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Moscow.

## **ASSESSMENT OF QUALITY OF GROWTH OF THE RUSSIAN COMPANIES OF OIL AND GAS BRANCH ON THE BASIS OF FINANCIAL MODEL OF THE ANALYSIS**

[3].

One of the fundamental criteria for the efficiency of the economic unit is the level of its growth. In modern theory and practice, there are a variety of models for estimating growth. However, not all of them reveal its qualitative component, taking into account operational efficiency in conjunction with market performance indicators.

Quality growth depends on the ability of the company's management to transform operational, investment and financial decisions into cash flows, taking into account investment risks that meet the expectations of shareholders. The obtained values of growth rates will allow us to see a more voluminous picture of the quality of the company.

According to some scientists [3] consideration of growth from the standpoint of the financial model analysis of the company allows to identify the problem of compliance of the company's growth strategies to the head, focused on the cost. Research in this area contributes to a broader understanding of the mechanisms and contradictions of growth. Analysis of the identified displacements in the matrix the quality of growth is important for understanding the problems of sustainability of growth, considered from the modern point of view, and to identify the factors that determine the sustainability of the most attractive types of growth.

Given that the market value of the company is based on investors' expectations of return on invested capital, management is encouraged to combine efforts aimed at using the value based on the capital already invested and operating, and to create value taking into account growth opportunities.

This paper presents an approach to the analysis of the quality of growth of oil and gas companies based on models that, we believe, are quite applicable both for the analysis of the processes of corporate governance, and for modern financial analysis of the company.

*Keywords:* quality of growth, cash flow, market capitalization, profitability, growth rates, index of stability of growth.

$$SGR = \frac{NI}{S} \times \frac{S}{IC} \times \frac{IC}{E} \times \left(1 - \frac{Div}{NI}\right), \quad (1)$$

SGR — ; IC — ( ; E — ) ; NI — ; Div — ; S — .

» « » [5].

IC/

$$g = RR_E \times ROE, \quad (2)$$

RR — ; ROE — ( )

[1].

[3].



1.  
2012–2016 . \*

	2012	2013	2014	2015	2016
1	« »				
	-8 437 131	34 144 243	73 577 225	61 364 931	-26 530 506
	530 990 665	293 697 050	182 642 213	376 213 426	300 196 463
2	« »				
	60 763 938	24 266 801	69 829 197	70 388 232	27 905 035
	917 337 719	695 873 810	505 674 111	451 054 336	474 192 031
3	« »				
	149 400 025	14 236 006	-267 764 325	82 541 111	509 015 886
	3 635 304 641	3 225 516 133	3 112 593 476	3 286 120 326	3 416 561 382
4	« »				
	-803 935 059	1 001 905 301	-40 226 821	59 834 404	132 017 412
	2 916 156 120	2 001 035 114	1 886 038 962	1 723 581 380	1 706 144 833
5	« « »				
	-84 326 784	-1 204 890 436	-1 813 799 903	-1 864 686 057	-234 447 677
	4 240 330 945	2 714 723 248	2 071 413 854	2 649 968 381	2 856 208 922
6	« »				
	13 342 348	39 886 620	-168 190 075	40 170 898	2 097 493
	164 413 080	118 920 932	101 265 120	161 732 607	129 078 699

\*

[6]

2. : \*

1	BANE	« »
2	TATN	« »
3	GAZP	« »
4	LKOH	« »
5	ROSN	« « »
6	RNFT	« »

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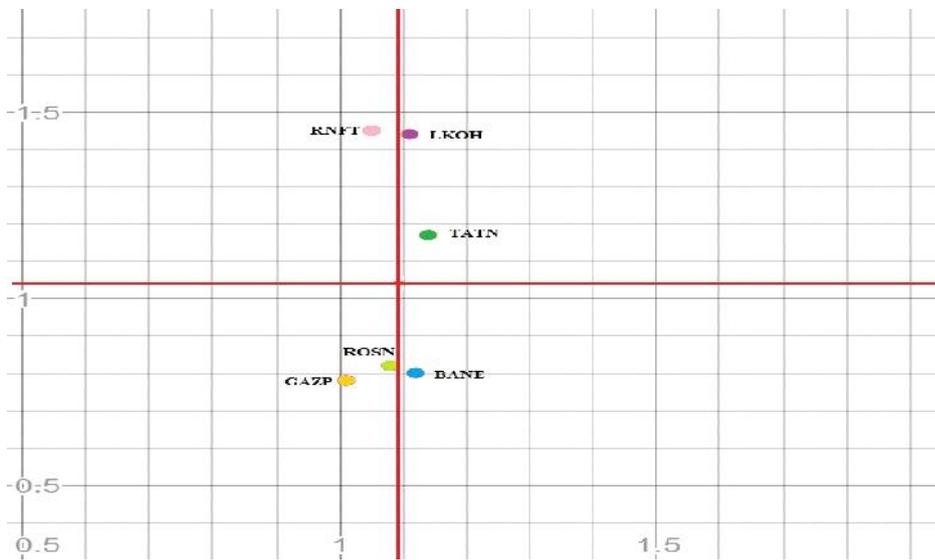
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	2012	2013	2014	2015	2016
BANE	1	2,31	1,20	0,46	0,25
	1	1,25	0,49	1,61	1,81
TATN	1	2,52	0,99	0,35	2,50
	1	0,95	1,12	1,38	1,32
GAZP	1	0,16	3,24	0,05	10,49
	1	0,96	0,95	1,04	1,13
LKOI	1	0,45	0,67	24,91	0,80
	1	1,01	1,09	1,06	1,46
ROSN	1	7,95	0,97	0,66	0,07
	1	0,93	0,78	1,31	1,56
RNFT	1	19,15	4,19	0,24	0,33
	1	1,25	0,63	1,17	1,38

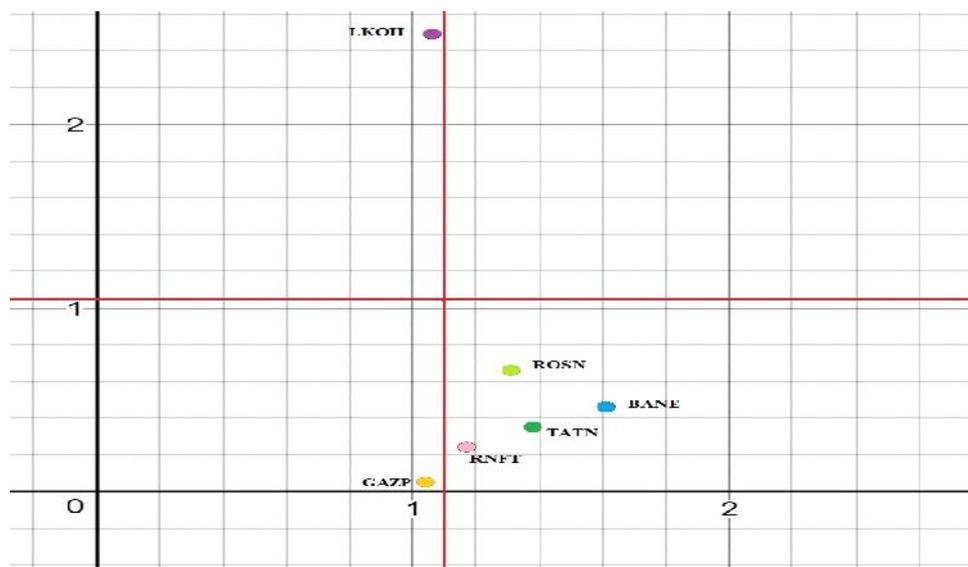
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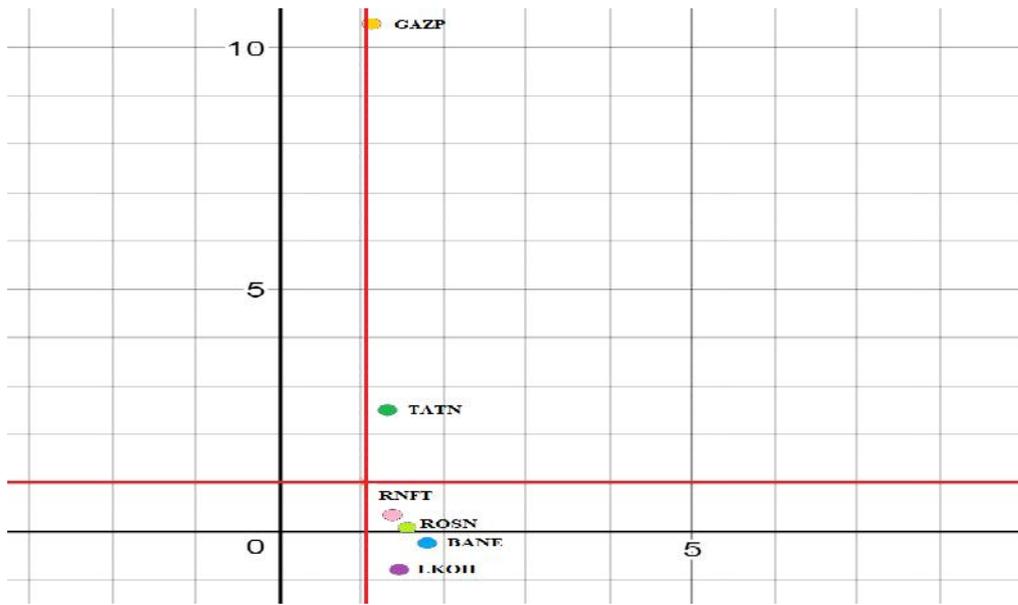
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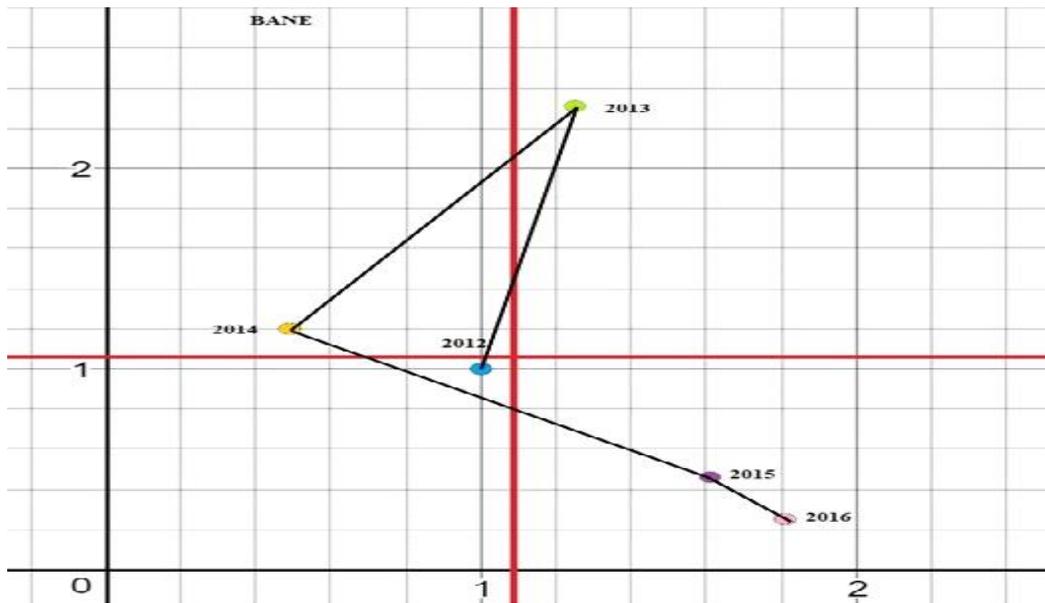
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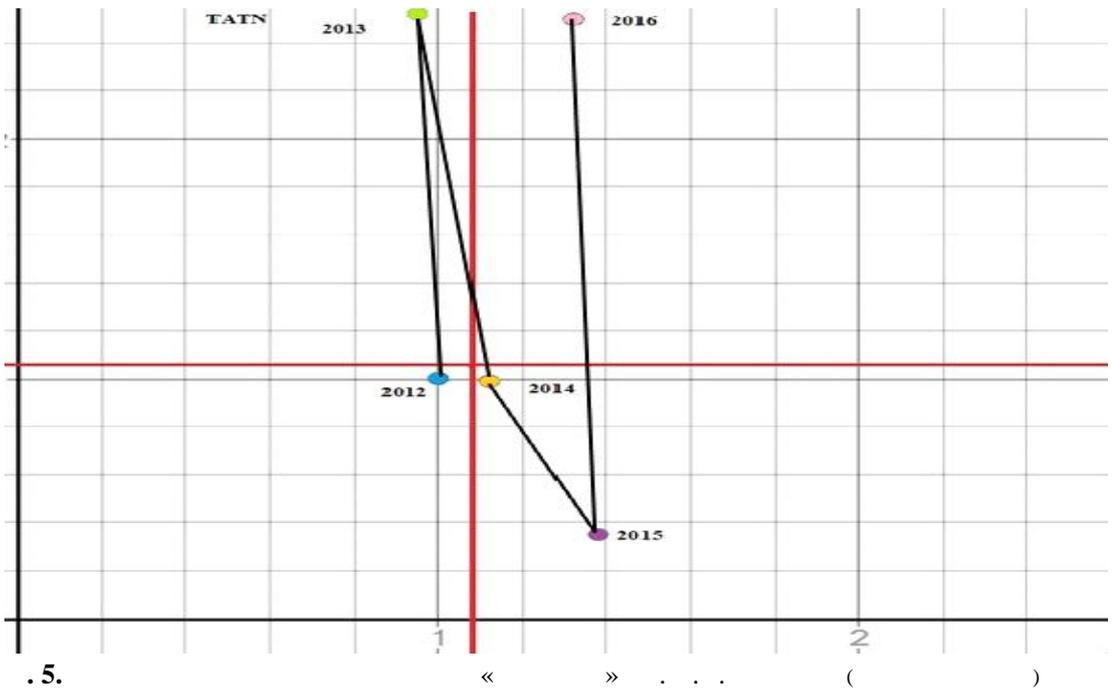


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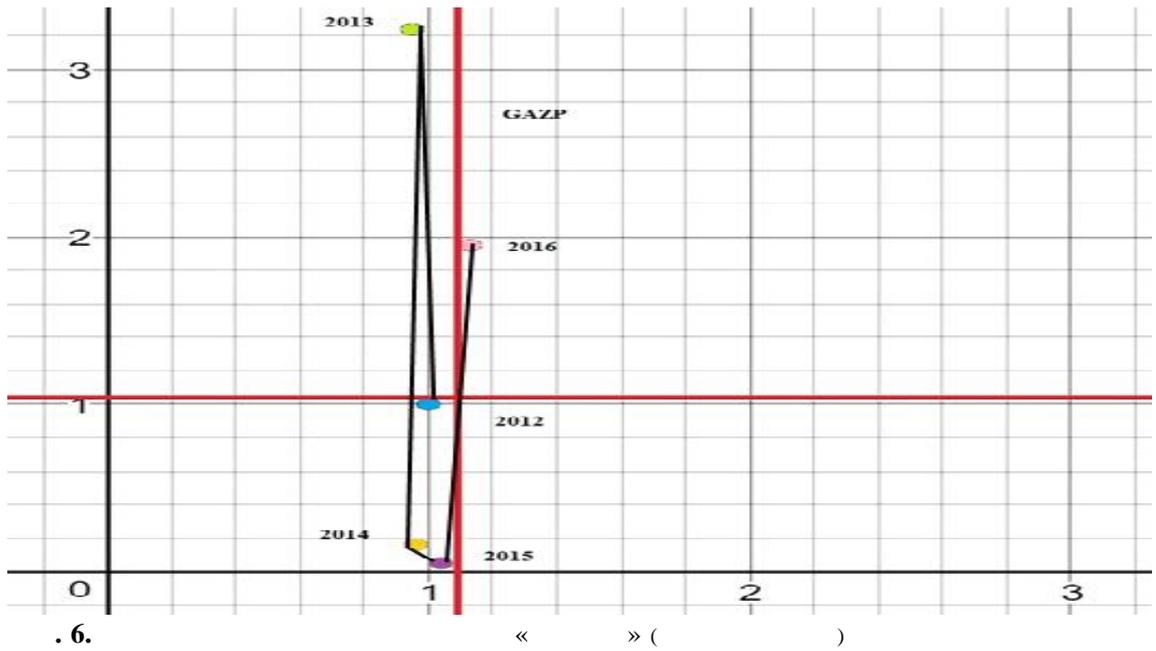
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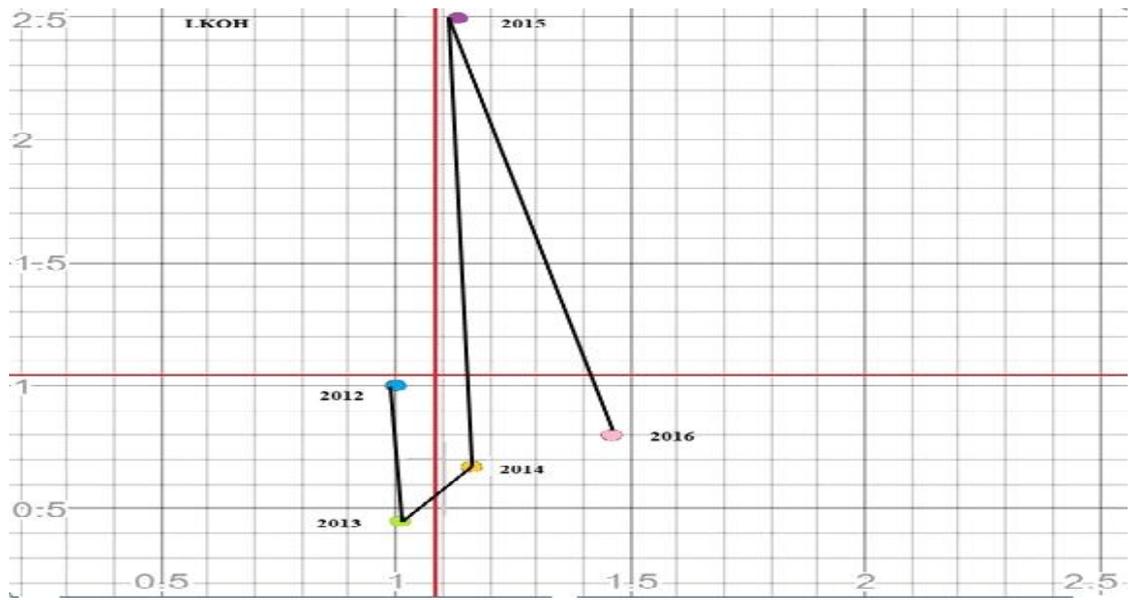
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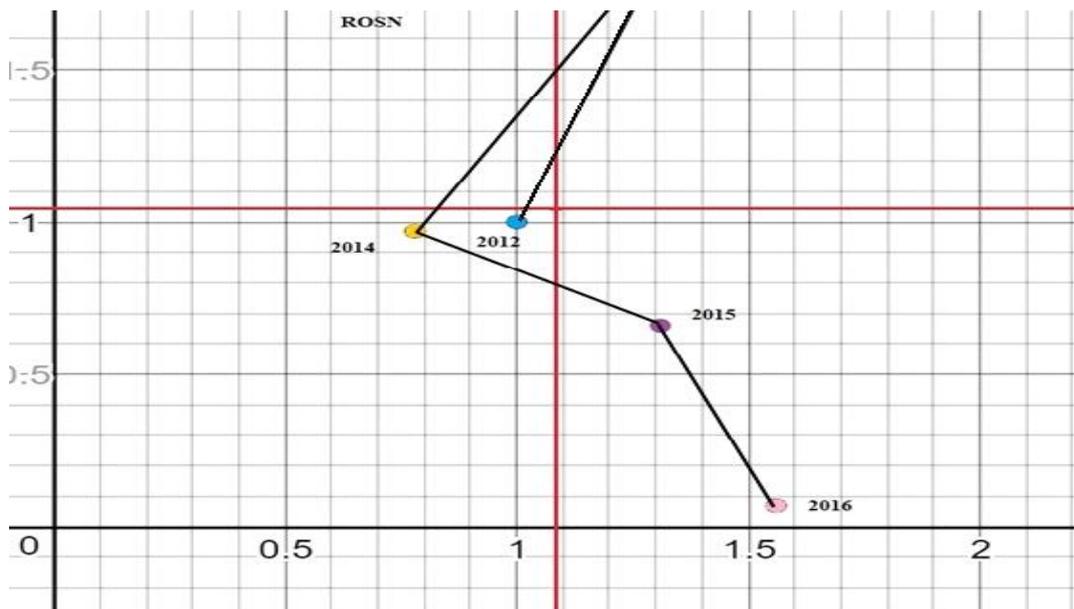
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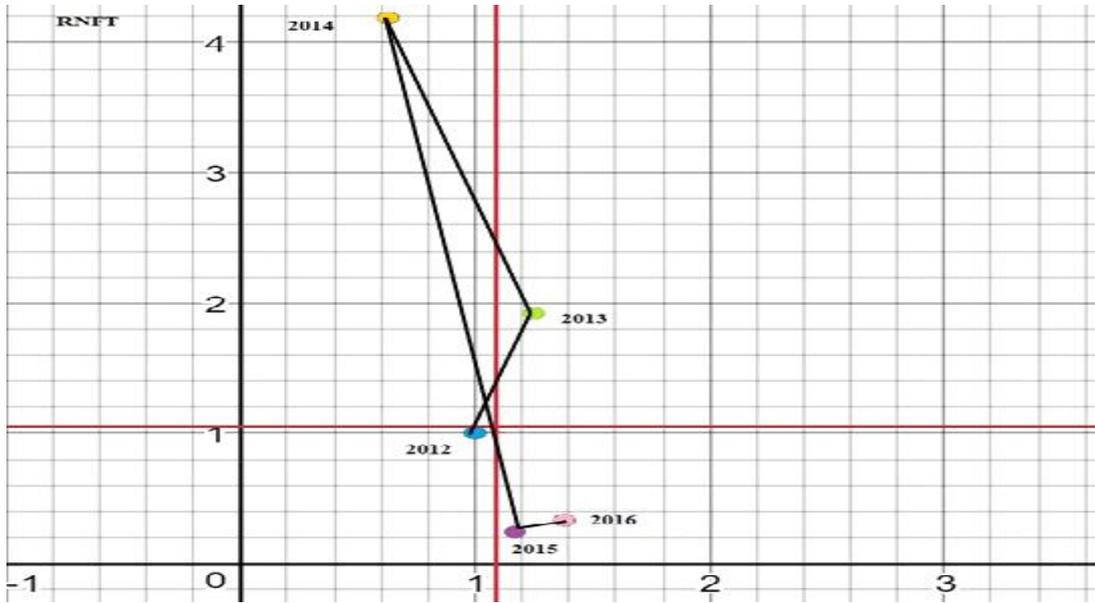
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2013–2016 . \*

	2013	2014	2015	2016
1	ROSN	TATN	LKOH	GAZP
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3	RNFT	RNFT	BANE	RNFT
4	GAZP	BANE	TATN	ROSN
5	TATN	ROSN	RNFT	BANE
6	LKOH	GAZP	GAZP	LKOH

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(ROIC)

(WACC).

[3].

$$SGI = g_s \times \frac{1}{k} \times \sum_{t=1}^k \max[0, (ROCE_t - WACC_t)], \quad (4)$$

$g_s$  — ;  $k$  — ;  $1$  — ;  $ROCE_t$  (return on capital employed) ;  $WACC_t$  (weighted average cost of capital) —

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$\frac{1}{k}$

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	« »	« »	« »	« »	« »	« »
EBIT	39 392 334	130 112 948	511 688 316	131 381 209	-273 732 658	8 907 793
IC	364 041 860	649 779 115	12 675 064 206	1 620 413 246	7 615 390 629	144 869 047
RO	0,279	0,338	0,043	0,146	0,069	-1,405
RR	1,014	0,333	0,508	6,919	0,492	-0,698
ROCE	0,087	0,160	0,032	0,065	-0,029	0,049
g	0,283	0,112	0,022	1,008	0,034	0,980

\*

[6]

7.

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WACC	
« »	16,58%
« » . . .	27,75%
« »	19,03%
« »	18,42%
« »	12,48%
« »	12,41%

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g	0,283	0,112	0,022	1,008	0,034	0,980
l	1	1	1	1	1	1
k	5	5	5	5	5	5
ROCE	9%	16%	3%	6%	-3%	5%
WACC	17%	28%	19%	18%	12%	12%
SGI	-0,0045	-0,0026	-0,0007	-0,0241	-0,0010	-0,0147

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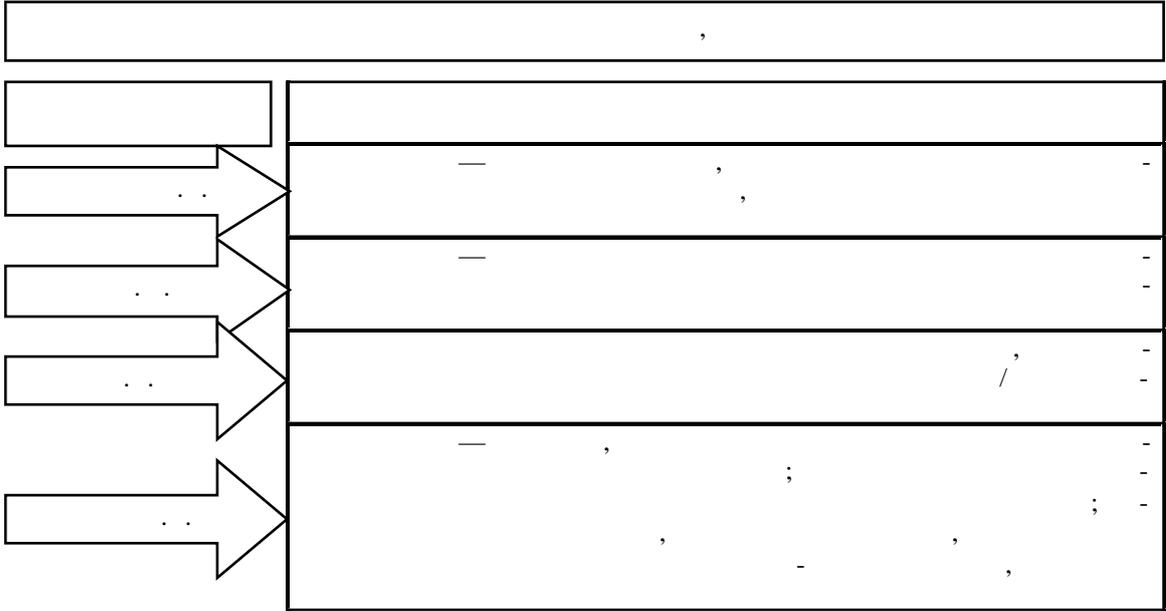
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V.I.Vernadsky Crimean Federal University,  
Simferopol.

## REVISITING THE ESSENCE OF FINANCIAL DIAGNOSTICS

The imperfection of modern formulations revealing the essential characteristics of financial diagnostics, the diversity of its interpretations causes the need for further research and refinement of this concept. The article deals with various approaches of scientists to disclosing the essence of financial diagnostics, its types and role in the research process. The emphasis is made on financial diagnostics of the enterprise, in particular, diagnostics of its financial condition. The article presents main approaches in determining the essence of financial diagnostics, the absence of clear boundaries between these approaches, the contradictory judgments of authors concerning the nature and place of financial diagnostics in the system of economic sciences. The author reveals the close connection of financial analysis and financial diagnostics, the essence of financial diagnostics in a narrow and broad sense. In a narrow sense, financial diagnostics should be understood as the process of assessing the financial condition of an organization. The purpose of it is to identify deviations from the target condition of the research object, the reasons for these deviations, and the formulation of the conclusion (diagnosis). In a broad sense, financial diagnostics is an integral element (stage) of the process of research and management of the financial condition and financial performance results of an enterprise, each stage of which is closely linked to analysis.

*Keywords:* financial diagnostics, financial analysis, types of financial diagnostics, theoretical and methodological approach.





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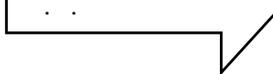
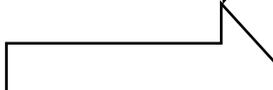
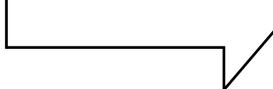
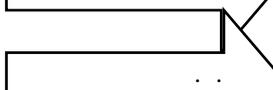
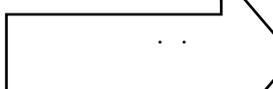
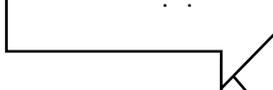
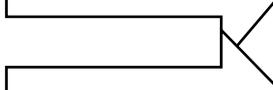
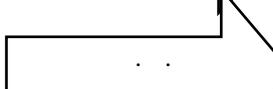
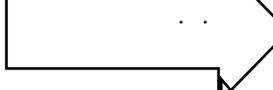
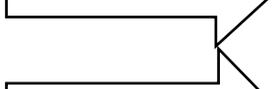
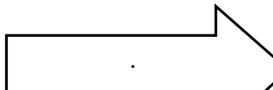


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336.2:657

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## **FEATURES OF TAX ACCOUNTING AND CONTROL OF THE ACTIVITIES OF THE FREE ECONOMIC ZONE OF THE CRIMEAN REPUBLIC PARTICIPANTS**

The features of the normative-legal regulation of the issues of activity of residents that entered to the free economic zone and that carry out entrepreneurial activity on the territory of the Crimean Republic are considered.

The main provisions of normative-legal acts that determine the requirements for residents of free-economic and customs zones are analyzed and the peculiarities of their taxation.

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The problems related to the responsibility of the participants of the free economic zone were raised.

The main reasons and conditions under which residents may lose tax preferences are highlighted, and to lose the permission to be members of the free economic zone of the Crimean Republic.

The article reveals the criteria and restrictions for the participants of the free economic zone, and the requirements for tax accounting.

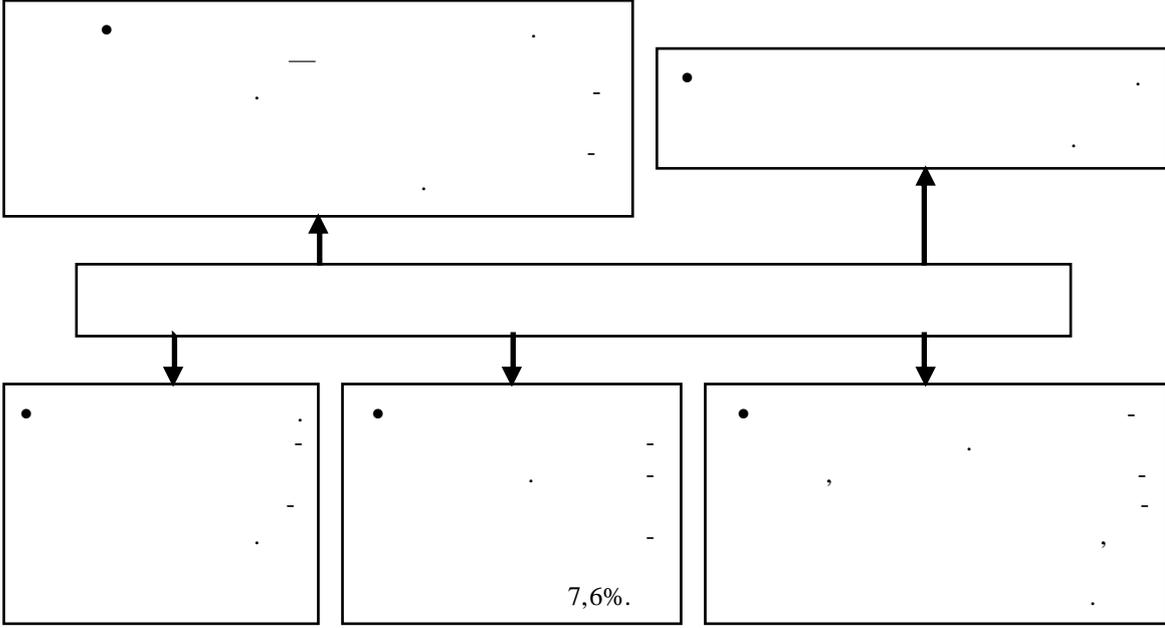
A scheme of getting subsidies by participants of free economic zone in part of reimbursement of their expenses is defined.

The features of resident's activity and their tax accounting in case of entering the free economic zone in the free customs zone are considered. The features of tariff and non-tariff regulation of residents transactions in the free economic zone during export-import transactions, and the application of benefits in transactions related to customs payments are revealed.

*Keywords:* free economic zone, tax accounting, control, investment, tax incentives, economic development, capital investments, customs-free area.

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## OPTIMIZATION METHODS OF COMPANY PROFIT TAX

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Any company strives to achieve the optimal amount of profit, including by reducing tax payments. Every time there is a question about tax optimization, illegal methods of paying taxes, the so-called «black» schemes, appear. Due to effective tax planning, there are several ways to optimize the payment of income tax is completely legal.

The profit tax is one of the most difficult and important taxes of the company. In order to discuss various possibilities for optimizing the corporate profit tax, you should know all the important points in calculating and paying this tax. When optimizing the profit tax, it is necessary to take into account the company's overall strategy, which is aimed at satisfying the interests of the founders of the company, both by maximizing the net profit and in other ways, by fully assessing the impact of the tax amount and the amount of net profit on the value of the financial performance indicators of the organization.

The article is devoted to the study of the most effective approaches to the optimization of profit tax. The place and value of the profit tax as a source of mobilization of state resources and as a regulator of social and economic relations is determined. The world practice of tax regulation has been studied and the possibility of their implementation into the domestic system of corporate profit taxation has been determined.

The relevance of the topic is determined by the interest of business owners in maximizing profits, as well as the state, which, in turn, tries to promote business development, since taxes account for more than 80% of the country's budget. Any state can

influence the functioning of the economy only by having at its disposal financial resources in the form of legislatively regulated taxes, which are often called the «payment for civilization».

*Keywords:* tax, tax regulation, optimization, profit taxation, profit tax rate, tax rate range, tax remissions, investment tax credit.

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	100,0	100,0	100,0	100,0	100,0
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	30,5	30,1	33,9	35,4	36,2
	2,6	3,2	4,7	5,6	5,9
	18,9	20,4	19,5	19,4	18,6
	43,8	42,1	37,2	35,0	34,5
	1,0	1,0	1,0	0,9	1,0

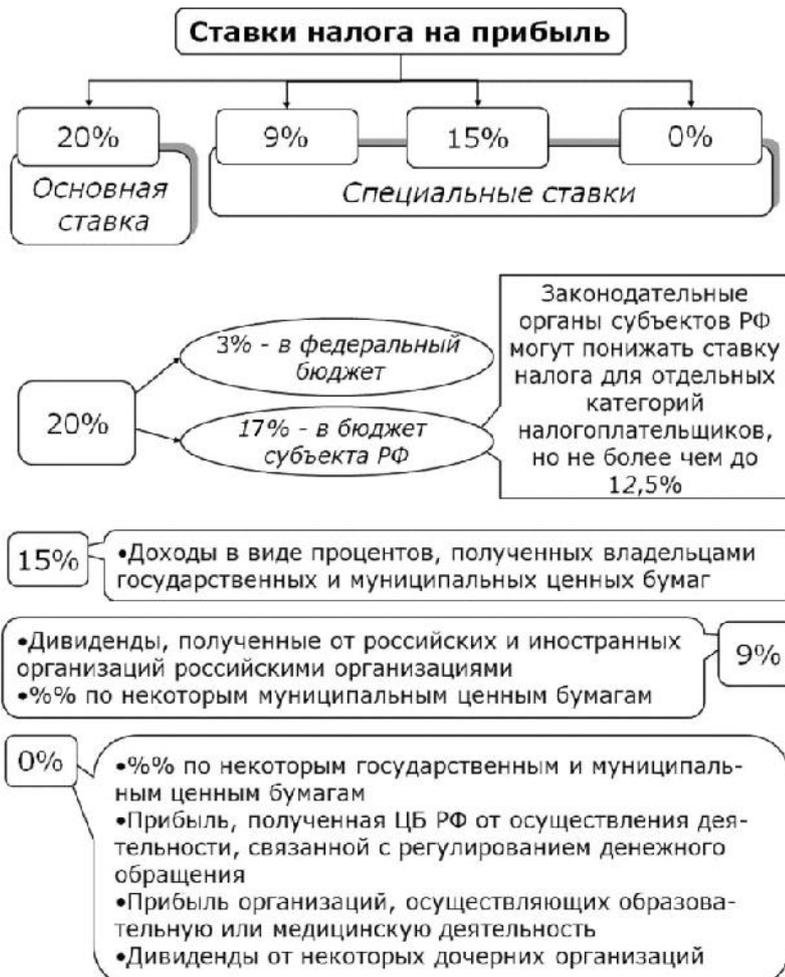
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## **ANALYSIS AND AUDIT OF FINANCIAL RESULTS INSURANCE COMPANIES OF RUSSIA**

The analysis of financial results of activity of insurance companies is carried out within implementation of the program of internal audit which differs from external audit in what is directed to identification of problems by forces of staff of the organization.

In article traditional economical and statistical methods of a research which have allowed to carry out the analysis of formation of financial results of the leading insurance organizations of the country were used and on a basis comparison to show advantages and shortcomings of financial and economic activity of insurers.

Considerable attention has been paid to disclosure of theoretical provisions of internal audit of insurance companies.

The carried-out analysis of income and profits of insurers has allowed to come to a conclusion that not everyone they to the same extent effectively form profit. It is revealed that many insurance companies don't estimate efficiency of insurance activity through comparison of various financial performance. For most insurance companies end in itself is growth of size of the collected insurance premiums. At the same time expenses on their attraction aren't considered. It is recommended to strengthen to all insurers a role of internal audit in increase in efficiency of formation of financial results.

*Keywords:* analysis, audit, income from insurance activity, financial results, profit.

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2	84773,2	105229,9	123216,0	123121,5	79773,8
3	66619,2	65774,5	73573,0	86629,3	79014,0
4	40704,2	47779,9	54008,1	62768,5	78842,0
5	30755,9	36631,0	47505,2	62096,4	72522,8

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2015	-562,5	22692,5	29409,6	9494,1	12406,4
2016	25598,3	18328,8	41527,0	12889,9	20309,6

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2	(0,199)	(0,261)	(0,291)
3	(0,113)	(0,239)	(0,212)
4	(0,069)	(0,176)	(0,208)
5	(0,000)	(-0,004)	(0,205)

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2015	-1481,0	13545,3	24717,8	4215,4	10799,0
2016	-20652,1	14650,4	35440,4	4992,4	17375,4
(- )					
2014	871,6	2105,3	13327,4	582,0	8474,4
2015	-1159,5	10370,2	19150,9	3368,7	8601,6
2016	-17814,4	14650,4	28908,6	3809,8	13902,0

\* [5-9]

« ».

2014 2016 : 17084,2

35440,4

« » 2

», 2,5 , « », 7 , «

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2014-2016 , ( .6).

6. 1 , \*

	2014 .	2015 .	2016 .
1	(0,299)	(0,197)	(0,206)
2	(0,086)	(0,120)	(0,145)
3	(0,061)	(0,112)	(0,107)
4	(0,027)	(0,079)	(0,075)
5	(0,012)	(-0,009)	(-0,151)

\* [5-9]

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2014 « », 2015-2016 —

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2015–2016 « »,

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1. : / . — : , 2016. — 320 .

2. / . // : . — 2018. — . 11. — 1 (343). — . 21–31.

3. : // . — 2017. — 4 (28). — . 65–68. /

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## OPTIMIZATION OF CAPITAL STRUCTURE OF INSURANCE ORGANIZATIONS

The modern development of the economy of the Russian Federation necessitates the further development of the insurance market. An indicator that affects the performance of insurance companies is the rational structure of the formed capital. The article substantiates the need for the formation of a new mechanism for managing the capital structure, which will be aimed at improving the financial stability and solvency of the insurer. The authors propose to use knowledge-intensive approaches and methods. The impact of international financial and economic sanctions on the activities of insurance organizations has made certain adjustments to scientific conclusions and proposals for optimizing the capital of insurance organizations. To create a model for optimizing the capital structure, methods of modern mathematical and financial science were used that allow insurers to effectively manage the policy of formation and use of capital in their activities. To solve the set goal of scientific research, an algorithm was developed that includes step-by-step recommendations on the formation of a rational capital structure and the rationale for their application in the real situation of the insurance business. The final stage of the fundamental research was the development, justification and presentation of the model of the process of formation of the initial capital of an insurance organization, taking into account the specifics of the organization of its financial activities. This model can serve as a rule in the practice of managing the formation of the insurer's capital in order to improve its financial stability, investment attractiveness and business reputation.

*Keywords:* capital, capital structure, insurance organization, model.

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.. [2], .. [3, 4], .. [5], .. [6], .. [7], .. [1],

.. [9].

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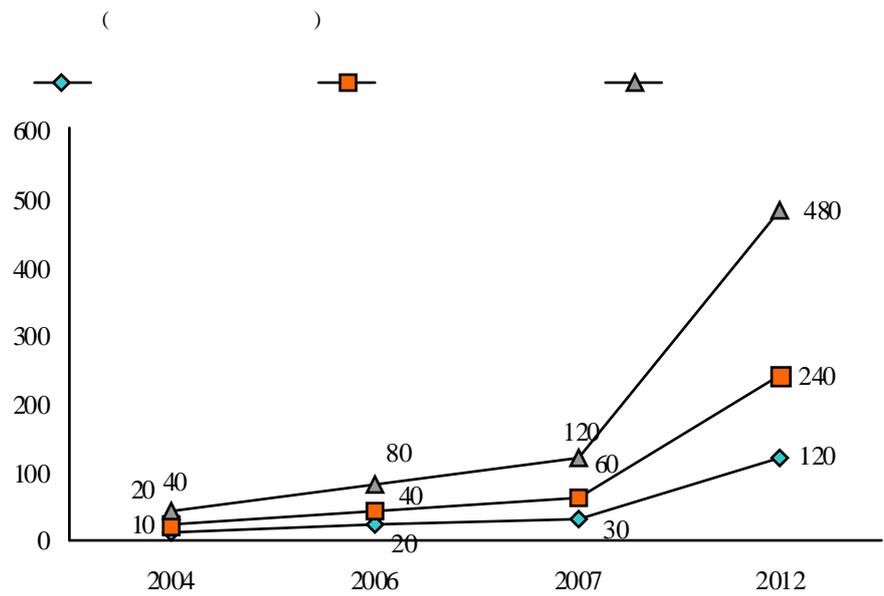
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» [10, . 166],



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- : , . [10, .166].
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- ;

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	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
	156,5	158,7	150,7	185,1	177,9	198,6	224,1	217,0	204,3	228,3
	849	777	693	600	514	436	409	395	360	297

\*

[11]

2.

\*

	(0,15-0,5)	(>0,3)	(<0,25)	(>0,8)	(>0,5)	(>0,8)	(0,05-0,7)
	> 0,5	> 0,5	< 0,1	> 1	> 0,6	> 0,8	0,5-0,7
	0,2-0,5	0,3-0,5	0,1-0,25	0,8-1	0,5-0,6	0,6-0,8	0,1-0,5
	0,1-0,15	0,25-0,3	0,25-0,3	0,6-0,8	0,4-0,5	0,5-0,6	0,05-0,1
	0,05-0,1	0,1-0,25	0,3-0,5	0,2-0,6	0,3-0,4	0,3-0,5	0,01-0,05
	< 0,05	< 0,25	> 0,5	< 0,2	< 0,3	< 0,3	< 0,01

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( . 3).

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100 %,



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$$C_i = \sum_{i=1}^n i, \quad (2)$$

$$(n) = \sum_{i=1}^n i \times i, \quad (3)$$

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## **ASSESSMENT OF THE CONDITION OF THE BANKING SYSTEM OF RUSSIA**

The banking system of the country is a basis of stable and effective development of all economy and the social sphere. In this regard evaluating a condition of a banking system are important for the general understanding of a financial and economic situation and establishment of regularities of functioning and development of the banking sector in the conditions of modern national economy.

In article traditional scientific methods and receptions of a research were used that has allowed to show the existing tendencies and to reveal the formed new regularities of development of bank activity.

In the course of the research factors which influence functioning of a banking system have been opened, the characteristic is given them. For assessment of a condition of a banking system indicators which more characterize a condition of a banking system have been selected. By the analysis of these indicators assessment of a condition of a banking system of the country has been executed. It is established that the banking system of Russia even in the conditions of economic downturn continued to develop and become stronger. It is confirmed by reduction of number of weak financially unstable banks, growth of money supply in the address, increase in parameters of monetization of economy, concentration and centralization of banking capital and deposits of

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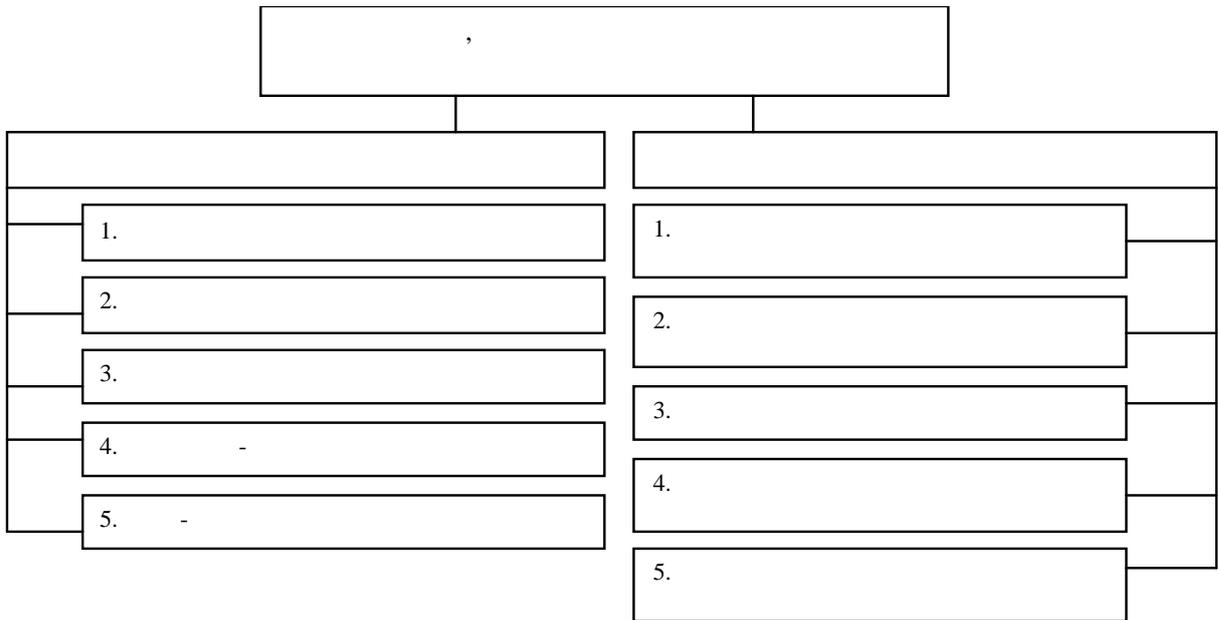
natural persons, growth of volumes of the attracted resources at the expense of deposits of individuals and the organizations of the non-financial sector, noticeable increase in volumes of crediting of economy.

At the same time, the banking system of the country hasn't realized the internal potential yet that finds reflection in discrepancy her financial opportunities and the need of real economy for crediting. Credit rates for the managing subjects are for the present rather high that doesn't give the chance actively to develop the new directions of economy, to realize the import substitution program.

*Keywords:* banks, banking system, money, bank resources, credit resources.

[1], [2], [3, 4, 5, 22], [6], [7], [8], [9], [10], [11], [12], [13], [14], [15], [16], [17], [18], [19], [20], [21], [22], [23]

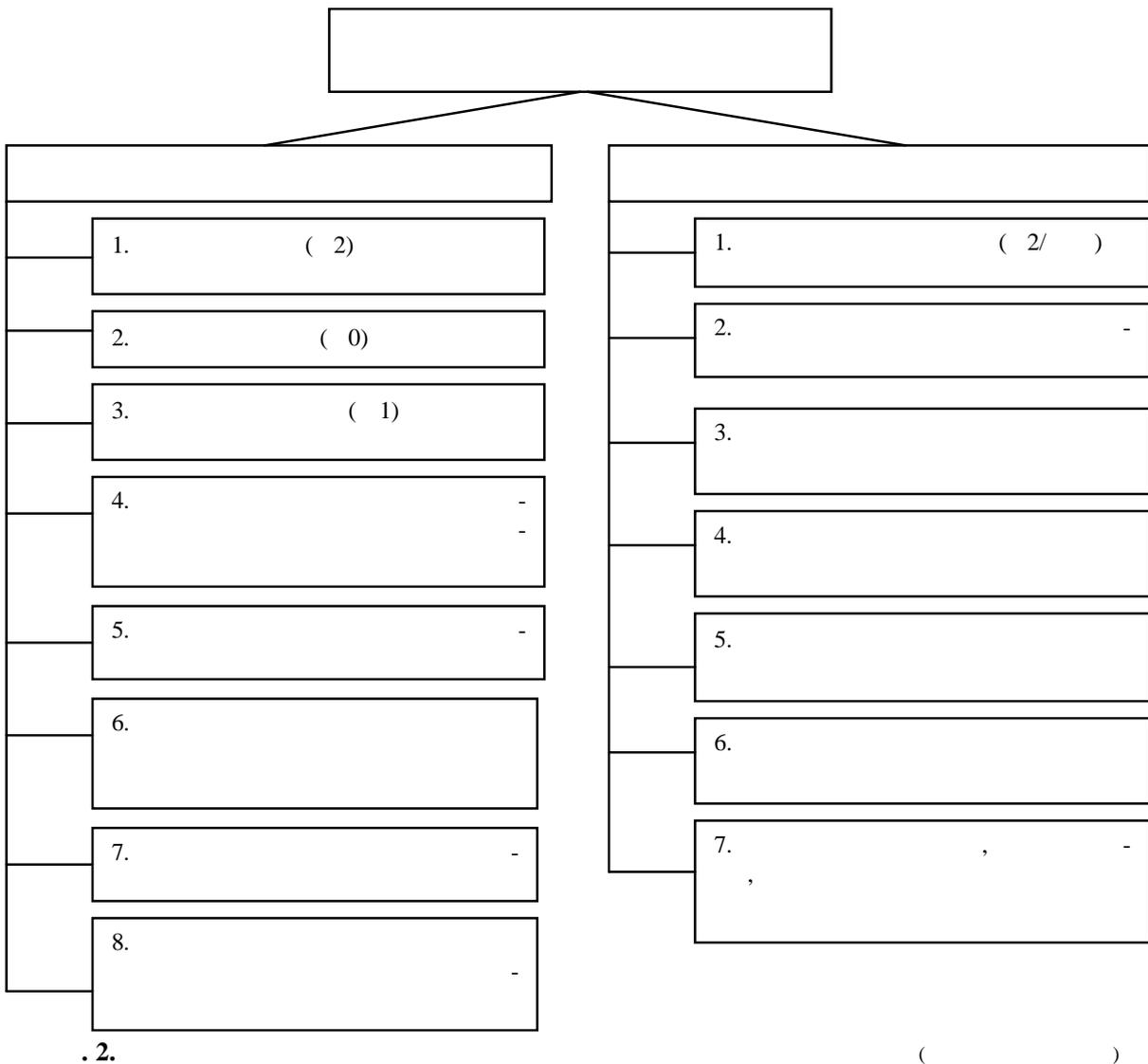
( .1).



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1. ( )\*

	2014	2015	2016	2017
	79199,4	83387,2	85917,8	92081,9
%	100,0	105,3	103,0	107,2
2011	64071,8	62445,4	62333,9	—
%	100,0	97,5	99,8	—
2016	—	—	85917,8	87247,6
%	—	—	100	101,5

\* [16]

2. \*

	2014	2015	2016	2017	2017 . 2014 . %
( 2), .	31615,8	35179,7	38418,0	42442,1	34,24
( 0), .	7171,5	7239,1	7714,8	8446,0	17,77
( 1), .	24444,3	27940,6	30703,2	33996,1	39,08

\* [17]

3.

\*

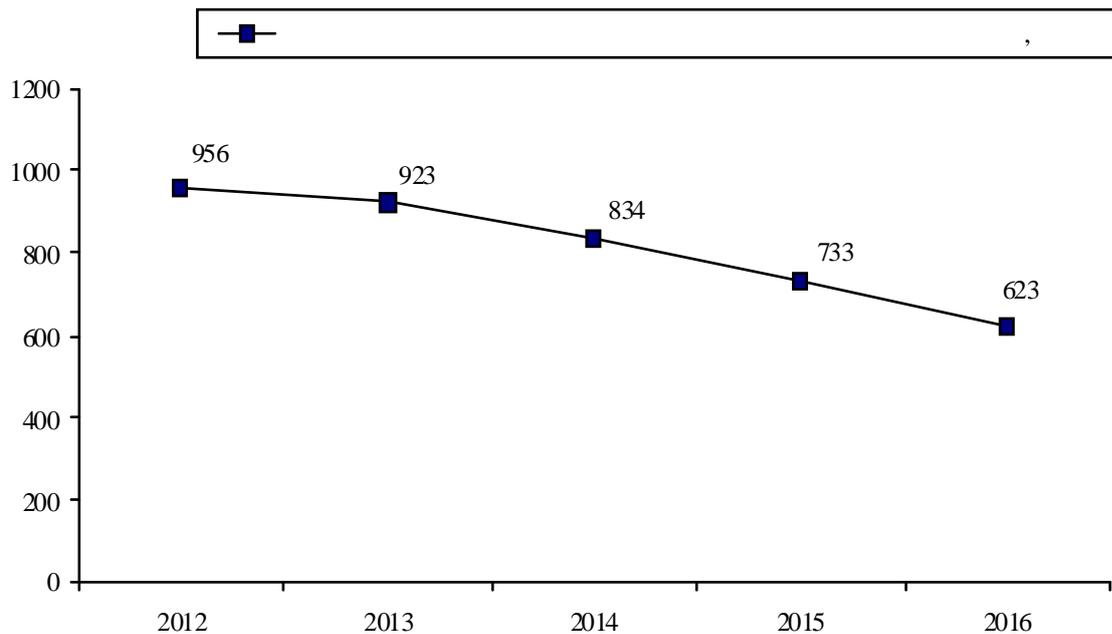
	2014	2015	2016	2017	2017 2014 . %
( 2), .	31615,8	35179,7	38418,0	42442,1	34,24
.	79199,4	83387,2	85917,8	92081,9	16,27
( 2/ )	0,399	0,422	0,447	0,461	15,54

\* [16, 17]

2016  
623

110

( . 3).



. 3.  
[17])

2012  
333

34,8 %  
1/3.

2016  
312 (

98,7 %

) ( . 4).

337

2012  
2014

100

13

2016

1  
460

609,  
55,2 %  
293,

63,7 %

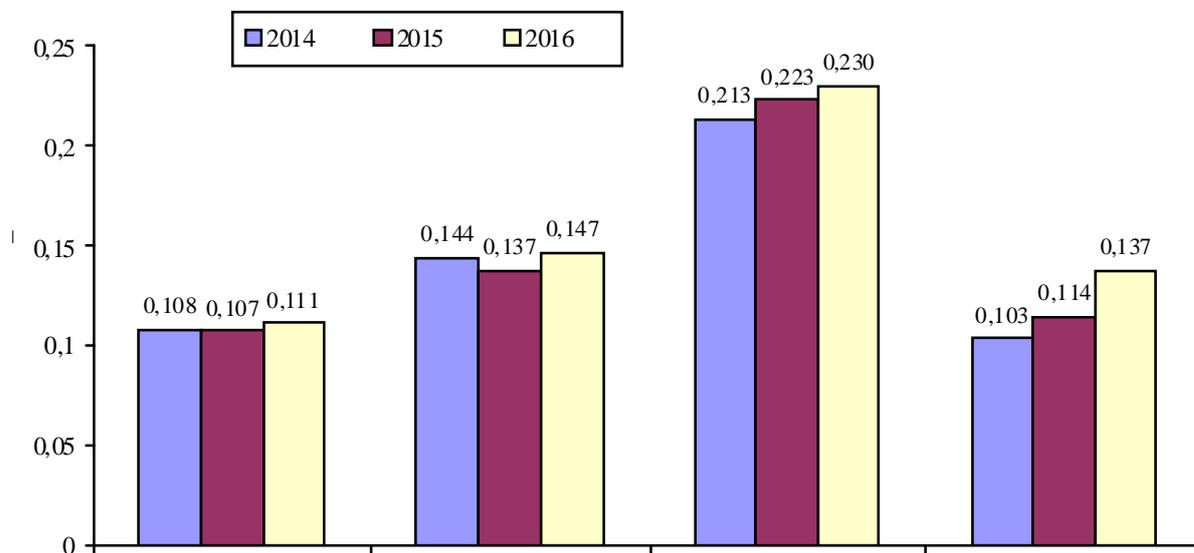
47 %

4. ( )\*

	2012	2013	2014	2015	2016
	0	2	4	20	18
0 300	301	237	56	50	46
300 1	308	316	404	326	247
1 10	274	285	284	251	229
10 25	42	48	44	40	40
25 50	14	16	21	23	22
50 100	8	9	8	10	8
100 250	5	6	6	7	6
250	3	3	6	6	7
	956	923	834	733	623

\* [17]

13 2016  
 8, 0,8 % 2014 12, 1,4 %  
 2016 13, 2,1 %  
 « ( — ), » [17].  
 .4.



.4. ( [17])

( .5).

5.

\*

	2012	2013	2014	2015	2016
	0,213	0,227	0,213	0,223	0,230
, %	45,7	46,7	45,0	46,0	46,6
, %	58,3	60,5	59,9	62,0	63,2

\* [17]

63 %

6.

( )  
( )\*

	2013	2014	2015	2016
	16957,5	18552,7	23219,1	24200,3
%	100	109,4	136,9	142,7
%	100	109,4	125,2	104,2

\* [17]

42,7 %.

2015 25,2 % 2014

( )

( .7).  
2013

( )

( )

82 %.

17,4 %.

2014

2014

26,1 %, 2015 — 29,4 %.

64

7. ( ) ( )\*

	2013	2014	2015	2016
	16957,5	18552,7	23219,1	24200,3
•	14000,6	13706,6	16398,2	18476,7
, %	82,6	73,9	70,6	76,3
•	2956,9	4846,1	6820,9	5723,6
, %	17,4	26,1	29,4	23,7

\* [17]

2013— 2014  
1 : 32–33 . 65–70 1 : 75–85  
2016 ( )  
2016  
2014 , , 2016 , 2013  
2015 , 1097,1 ( )  
( . 8).

8. ( )\*

	2013	2014	2015	2016
	10838,3	17007,9	19018,2	16385,2
%	100	156,9	175,5	151,2
%	100	156,9	111,8	86,2

\* [17]

2013 2015  
2016  
2013 2015  
2633,0 , 13,8 % 2015 75,5 %  
2015 , 2016  
65

2016 ,

( .9).

9.

( .)\*

	2013	2014	2015	2016
	10838,3	17007,9	19018,2	16385,2
•	6371,5	8471,8	8522,2	8529,4
, %	58,8	49,8	44,8	52,1
•	4466,8	8536,1	10496,0	7855,7
, %	41,2	50,2	55,2	47,9

\* [17]

2013 33,9 %, 2157,9 6371,5 2016 — 8529,4

2016 25,2 %, 2640,3 6029,2 2013 2015 135,0 %.

7855,7

2015

2014–2015

2013

— 41,2 %. 2014

58,8 %, 49,8 % 50,2 %. 2015

44,8 %,

55,2 %. 2016

52,1 %,

— 47,9 %.

2016

( .10).

2013–2015

2016

10.

\*

	2013	2014	2015	2016
	16957,5	18552,7	23219,1	24200,2
	10838,0	17007,9	19018,2	16385,2
	27795,5	35560,6	42237,3	40585,4

\* [17]

( . 11).

**11.**

( . ) \*

	2013	2014	2015	2016
	29836,7	34888,5	35176,5	37800,2
	8931,2	14181,0	19086,5	15015,8
	38767,9	49069,5	54263,0	52816,0

\* [17]

7963,5 2013–2016  
26,7 %  
2013 2015  
2,1 10155,3 2016

( . 12).

**12.**

( . ) \*

	2013	2014	2015	2016
	27795,5	35560,6	42237,3	40585,4
	38767,9	49069,5	54263,0	52816,0
(+/-)	-10972,4	-13508,9	-12025,7	-12230,6

\* [17]

2013 10972,4 2014 — 13508,9  
2015 — 12025,7 2016 — 12230,6

( .13).

13.

( .)\*

	2013	2014	2015	2016
	73133,9	79199,4	83387,2	85917,8
-	27795,5	35560,6	42237,3	40585,4
-	38767,9	49069,5	54263,0	52816,0
-	2,63	2,23	1,97	2,12
-	1,89	1,61	1,54	1,63

\* [17]

2013 2015

2014-2015

2016

2017

2016

28 30 %

2016

6 3 %

2 %: 32,6 30,4 %.

(

6,9 %  
13,5 9,9

13

2012 2016

12, 1,4 %

8, 0,8 %

13, 2,1 %

1. 2015. — 9. — .12–15.
2. 6. — .10–12.
3. — 4. : « », 2008. — 200 .
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12 2018

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## **PECULIARITIES OF CRYPTOCURRENCY EMISSION IN THE CONDITIONS OF INTELLECTUALIZATION OF THE ECONOMY**

The article is devoted to the peculiarities of crypto currency emission in the context of intellectualization of the economy. The relevance of this article is due to the process of accelerated development of the crypto-currency market, the need for scientific reflection on these processes, and the instruction of the President of the Russian Federation to develop legal bases for the legalization of crypto-currency in the country.

The author sets as his goal on the basis of a generalization of available data to determine the features of the issuance of crypto-currency in the context of intellectualization of the economy.

The methodical basis of the research is a systematic approach to the problem under study, which is based on applying multi-level comparison methods, graphical visualization and mathematical data analysis. Based on the study of the initial data, the specifics of the emission of crypto-currency in the conditions of intellectualization of the economy were determined.

It is established that the specific features of cryptoemission, the maximum decentralization of cryptoemission, a lot of subjects of cryptoemission, the absence of legislative limitations of cryptoemission, the variable profitability of cryptoemission, the confidential nature of cryptoemission, are among the features of the issuance of crypto-currency in the context of intellectualization of the economy; the inevitability of the cryptoemission deflation, the investment basis of the volume of crypto emission.

*Keywords:* cryptoemission, crypto-currency, economy.

[8].

( . 1).



1.

\*


\* [1, 4, 5]

peer-to-peer,

2-3 % ( . 2).

2.

\*

2016	3 424 971 237	46,1%	7 432 663 275
2015	3 185 996 155	43,4%	7 349 472 099
2014	2 956 385 569	40,7%	7 265 785 946
2013	2 728 428 107	38%	7 181 715 139
2012	2 494 736 248	35,1%	7 097 500 453
2011	2 231 957 359	31,8%	7 013 427 052
2010	2 023 202 974	29,2%	6 929 725 043
2009	1 766 403 814	25,8%	6 846 479 521

\* [3]

- [6]:
- 1) ICO (Initial Coin Offering) IPO ;
  - 2) — ;
  - 3) — .

(R<sub>M</sub>):

$$R_M = \frac{(P_C - C_M)}{C_M} \times 100\% = \left(\frac{P_C}{C_M} - 1\right) \times 100\%, \quad (1)$$

P<sub>C</sub> — ; C<sub>M</sub> —

$$M(R_M) = \sum_{i=1}^n p_i \left( \frac{P_{Ci}}{C_M} - 1 \right) \times 100\% = \left( \frac{1}{C_M} \sum_{i=1}^n P_{Ci} \times p_i - 1 \right) \times 100\% \quad (2)$$

3. 2017 . \*

	01.01.2017	15.10.2017	, %
Bitcoin	958	4411,12	360,45
Ethereum	8,38	297,35	3448,33
Ripple	0,006517	0, 203521	3022,98
Bitcoin Cash	555	416,28	- 24,99
Litecoin	4,40	53,91	1125,23
DASH	11,20	317,98	2739,11
NEM	0,003434	0,232877	6681,51
IOTA	0,638503	0,588032	- 7,90
Neo	0,181483	36,24	19868,81
Monero	13,7	92,06	571,97

\* [1]

(Neo, NEM).

, IOTA Bitcoin Cash.

( . 4).

4. 2017 \*

	ETH	XPR	LTC	BTC	DASH	XMR	STEEM	BTC
ETH	1,00	0,78	0,73	0,82	DASH	1,00	0,65	0,61
XPR	—	1,00	0,79	0,79	XMR	—	1,00	-0,48
LTC	—	—	1,00	0,57	STEEM	—	—	1,00
BTC	—	—	—	1,00	BTC	—	—	—

\* [7]

(3):

$$M(R_M) = \sum_{j=1}^m M_j(R_M) \times k_j \quad (3)$$

$M_j(R_M)$  — j- , ;  $k_j$  — j- , %; m —

$$k_j = \frac{C_M^j}{C_M} \quad (4)$$

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6 2018

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657.9 : [338.45 : 69]

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## **TECHNIQUE OF THE SYSTEM ANALYSIS OF INVESTMENT AND BUSINESS ACTIVITY IN MANAGEMENT OF REAL ESTATE DEVELOPMENT COMPANIES**

As shows foreign and Russian experience, investing activities in the conditions of the market relations are relevant and effective for receipt of an additional profit, expansion of business and satisfaction of interests and needs of owners.

Authors consider that in case of implementation of the concept of the system analysis of accounting (financial) records the investment analysis shall be based on indicators of forms of account, first of all. In this regard the main goal of the complex system analysis consists in refining and determination of system of indicators and techniques of assessment of investment and business activity of all subjects of economy on the basis of accounting (financial) records. The technique of the system analysis shall consider dynamics, a condition and the prospects of investments, including in case of development of business plans and investment policy.

In article use of the coefficient analysis is proved. Coefficients have industry specifics therefore they have no optimum recommended values. Their determination is possible within this or that industry or a field of activity of the organization. In this regard it is reasonable to perform the comparative analysis of business activity of the organizations within one type of activity.

*Keywords:* system analysis, business activity, investment activity, investment soundness, investment financing, accounting (financial) records.

« [1, 2, 3, 4]. » [2]. [2, 4, 7, 9, 10, 12]. ( ) ( ) ; [7]. ( .1). [9]. [12].

1.

\*

			%		(+, -)	
	11	—	0,01	—	-11	-0,01
	2116	3108	1,98	1,98	992	0
	104765	153303	97,90	97,89	48538	-0,01
	—	—	—	—	—	—
	—	—	—	—	—	—
	—	—	—	—	—	—
	117	195	0,11	0,13	78	0,02
	107009	156606	100	100	49597	0

\*

50 %

[11].

(1)

[5].

2.

2.

\*

				(+, -)
	$\frac{1}{(-)}$	0,082	0,053	-0,029
-	$\frac{(+ +)}{/}$	0,826	0,927	0,101
	$\frac{1}{/}$	1,021	0,993	-0,028
-	$\frac{1}{(+)}$	0,979	1,007	0,028
-	$\frac{1}{/}$	0,00012	0,00011	-0,00001

\*

---

0,029,

90 %

0,101, 10,1 %.

) [13].

1,

( .3).

[6].

[8].

( .4).

80

3.

\*

(Net Present Value — NPV)	$PV = \sum_{n=1}^n \frac{P_n}{(1+r)^n},$ $NPV = \sum_{n=1}^n \frac{P_n}{(1+r)^n} - IC,$ <p>PV – ;  Pn – n ;  r – ;  IC – ;  NPV</p> <p>NPV &gt; 0,</p>
( ) (Internal Rate of Return — IRR)	$IRR = r,$ $IRR = f(r) = 0.$ IRR
(Modified International Rate of Return — MIRR)	MIRR —
(Profitability — PI)	$PI = \sum_{n=1}^n \frac{P_n}{(1+r)^n} / IC,$ <p>PI —</p> <p>PI &gt; 1,</p>
(Payback Period — PP)	$PP = \min n,$ $\sum_{n=1}^n P_n > IC.$ PP
(Accounting Rate of Return — ARR)	$ARR = \frac{PN}{IC} \times 100\%,$ PN – ; IC – ; ARR

\*

4.

( )\*

				(+,-)
	/	1,41	1,16	-0,25
	/	11,28	15,06	3,78
	/	3,92	4,51	0,59
	/	11,24	1,56	-9,68
	/	3,76	4,24	0,48
	/	4,77	6,69	1,92
	/	43,69	46,81	3,12
	/	8,52	17,45	8,93
	/	12930,06	14,57	-12915,49

;

\*

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**THE ROLE OF SOCIAL-PSYCHOLOGICAL CONFLICT IN THE FINANCIAL AND  
ECONOMIC SAFETY OF ENTERPRISES**

The article presents the study of the role of the socio-psychological conflict in the financial and economic security of the enterprise. The methodological basis of the study is the economic and statistical methods of analysis, the institutional approach and regulatory documents in the field of financial and economic security of the enterprise.

The foundation of effective activity of any enterprise is a united and competitive labor collective, an integral condition for the formation of which is the favorable social and psychological environment within the collective. There is no society where there are no contradictions, no conflicts, and there is no society that does not have a certain level of security. Financial and economic security is determined by the conflict potential. With a low level of conflict in society, a higher level of security, other things being

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equal, and under the same conditions, the system can adequately neutralize external threats in which the socio-economic conflict is the confrontation of economic actors, the opposition of their values and socio-economic interests.

*Keywords:* conflict, financial and economic security, institutionalization, institution, organization.

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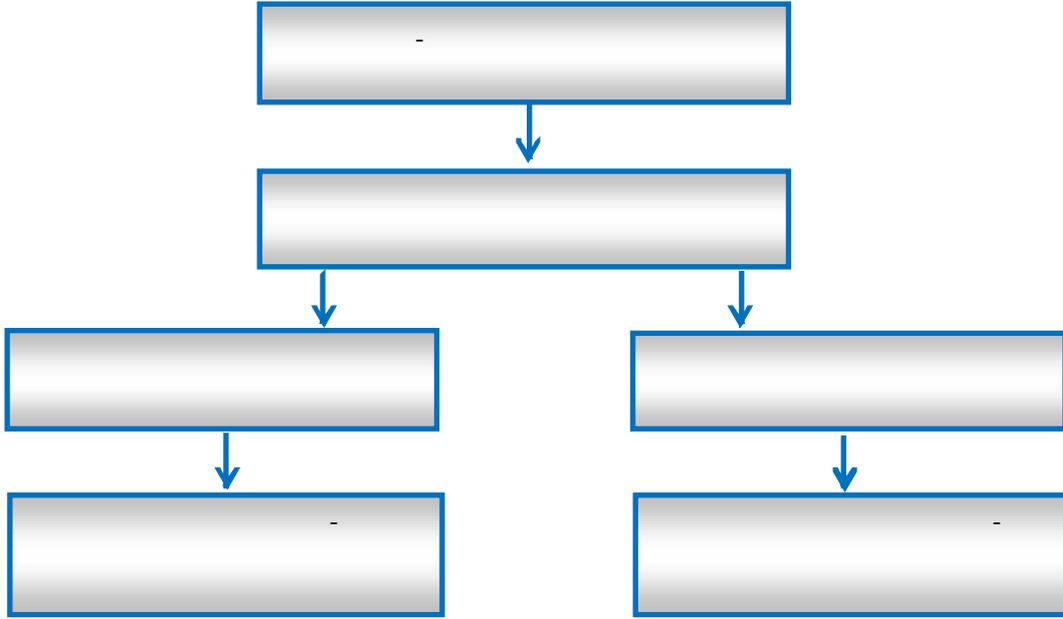
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## **OPTIMIZATION OF MANAGEMENT OF HIGHER EDUCATIONAL INSTITUTIONS AS A BASIS OF COMPETITIVENESS**

In the article the problems of management of higher educational institutions are revealed, negative tendencies are indicated, which testify to the need to reform the education. The authors consider the conditions (external and internal environment) that require close attention when optimizing the management of a higher educational institution. The problematic aspect in the context of optimization is the construction of an optimal organizational structure. In the course of the study, the main directions for the analysis of the current management system were identified. The foreign experience of implementing the administrative policy by higher educational institutions is considered. On the basis of the analysis, a number of strategic and tactical tasks have been singled out, the solution of which will contribute to improving the efficiency of the management of domestic higher education institutions.

*Keywords:* management optimization, structural reorganization, higher education institution, organizational structure, professional competence, structural and management analysis, competitiveness, labor market.

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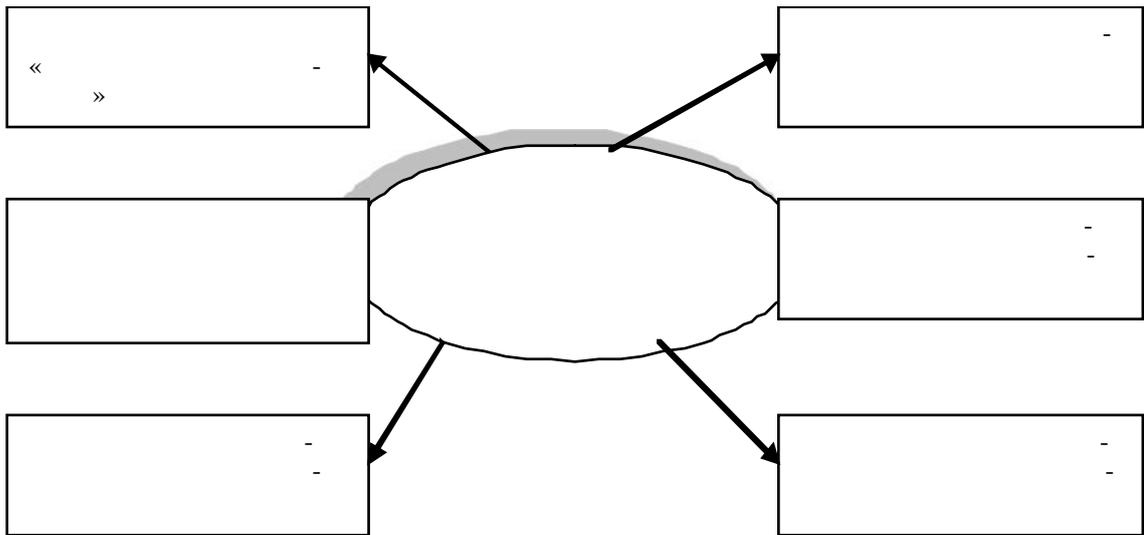
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## **DESIGNING THE FUNCTIONING OF COMPANIES OF INFORMATION AND TELECOMMUNICATIONS IN THE DIGITAL ECONOMY**

The article examines the design issues and peculiarities of functioning of companies of information and telecommunications. Virtual entrepreneurship is an integral and evolving scope of today's digital economy, is a significant part of the information flow of business entities worldwide.

The study used scientific methods of research, synthesis, analysis, comparison and synthesis, the world intellectual property organization information and research companies in the sphere of information technologies.

It has been established that the escalation processes are a consequence of the integration of business entities in this sphere, which leads to monopolization of the market.

It was revealed that the digital economy processes of informatization to become a factor in expanding the impact of information and telecommunication companies and contribute to the formation of integrated business groups.

Functioning of the integrated business groups allows you to automate management processes, supports the work of all participants in the process in a single information space that allows you to remotely monitor and coordinate business processes.

However, despite received positive effects businesses, integrating companies leads to the disappearance of the conditions for the effective implementation of competition to market monopolization telecommunications.

*Keywords:* globalization, informatization, telecommunication services, digital economy, business integration.

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Sony Ericsson	74,8	51,1	46,4
LG Electronics	64,4	54,9	17,3
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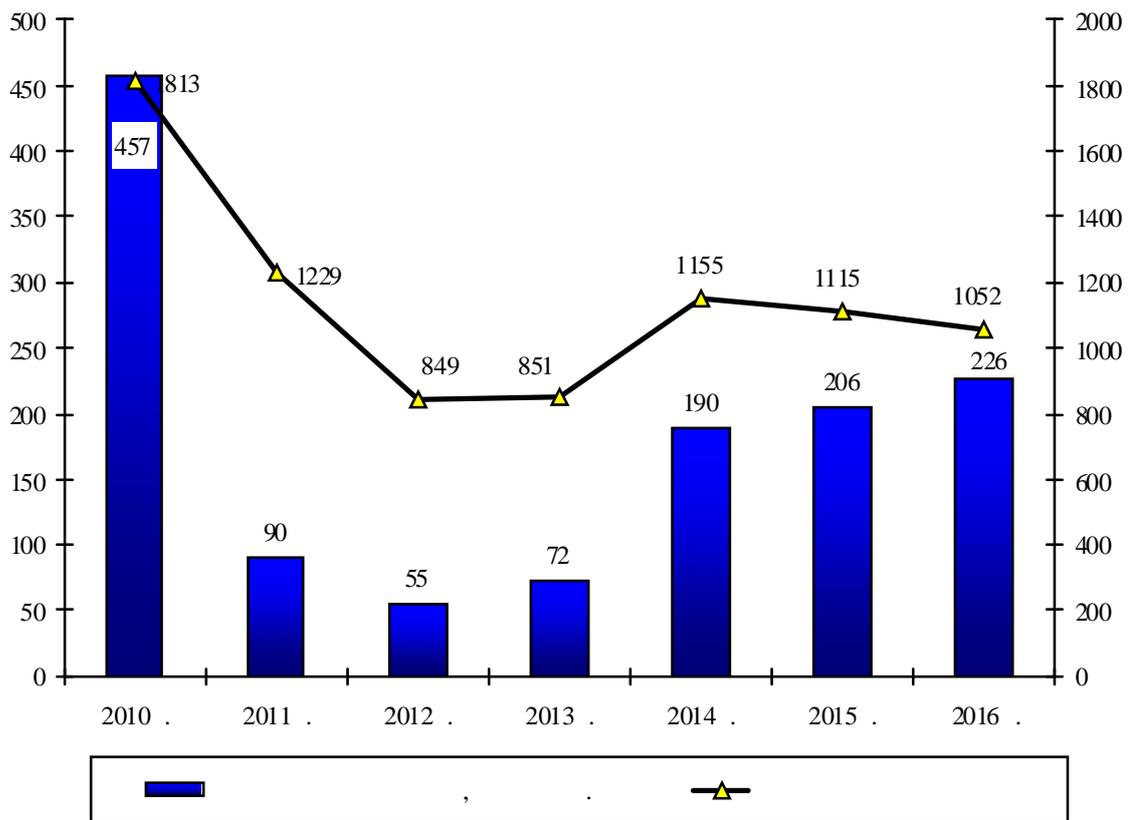
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## METHODOLOGICAL APPROACHES TO EVALUATING COMPETITIVENESS OF THE ENTERPRISE

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In the modern economic conditions of the Russian Federation, the competitiveness of an enterprise is one of the important components of its effective functioning and financial well-being. In the era of mass production of goods and the presence of a huge number of producers of similar products for domestic enterprises, the task of increasing their competitive status becomes paramount. In this regard, the study and generalization of methods for analyzing and assessing the competitiveness of economic entities acquire particular relevance. The article considers the most common approaches to assessing the competitiveness of an enterprise. The presented methods of assessing the competitiveness of the enterprise were systematized by the object of evaluation and are grouped into three groups of approaches: group I approaches — an assessment of the enterprise's competitiveness in describing the industry and describing the competition in it; group II — assessment of the competitiveness of an enterprise through the competitiveness of its products; group III — assessment of the enterprise's competitiveness by analyzing the economic performance of its activities. In addition to the systematization of the methods examined, their comparative analysis was carried out, revealing the merits and demerits of each presented. Based on the systematization of methods, the situational conditions for the application of each group of methods are determined. The analysis of these methods makes it possible to assert that there is a need to develop, based on existing methods, an integrated methodology for assessing the competitiveness of an enterprise.

*Keywords:* an competitiveness, an enterprise, the assessment of competitiveness, methods of assessing the competitiveness of an enterprise.

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**KPI****METHOD OF CALCULATION OF KPI EFFECTIVENESS INDICATORS IN THE  
PARADIGM OF ECONOMICS AND SOCIOLOGY OF LABOR**

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In the article, the author examines the main points that underlie the modern understanding of the concept of human capital. The purpose of the article is to determine the management of investments in human capital, namely: the retraining of personnel, the improvement of their qualification level, the sharing of experience with enterprises that carry out a similar type of business, the use of new technologies, the training of personnel in digital platform management for customer recognition of products offered by the company, calculation of the effective work of personnel and motivation of valuable employees, which is the most relevant recently. The author singled out the main tasks of the article as follows: a theoretical analysis of the concept of human capital; identification of features of human capital using KPI performance indicators; calculation of costs for the implementation of KPI events. The author believes that investments in human capital should be made without interruption, but the distribution should be strictly in accordance with priorities based on a competent and clear system of requirements for each qualification. Human capital is one of the significant components of the competitive advantage of the enterprise, the value of modern society, and it is also a factor in the economic growth of both the state and the individual enterprise. The main feature of human capital as an intangible asset is the long term of investment, use and return. Investments in human capital give a very long economic and social effect. Theoretical analysis of the concept of human capital is given in full — from the primary sources of this concept to the modern presentation of various scientists, both Russian science and foreign. Characteristics of human capital were identified using KPI performance indicators. The introduction of the KPI system, the author of the article asserts, will help the managers to raise the level of motivation of their personnel, effectively analyze the results of the company's activities, units and specific employees, achieve the set goals and objectives. For the staff, this system will help to determine the specific tasks and objectives

of their activities, which will positively affect in the form of wage increases, all sorts of bonuses, influence on their career. It can also be noted that calculating the cost of implementing KPI events, proposed by the author, indicates that the costs of forming a KPI system are quickly recouped.

*Keywords:* human capital, human potential, KPI efficiency system, labor, staff motivation, costs, net profit, investments, qualified personnel.

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[14, c. 113–116],  
[17, c. 174–178], [6, c. 214–219], [7, c. 89–96],  
[10, c. 46–52], [5, c. 40–46], [12, c. 8–13]  
KPI (Key Performance Indicators),  
[13, c. 139–147], [9, c. 496–501], [11, c. 80–82], [16, c. 434–438],  
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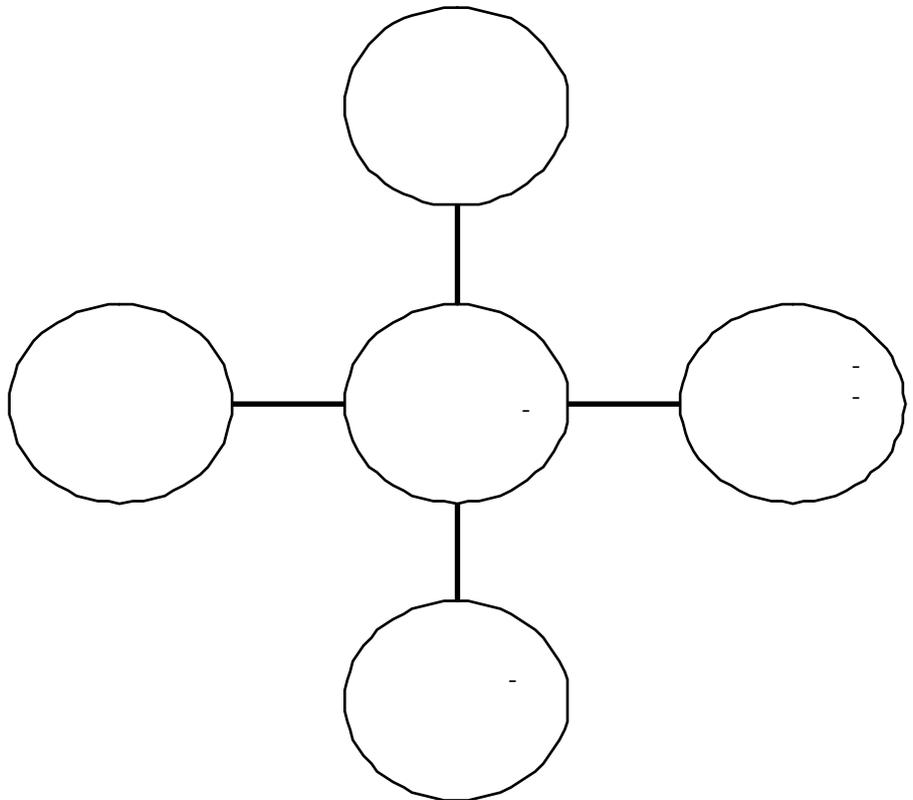
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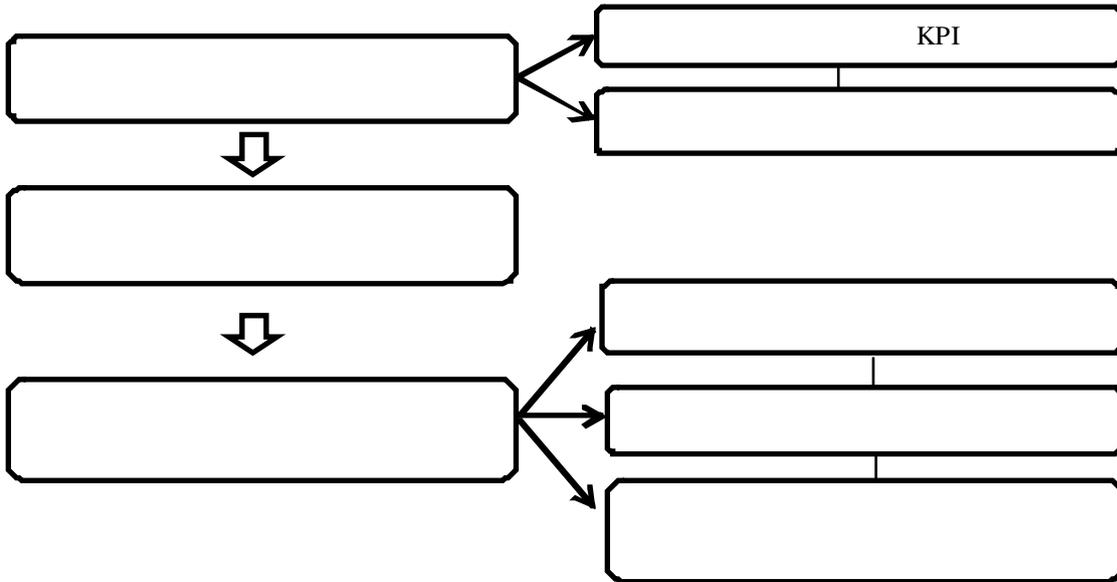
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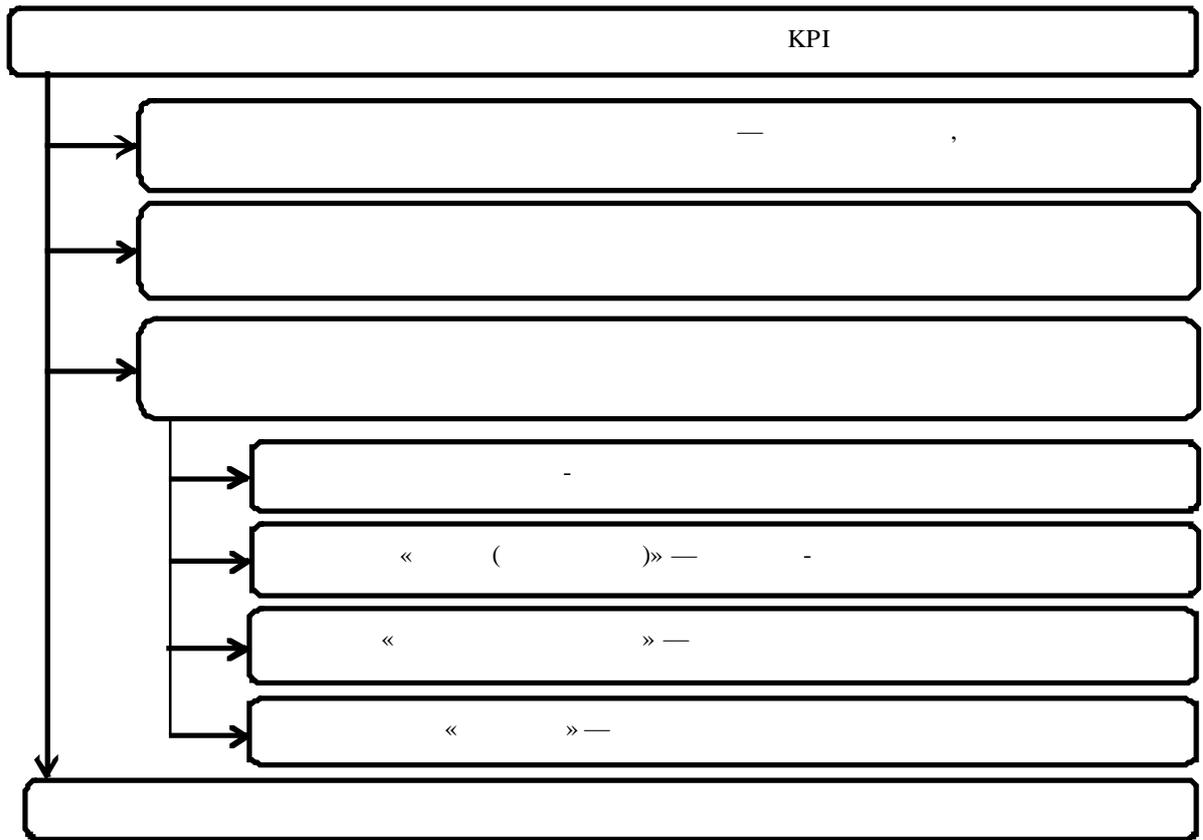
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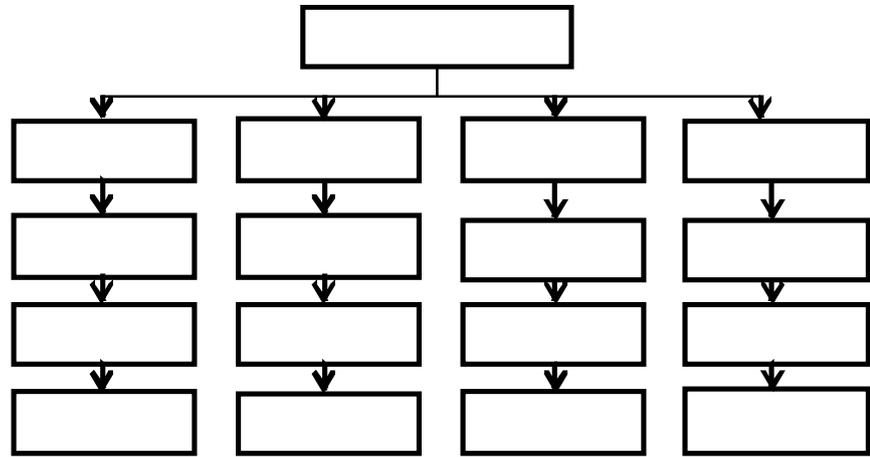
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$$= 500 / 15663,7 = 0,3 = 4$$

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## **ANALYSIS METHODOLOGY FOR ASSESSING ADAPTIVE LEVEL OF ACTIVITY OF ENTERPRISES**

The article is devoted to the research of methods of estimation the level of adaptability of the enterprise. The urgency of the topic is determined by the high dynamism and uncertainty of the external environment caused by the increase in the growth rates of the Russian economy, the complication of the geopolitical situation and the simultaneous development of integration processes. It is adaptability that is the prerequisite for the adaptation of economic systems to new conditions of activity. While writing the article, we used the method of generalization and comparison, the tabular method, the system approach.

It is determined that, in comparison with other characteristics of the enterprise's activity, adaptability remains a little-studied economic category. The author's definition of the concept of "adaptability of the enterprise" is presented. Based on the analysis of scientific works of domestic and foreign scientists in the field of estimating the level of adaptability, the grouped information on the essence of the methods studied, their advantages and disadvantages are presented. A more detailed analysis is made of the methods most commonly used in the estimation of adaptability, namely the method of expert estimations and the indicative method.

Conclusions are drawn regarding the advisability of applying in practice some of the methods proposed by research scientists. According to the author, one of the most optimal tools for estimating the level of adaptability is system modeling and the methods used in its framework. The use of methods of system modeling will provide a comprehensive estimation of the level of adaptability, including, taking into account the influence of environmental factors.

*Keywords:* adaptability, estimation of the level of adaptability of enterprise activity, methods.



\*

1.

Автор / Источник	Сущность методики оценки	Преимущества	Недостатки
С.М. Казанцева [4]	Оценивать адаптивность организационной системы предлагается через коэффициент стратегически ориентированной системы	Доказывает, что эффективность организационной системы тесно связана с ее адаптивностью	По содержанию очень абстрактная и имеет большую долю предположений
В.Н. Янченкс [16]	Предлагает методику оценки уровня адаптивности предприятий железнодорожного транспорта	Определяет адаптивность как критерий устойчивости экономического потенциала предприятия. Адаптивность оценивается на всех уровнях управления. На каждом следующем уровне учитывается фактор предыдущего уровня	Результаты оценки в большинстве своем зависят от компетентности экспертов, которым свойственны высокие уровни субъективизма
В.Н. Андреев В.П. Придялсов [1]	Коэффициент адаптивности предлагается рассчитывать на основе экспертных оценок	Должно быть понятно: чем грамотнее все организовано на предприятии, тем эффективнее его деятельность	Требует технической, технологической и организационной обеспеченности
В.М. Ячменева [17]	Оценивать адаптивность автор предлагает с помощью метода нечеткой логики через внешние и внутренние резервы предприятия	Такой подход позволит получить достаточно полную оценку за счет использования показателей внутренней и внешней деятельности предприятия	
Т.Б. Школьная, Л.Т. Печеная [15]	Предлагается использовать обобщенный индекс адаптивности, который состоит из экономической и рыночной адаптивности	Позволяет определить, адаптивна или нет ассортиментная политика; эффективно или нет влияние ассортиментной политики. Это позволяет более эффективно управлять деятельностью предприятия	Этот метод является спорным при оценке адаптивности именно торговых посреднических предприятий
И.М. Морочковская [11]	Предложена методика оценки адаптивности предприятия структуры к изменениям бизнес-среды на основе метода эластичной функции	Возможность оценки коэффициента адаптивности предприятия и отдельных подразделений	«Адаптивность» и использование при оценке коэффициента адаптивности только финансовых показателей
А.П. Максимович [9]	Предложена методика оценки адаптивности структуры промышленного города	Небольшое количество показателей, используемых для оценки адаптивности	Возможность получения некомплексной оценки адаптивности при использовании только предложенных показателей
С.А. Косторниченко [6]	Разработана методика определения инвестиционной адаптивности предприятия с помощью административно-экономического метода	Позволяет оценить влияние адаптивности на инвестиционную емкость на разных этапах развития предприятия	Использование методики целесообразно при оценке именно инвестиционной адаптивности. Для использования при другом объекте методика требует корректировки и уточнения
Р.А. Галаш, С.О. Оглоблин [3]	Разработана способ оценки уровня адаптивности предприятия к стратегическим изменениям	Наличие четкой последовательности оценки адаптивности предприятия Возможность проведения по разработанной методике оценки адаптивности предприятий разных сфер деятельности за счет уточнения возможных изменений внешней среды, силы их влияния и вероятности	Зависимость результатов оценки от квалификации экспертов Трудоемкость выполнения расчетов Необходимость уточнения результатов оценки адаптивности предприятия при каждом изменении внешней среды
И.Мажкович [10]	Предлагается оценивать уровень адаптивности предприятия к работе в глобальных условиях на основе разработанных индикаторов	Доступность входящей информации для расчета индикаторов Возможность расчета адаптивности предприятия к работе в глобальных условиях в динамике	Трудоемкость методики Высокая вероятность получения некорректного уровня адаптивности за счет использования мнений экспертов, работников предприятия и его руководства
М.С. Старикова [13, 14]	Предлагается методика оценки уровня адаптивности различных отраслей экономики на основе модификации ABC-XYZ-анализа	Методика оценки позволяет получить практические результаты относительно критических направлений инвестирования и выделить отрасли, для которых разработка механизмов адаптивного управления является первоочередной задачей	Вывод по отрасли в целом основан на результатах деятельности отдельных предприятий

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( I )

**THE GENERAL AND PARTICULAR IN THE DEVELOPMENT OF CRIMEA:  
THE THEORETICAL ASPECT  
(PART I)**

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The lagging of the economy of Crimea from the average regional indices of Russia is planned to be solved by means of the Federal Target Programs (FTP). However, in practice the realization of the similar programs in the Russian Federation takes place with different breaches and deviations from the approved terms and volumes of work what makes actual the carrying out of the additional researches. The researches are divided into the ore tic and methodological as well as applied parts. In the theoretical (given) work there is substantiated the usage of the system approach on the dialectic basis of the cognition of the general and particular, in which the research of the concrete objects, processes and phenomena combines well with the notional and categorical construct of the economic science and methodological approaches of philosophy, and also of the special scientific disciplines.

These studies are divided into theoretical, methodological and applied parts. In this case at the level of generalization it is highly desirable that there should be defined the specific typical peculiarities of the phenomena of the particular and singular, which would characterize the general essence of the theoretic and applied developments, concrete FTP, for example, under the conditions of Crimea.

The given general provisions, revealing the importance of the analyzed categories for developing the theory and practice, mainly have the gnosiological character, and to a certain extent are abstract. Nevertheless, the fulfilled researches have allowed to define the direction of the solution of the applied tasks and the usage of the row of the provisions as tools when working out the methodology of the realization of the FTP, what will allow to make them concrete and practically more tangible while solving the particular problems of the Crimean region.

*Keywords:* economic theory, Federal Target Programs, the general, the particular, the methodology of the research, the system approach, laws and regularities.

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[30, . 58].  
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[31, . 651].

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26 2018

28 2018

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## **SYNTHESIS OF A MODIFIED ARTIFICIAL NEURAL NETWORK BY USING ALGORITHMS OF INTERDEPENDENT DATA**

The formation of the institutional foundations of institutionalism is based on forecasting and planning, improving the management of the national economy and the socio-economic development of the state. The development of a complex of issues and the deepening of economic integration takes an offensive position, this set of issues is very fleeting and requires constant research, the search for scientific justifications for the fundamental cause-effect phenomena, their interrelations and interdependencies, patterns. Determining the directions of the development of society and the introduction of public policy forms a new paradigm. The synthesis methodology of the modified neural network is aimed at strengthening the control system, the studies are conducted on the basis of an artificial neural network. Analysis and prediction of the synthesis of a modified neural network using methods helps to determine how these processes proceed, recognizing images, interdependencies, relationships and classifying them through approximation of functions. The totality of these methods can perform the functions of forecasting, optimization of management processes.

A technique was developed for synthesizing the optimal structure of an artificial neural network, based on the application of two algorithms. A modified algorithm of units of singularities is proposed that accommodates a set of units and helps to find the optimal singularity. This method of units of singularities is able to create singleton interdependencies, which allows us to separate the areas of singularities, to find in them the centers of each interconnection and interdependence, to calculate the matrices to reduce the distance and to reduce the center to one point. Comparing this method with the method of back propagation of the error, the proposed method has its advantages, which are expressed in the fact that the selection of weights is carried out

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regardless of the form and the number of local extrema. This position makes it possible, when setting up the weights of neural networks and its structure, to find a lot of optimal options that are provided during research, and also to overcome complex system transformations in the process of making managerial technical decisions.

*Keywords:* administrative technical solutions, neural networks, synthesis of a modified neural network.

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$$A: X \rightarrow \delta(X).$$

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$n-1, n-$

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NET [5, 6].

$$NET = \sum_i^k W_i X_i, \tag{1}$$

k—

1-i- ( ) ( )

OUT1. « » [4]. «

1.  $N \leq N_1 + N_2$ ,  $N_1, N_2, N_3$  — [12].

2. [10]

3.  $R$  [12, .52]:

$$R_{opt} = \min(R), R = \frac{1}{2N_s} \sum_{i=1}^{N_s} (OUT_i - E_i)^2, \quad (3)$$

$$\Delta_i = OUT_i - E_i, i = 1, 2, \dots, n. \quad (4)$$

$$p_i = \frac{f(Hr_i)}{\sum_{i=1}^{Nhr} f(Hr_i)} \quad (5)$$

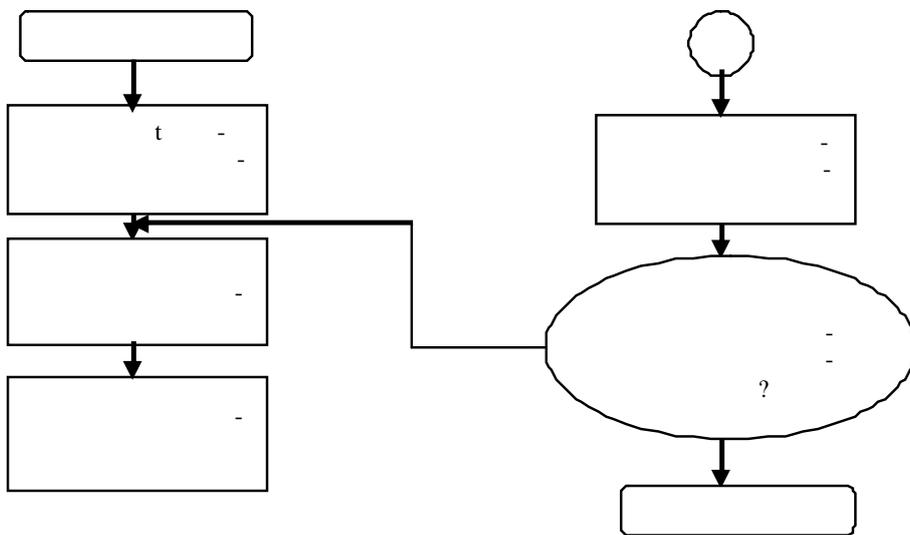
(Nhr),  $(\mu, j = 1, 2, \dots, t)$

$$V = \sum_{j=1}^t \sum_{b_i \in S_j} (b_i - \mu_j(b_i))^2, \quad (6)$$

$S_j$  — ;  $\mu_j(b_i)$  —  $b_i \in S_j$ .

(Branin's rcos function) [11, 12]:

$$Q(a_1, a_2) = (a_2 - \frac{5,1}{4\pi^2} a_1^2 + \frac{5}{\pi} a_1 - 6)^2 + 10 \times (1 - \frac{1}{8\pi}) \times \cos(a_1) + 10. \quad (7)$$



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Q(a<sub>1</sub>, a<sub>2</sub>).

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	(a <sub>1</sub> , a <sub>2</sub> )	Q(a <sub>1</sub> , a <sub>2</sub> )		Q(a <sub>1</sub> , a <sub>2</sub> )
1	(8,94; 2,35)	1,55	(9,42; 2,47)	0,39
2	(3,36; 1,65)	0,84	(3,1; 2,2)	
3	(-3,11; 12,21)	0,40	(-3,1; 12,2)	
4	(15,84; 13,39)	0,52	(15,7; 12,9)	

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19 2018

28 2018

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## OBJECTIVES AND METHODS OF TRANSFER PRICING IN INTERNATIONAL BUSINESS

« »

The nature of transfer pricing as a means of providing competitive advantages in international business is studied by saving on intra-corporate transaction costs, optimizing the tax burden and international movement of capital in corporate interests. The preferences received by multinational and transnational companies are determined through the use of transfer pricing.

The peculiarities of the use of transfer pricing methods recommended by OECD: comparative uncontrolled prices, resale prices, costs plus, net profitability of the operation, profit distribution are considered and analyzed. The analysis showed that all the proposed methods have their own advantages and disadvantages, therefore, the OECD offers the possibility of using other methods that will allow a more reliable determination of the transfer price. The hierarchy of application of these methods in different countries of the world is analyzed.

It has been established that one of the most common methods of illegal capital flight is the manipulation of prices in international trade between subsidiaries, which consist in understating or overstating prices for products in interstate commerce. The existing world experience in methods of estimating the losses of national economies due to outflow of capital has been

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studied. In particular, the article discusses such methods as the «residual» model of the World Bank, the model for estimating price manipulation in international trade, developed by the IMF's Trade Statistics Department, the international price determination system, and the «hot money» method.

It is concluded that one of the most important tasks of economic science, national governments and leading international organizations is the search and implementation in practice of effective methods and tools for monitoring, controlling and regulating the activities of international corporations in the use of transfer pricing mechanisms.

*Keywords:* transfer pricing, transnational corporations, transfer pricing methods, competitiveness, capital outflow.

« »

: Anthony R.N., Dearden J.[8], Bernard Andrew B. [9], Bhagwati Jagdish N. [10], Clausing Kimberly A. [11], Elizabeth Hughes, Wendy Nicholls [12], Mcaulay L., Tomkins C.R. [16], Pak Simon J. [19], Zdanowicz J. [23, 24].

: [1], [2], [3], [4], [5], [6], [7].

Anthony R.N. Dearden J.

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— Mcaulay L. Tomkins C.R. [16] —

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M. Sullivan (1999),

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«Offshore Shell Games 2015» [18], «Apple»,

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«Apple Operations International» —

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«comparable uncontrolled price method» (CUP)

«transactional net margin method» (TNMM)

«Resale price method» (Resale price)

«transactional profit split method» (Profit split)

«cost plus method» (Cost plus)

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	CUP	Resale price	Cost plus	TNNM	Profit split	-
1	1	+	+	+	+	-
2	1	+	+	+	+	-
3	+	+	+	+	+	+
4	+	+	+	+	+	-
5	1	2	2	3	3	-
6	+	+	+	+	+	+
7	+	+	+	1	1	-
8	+	+	+	+	+	-
9	1	2	2	3	3	-
10	+	+	+	+	+	-
11	1	1	1	2	2	-
12	1	2	2	3	3	-
13	1	2	2	3	3	-
14	+	+	+	+	+	-
15	1	1	1	2	2	-
16	1	2	2	3	3	-
17	+	+	+	+	+	-
18	1	2	2	3	3	-
19	1	2	2	3	3	-
20	1	2	2	3	3	+
21	1	1	1	2	2	-
22	1	1	1	2	2	-
23	+	+	+	+	+	+
24	1	2	+	+	+	-
25	1	+	+	+	+	-
26	+	+	+	+	+	-
27	1	1	1	2	2	-
28	1	2	2	3	3	-
29	+	+	+	+	+	+
30	1	2	2	3	3	-
31	1	+	+	+	+	-
32	1	2	2	3	3	+
33	1	+	+	+	+	-
34	+	+	+	1	+	-
35	+	+	+	+	+	-
36	+	+	+	+	+	-
37	1	1	1	2	2	-
38	+	+	+	+	+	-
39	+	+	+	+	+	+

: «1», «2», «3» — , «+» — , -

« », «-» —

\* [13, 14, 21, 22]

.1,

CUP, Resale price.

CUP. (Resale price cost plus).

TNMM Profit Split.

• World Bank Residual Model — « »

KF = ED + FI - CAD - FR, (1)

KF — ; ED — ( ; FR — );

FI — ; CAD — ; FR —

• Dots-based Trade Mispricing Model —

FOB, (CIF). 1,19.

CIF, FOB.

• Ipps-based model —

» -4 +4. « »

[24].

• Hot money method — ( « » ) « »

« »,

KF = SKO + EO, (2)

KF — ; SKO — ;

EO —

[7]:

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## COMPARATIVE ANALYSIS OF METHODS FOR MULTY-CRITERIA RANKING OF ALTERNATIVES

There are many methods used for multi-criteria ranking. For that reason, the comparative analysis of efficiency of most popular methods is necessary. The efficiency of multi-criteria ranking method is measured by an ability of own to rank some alternatives on the strength of all evidence by minimal cost.

It is shown that multi-criteria ranking can be carried out by one scheme. The standard scheme of multi-criteria ranking is described and it is shown that a manner of data preparation and difference of identical measures are reasons for a difference of multi-criteria ranking methods. The data preparation and an identical measure calculation takes the main part of investigation resources and hence these are the main factors of efficiency of multi-criteria ranking methods.

The term resolving power for estimation of the susceptibility of ranking methods to small-scale variation of data has been suggested. The resolving power of most used methods of multi-criteria ranking was estimated. It was shown by some examples that correct multi-criteria ranking is enabled only provided that no strong data correlation has taken place.

The investigation was shown that the weighted sum method and fuzzy set method have the best efficiency if no high or low susceptibility to small-scale variation of data. One must use the harmonic or geometric mean as an identical measure if it is needed to catch slight signals (variations of data). It is reasonable to use the least square method or the neural network method for multi-criteria ranking of alternatives if data have a noise. Some examples are discussed.

*Keywords:* alternative, identical measure, fuzzy set method, hierarchy analysis process, neural network method, weighted sum method, multi-criteria ranking, resolving power.

( ) , ( ) [1-11].

- 1) ( ) ;
- 2) ;
- 3) ( , ) ;
- 4) ;
- 5) , ...
- 6) ( , ) ;
- 7) ;
- 8) ;
- 9) ( ) ;
- 10)

8

7

$$w_i = w_i / \sum_{n=1}^{n=N} w_n, i = 1, \dots, N, \quad (1)$$

$w_n$  — n- , N — [1, 3, 5, 6].

[1, 2, 4, 5].

(0;1) (-1;1) [12, . 20]. ( ) [5, 6]

[1, . 73].

$$a_{ij} = \frac{a_{ij} - B_i}{E_i - B_i}; \quad (2)$$

$$a_{ij} = \frac{B_i - a_{ij}}{B_i - E_i}; \quad (3)$$

$$a_{ij} = 1 - \frac{|\text{nom}(a_i) - a_{ij}|}{|\text{nom}(a_i)|}, \quad (4)$$

$E_i$  —  $i$ -ий элемент;  $B_i$  —  $i$ -ий элемент;  $\text{nom}(a_i)$  — номинальное значение  $i$ -го элемента,  $i = 1, \dots, n$ . [1, 5, 10].

где  $(0;1)$  — интервал, в котором находится значение  $a_{ij}$ .

[1, 11, 12].

[11, . 21].

[3, . 121]:

$$Q_1 = \left( \sum_{n=1}^{n=N} \frac{w_n}{q_n} \right)^{-1}, \quad (5)$$

$$Q_2 = \prod_{n=1}^{n=N} q_n^{w_n}, \quad (6)$$

$$Q_3 = \sum_{n=1}^{n=N} w_n \times q_n, \quad (7)$$

$$Q_4 = \left( \sum_{n=1}^{n=N} w_n \times q_n^2 \right)^{\frac{1}{2}}, \quad (8)$$

где  $q_n$  —  $n$ -ий элемент,  $w_n$  — весовые коэффициенты,  $n = 1, \dots, N$ . (1), (5)–(8)

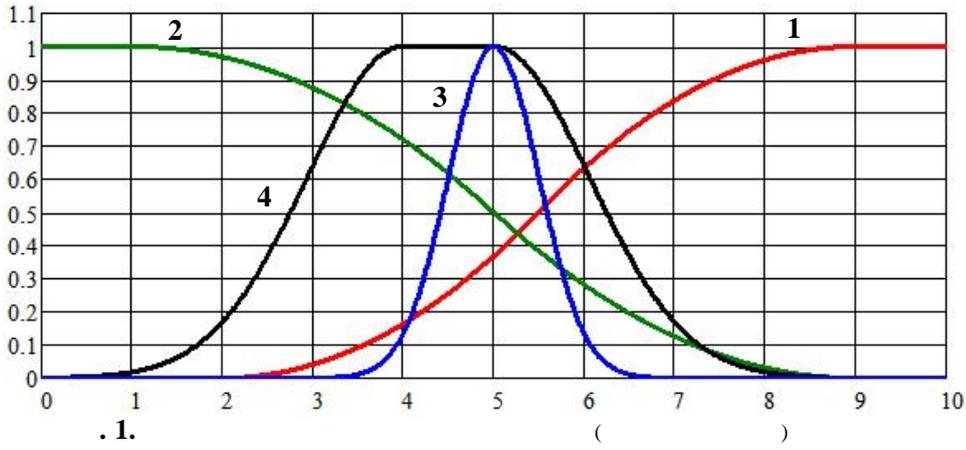
где  $Q_1 \leq Q_2 \leq Q_3 \leq Q_4$ . [3, . 125], (8),  $Q_1 - Q_4$

$$Q_1 \leq Q_2 \leq Q_3 \leq Q_4. \quad (9)$$

где  $Q_1$  — гармоническое среднее,  $Q_2$  — геометрическое среднее,  $Q_3$  — арифметическое среднее,  $Q_4$  — квадратическое среднее.

(5) (6).

(7)



(Z-

(2)-(4)

4).

[14]:

$$Q_5 = \min\{w_n \mu_n(x_n)\}, \quad (10)$$

$$Q_6 = \min\{\mu_n(x_n)^{w_n}\}, \quad (11)$$

$w_n, x_n$  — , (5) – (8);  $m_n(x_n)$  — n-

[13, . 20].

$$Q_7 = 1 / \left\{ \alpha + \exp \left[ - \sum_{n=1}^N w_n \times x_n \right] \right\}, \quad (12)$$

$$Q_8 = \sum_{n=1}^N w_n / [\alpha + \exp(-x_n)], \quad (13)$$

(5) – (8);  $0 < a \leq 1$  —

[13].

(12) (13)

$$Q_1 - Q_8$$

( )

$$(12) \quad Q_7 \quad (13) \quad Q_8$$

$x_n = 1$  n.

a (  $Q_1 - Q_6$  ),

[8, . 122–131].

(%).

1.

\*

	( )									
	1	2	3	4	5	6	7	8	9	
	31,33	32,78	35,61	30,54	12,25	13,09	7,65	9,98	8,77	33,2
	4,15	3,34	5,56	4,76	2,98	3,01	2,38	2,73	2,91	5,58
	79	81	82	80	66	69	58	71	55	79

\* [8, . 124]

.1, ( )

(2).

: E = {36; 6; 83}.

« »

: B = {6; 2; 50}.

(2)

.2.

2.

\*

	( )									
	1	2	3	4	5	6	7	8	9	
	0,84	0,89	0,99	0,82	0,21	0,24	0,06	0,13	0,09	0,90
	0,54	0,34	0,89	0,69	0,25	0,25	0,10	0,18	0,23	0,90
	0,88	0,94	0,97	0,91	0,49	0,58	0,24	0,64	0,15	0,88

\*

: w = {0,33; 0,33; 0,33}.

(5) – (8),

.3.

( 1 - ) .3

$$Q_1 - Q_4 \quad (9).$$

.2

$$(10) \quad (11),$$

(12) (a = 0,01).

3.

\*

	1	2	3	4	5	6	7	8	9	
Q <sub>1</sub>	0,757	0,613	1	0,840	0,289	0,319	0,096	0,217	0,145	0,943
Q <sub>2</sub>	0,777	0,691	1	0,845	0,307	0,343	0,114	0,262	0,155	0,943
Q <sub>3</sub>	0,794	0,761	1	0,849	0,330	0,374	0,138	0,334	0,166	0,942
Q <sub>4</sub>	0,810	0,814	1	0,854	0,354	0,408	0,162	0,410	0,175	0,941
Q <sub>5</sub>	0,604	0,376	1	0,775	0,234	0,266	0,062	0,149	0,104	0,987
Q <sub>6</sub>	0,845	0,722	1	0,919	0,616	0,643	0,395	0,530	0,470	0,996
Q <sub>7</sub>	0,826	0,801	1	0,869	0,536	0,558	0,448	0,538	0,459	0,947

\*

[8]

( . . 1),

2.

[9, . 445-466].

10-

( . 4).

[9, . 475];

4.

\*

	X <sub>1</sub>	X <sub>2</sub>	X <sub>3</sub>
	8	3	7
	8	5	6
	9	4	7
	9	4	8
	5	2	3

\*

$\alpha = 0,9$ .

5.

\*

	Q <sub>1</sub>	Q <sub>2</sub>	Q <sub>3</sub>	Q <sub>4</sub>	Q <sub>5</sub>	Q <sub>6</sub>	Q <sub>7</sub>	Q <sub>9</sub>
X <sub>1</sub>	0,744	0,763	0,78	0,794	0,10	0,871	0,736	0,450
X <sub>2</sub>	0,326	0,344	0,36	0,374	0,04	0,725	0,626	0,208
X <sub>3</sub>	0,549	0,588	0,62	0,643	0,06	0,786	0,695	0,342

\*

[9]

40

0,775 0,342

1)

( . 4);

2) « » ( )  
 3) .2 ; , ( ;  
 4) 2-3 . , -  
 ( ( 3×3). , .4 , -  
 ( .6). ( .6) 1. .6 1  
 .4. 1, , -  
 ( ) . ) . -  
 ( . . ) . ) . ;  
 , (« »). . -  
 3×3. , ( 1  
 , . 1 .6). (

**6.** \*

-															
1	8	3	7	8	5	6	9	4	7	9	4	8	5	2	3
	0	4	8	0	6	7	0	5	7	0	5	9	0	2	4
	0	0	7	0	0	6	0	0	6	0	0	5	0	0	2
2	1	8/3	8/7	1	8/5	8/6	1	9/4	9/7	1	9/4	9/8	1	5/2	5/3
	3/8	1	4/8	5/8	1	6/7	4/9	1	5/7	4/9	1	5/9	2/5	1	2/4
	7/8	2	1	6/8	7/6	1	7/9	7/5	1	8/9	9/5	1	3/5	2	1
λ	3,003			3,000			3,006			3,001			3,009		
Ic, %	0,132			0,004			0,277			0,062			0,460		
, %	0,254			0,008			0,532			0,119			0,885		
q	0,45	0,18	0,37	0,42	0,27	0,31	0,45	0,22	0,33	0,43	0,20	0,37	0,49	0,18	0,33

\*  
 , ) « » ( , -  
 ) , ...  
 , ,  
 ,  
 :  
 -  
 ( . 2 .6). , -  
 ,  
 ( . 2). 1. -  
 ( ) 2. -  
 svds ( 2) 2 (1) .6. [5]  
 Mathcad. 1 3. ,

$$I_c = (\lambda - n)/(n - 1), \quad (14)$$

10 %.

$$O_c = I_c / R_c, \quad (15)$$

<sup>1</sup> [5, 6].

$$3 \times 3 R_c = 0,52.$$

10 % [5].

(. . . 6).

(1).

. 6

0,49)

. 6 (

$$q = \{0,45; 0,42; 0,45; 0,43;$$

. 5 (Q<sub>9</sub>).

(7),

[5].

3.

. 7

73

7.

\*

	1	2	3	4	5	6	7	8
1. (. .)	3222	1691	2197	2358	8129	209	9254	11851
2. (. . .)	42	21	39	23	35	3	151	23
3. (. . .)	148	93	67	60	297	14	1431	394
4. (. . .)	31	29	56	70	29	15	121	20
5. (. . .)	2285	1057	1387	1744	7423	176	6188	10942
6. (. . .)	600	343	661	26	1178	2	2125	2556
7. (. . .)	118	115	96	52	13	2	96	12
8. (. . .)	28	9	11	9	9	715	335	15

\*

0,125.

5 %.  
0,95; 750,75},

$$E = \{12443,55; 0,95; 1502,55; 227,85; 1,9; 0,95; 6,65; 158,55; 0,95; 0,95; 11489,1; 3364,2; 444,15; 0,95\}.$$

. 7.

. 2

<sup>1</sup>

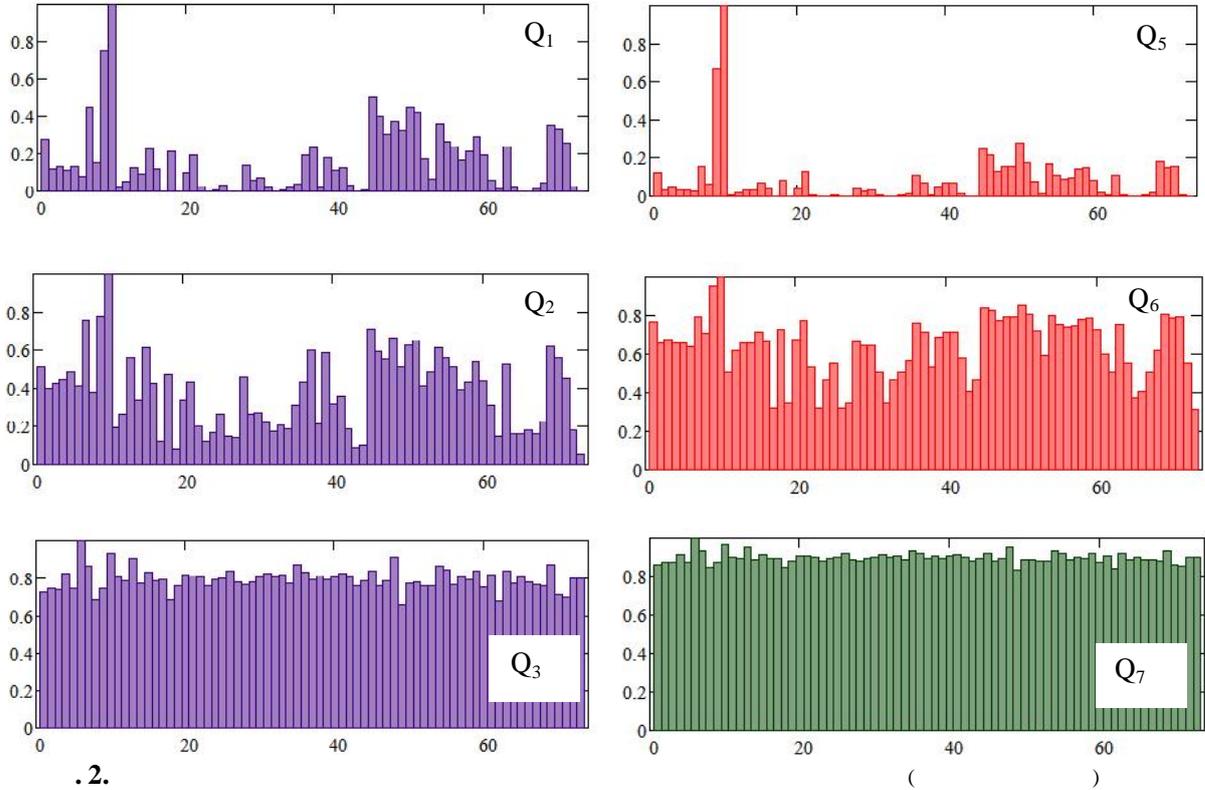
[6], O<sub>c</sub>

I<sub>c</sub>,

R<sub>c</sub>

[1].

.7,



.2.

.8

8.

\*

	1	2	3	4	5	6	7	8
1	1	0,749	0,789	0,394	0,980	0,903	0,220	0,304
2	0,749	1	0,776	0,499	0,645	0,717	0,345	0,369
3	0,789	0,776	1	0,391	0,709	0,759	0,116	0,448
4	0,394	0,499	0,391	1	0,338	0,129	0,410	0,047
5	0,980	0,645	0,709	0,338	1	0,883	0,107	0,246
6	0,903	0,717	0,759	0,129	0,883	1	0,013	0,395
7	0,220	0,345	0,116	0,410	0,107	0,013	1	-0,013
8	0,304	0,369	0,448	0,047	0,246	0,395	-0,013	1

\*

$(Q_1 - Q_7)$

[11, 12],

[5, 6].

$73 \times 73$ ;

[10, 15],

«...», [8, 16].  $Q_1, Q_2, Q_3, Q_4, Q_5, Q_6, Q_7, Q_8, Q_9$

«...»

(... 2).

[15].

[6, 17, 18].

- 1.
- 2.
3.  $Q_1 - Q_9$
- 4.
- 5.

1. ( ) / ... — 256 .
2. / ... , ... — 368 .
3. / ... — 2012. — 215 .
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23 2018

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### **ABOUT DETERMINATION AND RANDOMITY IN PROCESSES IN SOCIO-ECONOMIC SYSTEMS**

Modern science has not yet been fully determined with the role of randomness and determinism in socio-economic processes. In this way any constructive research in this direction is topical.

In the work — from the perspective of interdisciplinary analysis — categories «randomness» and «determinism» and their role in socio-economic processes were considered. It is shown (on the example of the financial market) that, as a whole, the dynamics of socio-economic systems is deterministic, and randomness in socio-economic processes, as a rule, has anthropogenic nature: exactly, economic agents with their current preferences and expectations are the main generator of the emergence accidents in socio-economic systems. In this case, the heterogeneity and heteromorphism of current preferences and expectations of economic agents and the reflexive interaction of these subjective preferences and expectations transform intersubject relations in the system, which in turn leads to the emergence of accidents in socio-economic processes.

It is shown that the level of determinism of the socio-economic process can be determined by using the depth of the system's «memory». At the same time, for the quantitative indicators of socio-economic processes, the current depth of system «memory» is determined by the optimal number of members of the time series of such a quantitative indicator.

The methodological inconsistency of the mathematical statistics tool's application, which is based on the primacy of random over deterministic, for analyzing and forecasting of the socio-economic systems state's (on the example of the financial market) quantitative indicators is shown argumentatively.

A conceptual model that takes into account random and deterministic factors, that are affected with the dynamics of quantitative indicators of the socio-economic systems' state, is considered. It is shown that the model of the multiplicative character is preferable to the additive model.

*Keywords:* randomness, determinism, socio-economic systems, socio-economic processes, financial market, heterogeneity and heteromorphism of economic agents' current preferences and expectations, conceptual model, quantitative indicators of the socio-economic systems' state.

[18, 23, 33]).

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6. [11, . 326–327] V R-  
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 [32, 40],

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$$\Delta Y_t = Y_t - Y_{t-1} = F(\Delta Y_{t-1}) \varepsilon(t), \quad (1)$$

$$\Delta Y_{t-1} = \frac{Y_{t-1} - Y_{t-2}}{F_{t-1}}$$

$$\Delta_{t-1} \Delta_t ; \varepsilon(t) - ( \varepsilon(t) - ) .$$

$$\frac{\Delta Y_t}{F} \Delta Y_{t-1} \quad (1)$$

$$F(\Delta Y_t) = \sum_{j=1}^m f_j(\Delta Y_{t-1}), \quad (2)$$

$$f_j \text{ — } [t-1; t]; m \text{ — } j \text{ — } \Delta Y_t [t-1; t],$$

(2)

« » .  
 (t) (1) :

$$\varepsilon(t) = \prod_{i=1}^k \varepsilon_i(t), \quad (3)$$

$$k \text{ — } \varepsilon_i \text{ — } i \text{ — } [t-1; t], \Delta Y_t, \Delta Y_t;$$

(3)

« (3) »

(1) – (3)

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3) , (2), . ;

4) , (3). ,

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 , [35, 36, 39, 42, 50].

( ,  $\varepsilon(t) \approx 0$  ) ,  $\varepsilon(t) \sim 1$ .  
 $\Delta Y_t$   
 ( ,  $\varepsilon(t)$  ) ,  $\varepsilon(t) \sim 1$ .  
 $F(\dots)$  (2),  $F(\varepsilon)$  (1).  
 $\Delta Y_t$

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**SUSTAINABLE DEVELOPMENT OF SYSTEMS:  
FROM THE CONCEPT TO SOCIAL STABILITY**

In the article, the author has tried to reveal the main factors of sustainable development of systems. The author claims that at present the emphasis is on the influence of the human environment. A huge number of cultures, religions, peculiarities of the mentality of the population of our state, the level of education, the development of the economy are components of sustainable development management and at the same time problems of practical implementation, which determined the relevance of the topic, its significance in this article. The purpose of this article is the author defined the implementation of the principles of sustainable development through the organic nature of all relationships built on long-term coordinated and useful solutions between the organization and management personnel who are interested in economic results, social security of skilled workers, ecology, and politics. The tasks that the author defined for disclosure in the article have an important aspect in determining the concept of sustainable development of systems, namely: a theoretical review of the term sustainable development of the enterprise, industry, state; the main indicators of social sustainability are analyzed; proposals are formulated to calculate the overall sustainable development of the enterprise, taking into account social indicators. Making the emphasis in this article on the social components of sustainable development of the enterprise, the author, nevertheless, also studied the economic component of the organization's activities. The author claims that for today there is no single concept of corporate social responsibility in Russia. For comparison, abroad, social responsibility is considered as a subsystem of social responsibility of society, the company, the state. Nevertheless, the author in the article tried to structure the concept of social sustainability. The final task, which the author set for himself in writing this article, was structured and proposals were formulated on such goals as: increasing internal social stability; increase external social stability. From enterprises, the company requires environmental management, social policy at the enterprise, to treat its employees fairly, to be honest with its customers, to be involved in raising the level of education and professional competence in the sectors where they are participants, to support social projects and much more.

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*Keywords:* sustainable development, social sustainability, economic sustainability, environmental sustainability, staff qualifications, social programs

16,6 %.

[6],  
[12, . 48–56], [16, . 89–90], [17, . 186–193],  
[4], [7, . 136–139]

[2, . 159–163], [3], [5, . 74–83],  
[9, . 78–80], [8, . 200–202]

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» [13, . 135–139].

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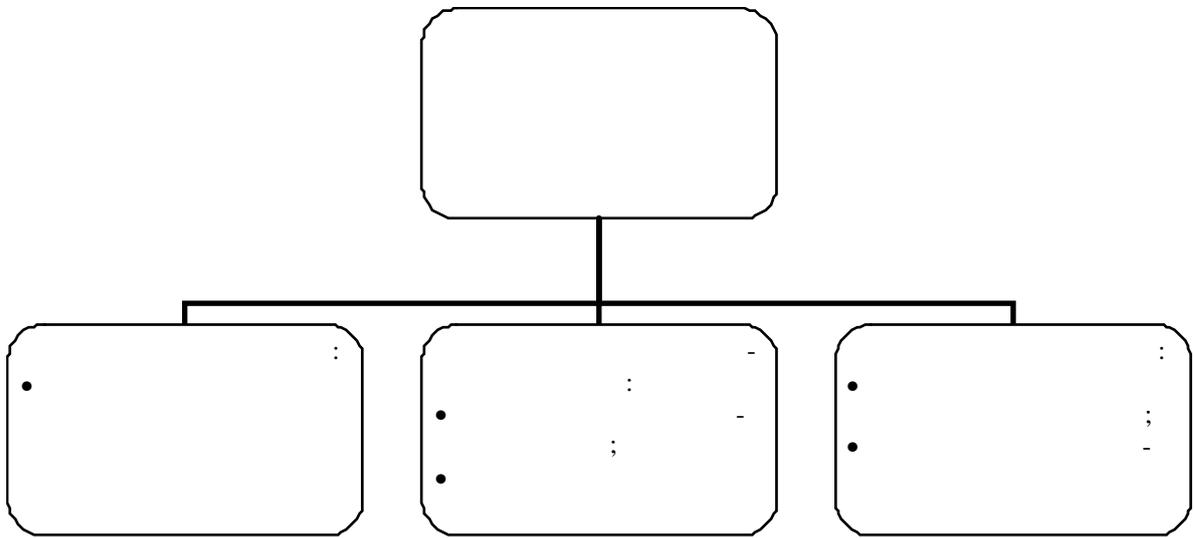
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» [14, . 248].

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**REAL ESTATE DEVELOPMENT AND DEVELOPMENT ACTIVITIES:  
CONTENT AND FEATURES**

The research is aimed at analyzing the content and features of the concepts of real estate development and development activities. In the conditions of growth of rates of development of the Russian economy and the construction market, in particular, the study of real estate development and development activity is urgent and necessary. Many participants in the construction market are increasingly use the term real estate development and even mark out it to a separate type of activity — development activities. The methodological base of the research is a set of general scientific methods: analysis, synthesis, tabular method, comparison and grouping method.

To disclose the content and characteristics of real estate development and development activities, the grouped information is presented regarding the characteristics of the stages of development activity, its participants and results. It is determined that the tasks to be solved within each stage of the development activity, the list of their participants and even the functions of the development company are not standard and permanent. These components can be modified depending on which type of development project is being implemented. The classification of types of real estate development, revised and supplemented by the authors, is presented. Classification of types of real estate development is carried out using the following classification criteria: the location of the real estate object, the source of investment, the functional type of the real estate object, the functional

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level of the real estate object, the intended purpose of the property, the degree of financial participation of the developer in the development project, territorial significance. The characteristic of the most popular types of real estate development is presented.

*Keywords:* real estate development, stages of development activity, classification of types of real estate development.

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