutual Trust Index calculated by the authors (Fig.2), is of special interest.
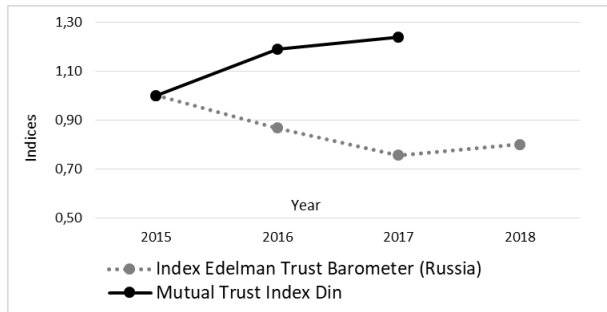

Figure 2. Dynamics of the indices D^{in} и Edelman Trust Barometer (for Russia) for the period of 2015-2018

Edelman Index descends in 2016-2017. Then there is an insignificant rise in 2018, which might be connected with a certain economic stabilization in the country. Among the events which are likely to have influenced the rise in trust level that year, Presidential Election (March, 2018) and World Football Championship held in the Russian Federation (the summer of 2018) can be mentioned. The values of index D^{in} have been rising during the whole period under review, which makes it possible to conclude that there is no coincidence of trends, and to formulate hypotheses on the reasons which specified their different dynamics (Fig.2). Aggregative index ETB contains the assessment of trust not only to the business and banks, but also to media, state and nongovernmental organizations. During that period trust to other institutions must have been much worse than to business and banks. This fact is believed to have specified the descending dynamics. Despite the economic problems and aggravation of the political situation in the country, Russian enterprises and banks do not exist separately, but, quite the opposite, cooperate, as both sides are interested in cooperation. That is why the dynamics of the suggested Mutual Trust Index between SME and the banks at mesolevel appears to be ascending for the period under review, unlike the level of public trust in the country, which calculates index ETB.

III. CONCLUSION

The suggested index D^{in} may be applied both at micro- and meso-levels of economy. Herewith, fluctuations of this index reflect the dynamics of mutual trust level either between sectors of economy (small business and the banks), or between the chosen small enterprises and the banks. The dynamics of the integral index makes it possible to monitor the situation in developing the SME sector and its crediting by banking organizations. Thus, the practical application of

this index, on the one hand, is supposed to be an indicator of the business climate situation at SME and banks cooperation; on the other hand, it can be a tool used to form various programs, aiming at improving cooperation between business and banks (programs related to consulting, establishing long-term relations, receiving credit and investment resources).

REFERENCES

[1] J. Stiglitz, The Roaring Nineties: Seeds of Destruction [M]. Moscow: Modern Economy and Law, 2005.

[2] A.V. Belyanin, V.P. Zinchenko, Trust in economics and public life [Doveriye v ekonomike i obshchestvennoy zhizni] [M]. Moscow: Liberal Mission Fund, 2010.

[3] Country of distrust [Strana nedoveriya] - [J/OL], Scientific and educational portal (HSE), 2013, February 12. https://iq.hse.ru/news/177670834.html (accessed: 28.02.2018).

[4] I.A. Nikolaev, S.V. Efimov, E.V. Marushkina, Analytical report Trust in economics: quantitative measurement [Doveriye v ekonomike: kolichestvennaya otsenka] [M/OL], Audit and consulting company FBK. http://www.fbk.ru/upload/images/doverie1.pdf (accessed: 01.03.2018).

[5] Trust Index of People To Financial Institutions [J/OL], NAFI Analytical Center [National Agency for Financial Studies]. https://www.nafi.ru/analytics/indeks-doveriya-finansovym-institutam/ (accessed: 21.05.2013)

[6] A.B. Aurzanain, Institutional trust as a factor in the development of financial institutions in the modern economics [Institutsional'noye doveriye kak faktor razvitiya finansovykh institutov v sovremennoy ekonomike] [J]. Ekonomicheskiye nauki, 2011, 7(80): 40-45.

[7] P.V. Zhavoronkov, Trust relations as a factor in ensuring economic efficiency of business [Doveritel'nyye otnosheniya kak faktor obespecheniya ekonomicheskoy effektivnosti predprinimatel'skoy deyatel'nosti] , cand. econ. sci. Diss, Russian Presidential Academy of National Economy and Public Administration, Moscow, 2012.

[8] Consumer Sentiment Index GfK [OL]. https://www.gfk.com/fileadmin/user_upload/dyna_content/RU/Documents/Press_Releases/2017/GfK_Rus_Press_Release_Consumer_Confidence_Index_March_2017.pdf (access date – 21.05.2018).

[9] Michigan University consumer sentiment index [OL]. http://www.sca.isr.umich.edu/ (accessed: 21.05.2018).

[10] Edelman Trust Barometer 2018. Global Report [OL]. http://cms.edelman.com/sites/default/files/2018-02/2018_Edelman_Trust_Barometer_Global_Report_FEB.pdf (accessed: 17.06.2018)

[11] Trust indices of ANO Levada Center [OL]. https://www.levada.ru/tag/doverie (accessed: 21.05.2018)

[12] N.E. Egorova, E.A. Koroleva, Methods of increasing the level of trust as a basis for coordinating the economic interests of small industrial enterprises and banks [Metody povysheniya urovnya doveriya kak osnova soglasovaniya ekonomicheskikh interesov malogo promyshlennogo biznesa i bankov] [J], Teoriya i praktika institutsional'nykh preobrazovaniy v Rossii [Theory and practice of institutional transformations in Russia], col. of sci.works by B.A.Erznkyan, Moscow: CEMI RAS, 2018, Issue 42: 144-155.

[13] Index of Investor Trust [OL], Alfa Bank JSC. https://alfabank.ru/about/research/confidence/2017/ (accessed: 21.05.2018).

[14] Small Business Index (RSBI): Micro, Small and medium Business Compass [J/OL], 2017, Quarter 4, OPORA Russia. http://opora.ru/upload/iblock/f66/f665bf7aaaac8952d184e4d6e4ecba95.pdf (accessed: 30.10.2018)