

Economic Security of the Functioning of Commercial Banks in the Region: A Study of Factors

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Abstract—The article is devoted to the study of an urgent problem in modern realities of economic development: the study of factors that influence the economic security of the banking sector in the region. The subject of the research is the economic security of banks and the region and the factors that influence them. The article identifies the main trends in the development of the banking sector in the Belgorod Region, the main of which are: a negative trend towards a reduction in the total assets of the bank, associated with a decrease in liabilities as a result of a reduction in the main item of attracted funds from banks, customer funds (including deposits of the population); an increase in financial results by the end of the period, which indicates the effective operation of banks in the Belgorod region; increase in lending volumes while maintaining the share of overdue debt in the loan portfolio at an acceptable level. This article examines the factors that influence the economic security of the functioning of the banking sector in the region. It was revealed that the greatest impact on economic security is exerted by the quality of bank management (internal factor), as well as the influence of global risks (external factor).

Keywords—economic security, bank, region, research of factors, banking risks, banking management.

I. INTRODUCTION

To manage the region's economy and work out a strategy for its effective development, it is necessary to study the factors that influence it.

The most important characteristic of the economic security of the region is the economic security of the banking regional system, which is the most important element of the financial system of the region (Table 1).

The economic security of the entire financial stability of the region and its overall economic security largely depends on the financial stability of the banking system of the region [2].

Various factors influence the economic security of the region's banking sector. It should be noted that in the scientific literature attention is paid to the study of factors [1-9, 12, 18-23, 34] that affect the financial stability of the banking system as a whole, but the study of factors in the regional aspect is paid less attention in the scientific community.

The aim of this study is to study the factors influencing the economic security of the banks in the region.

The subject of the research is the economic security of banks and the region and the factors that influence them.

TABLE I. DECOMPOSITION OF THE ECONOMIC SECURITY OF THE REGION BY SEGMENTS OF THE REGIONAL FINANCIAL SYSTEM

Element of the regional financial system	Type of economic security of the region
Regional budgetary system	Economic security of the regional budgetary system
Banking regional system	Economic security of the banking regional system
Regional insurance system	Economic security of the regional insurance system
Stock system of the region	Economic security of the stock system of the region

The object of the research is the commercial banks of the Belgorod region.

II. METHODS

The research is based on the principle of the dialectical relationship of economic phenomena in the categories of cause and effect.

The research was carried out using methods of cognition of the essence of the studied subject and its object specificity, analysis of the degree of scientific development of the problem, classification and identification of its criterial

foundations, construction of logical inferences, comparative analysis.

III. MAIN PART

3.1. Research of the main trends in the development of the banking sector of the Belgorod region

The banking sector of the Belgorod Region in the period under study reduced the scale of its activities (Fig. 1).

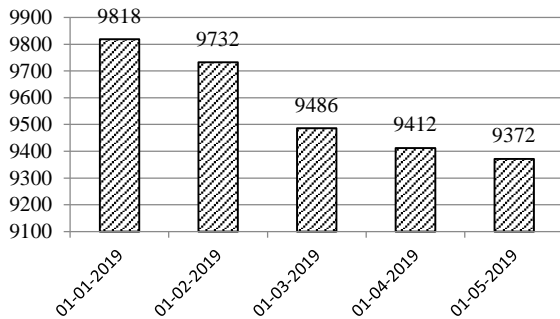


Fig. 1. Dynamics of total assets of the banking sector of the Belgorod Region for 5 months of 2019, million rubles.*

* Compiled by the authors based on data from the Belgorod Region Branch of the Bank of Russia, https://cbr.ru/Collection/Collection/File/27911/OFS_20-01.pdf

The decline in the activity of the banking sector in the region has a negative impact on the economic security of banks. In this regard, it seems relevant to study the factors influencing the decrease in the volume of banking activities in the Belgorod region, which in the long term will lead to a decrease in the economic security of the banks in the region.

The financial results of the activities of commercial banks in the Belgorod region in the period under study are shown in Figure 2.

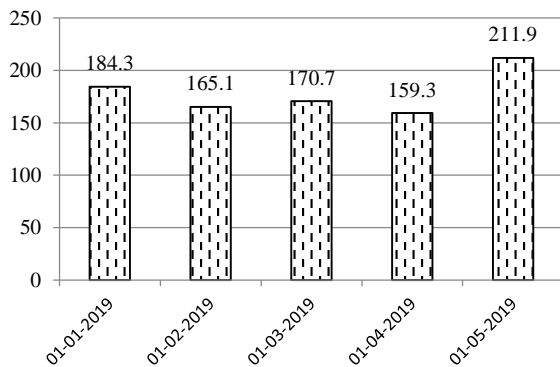


Fig. 2. Dynamics of the aggregate financial results of the banking sector of the Belgorod Region for 5 months of 2019, million rubles.*

* Compiled by the authors based on data from the Belgorod Region Branch of the Bank of Russia, https://cbr.ru/Collection/Collection/File/27911/OFS_20-01.pdf

There is no clear trend in the dynamics of the financial results of the banking sector in the Belgorod Region. So, at the beginning of 2019, the banks of the Belgorod region received a cumulative financial result of 184.3 million rubles, in February this indicator decreased to 165.1 million rubles, in March it increased relative to February to 170.7 million rubles. , in April there is a significant reduction in financial indicators to 159.3 million rubles, and in May the studied indicator increased to 211.9 million rubles. In general, for the

period under study, the aggregate financial result obtained by the banking sector of the Belgorod Region increased by 27.6 million rubles.

Commercial banks of the Belgorod region in the study period invested in long-term liabilities (Fig. 3).

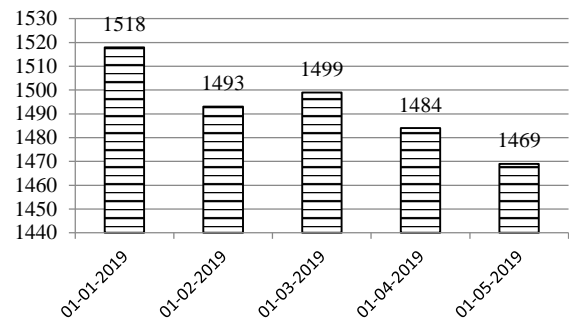


Fig. 3. Dynamics of long-term liabilities of the banking sector of the Belgorod Region for 5 months of 2019, million rubles*

* Compiled by the authors based on data from the Belgorod Region Branch of the Bank of Russia, https://cbr.ru/Collection/Collection/File/27911/OFS_20-01.pdf

In the period under study, there has been a sharp decline in the investments of banks in the Belgorod region in stock debt securities. If, as of 01.01.2019, the volume of investments in long-term operations amounted to 1,518 million rubles, then as of 01/05/2019 it decreased to 1,469 million rubles.

The volume of lending to the banking sector of the Belgorod region in the study period is shown in the figure 4.

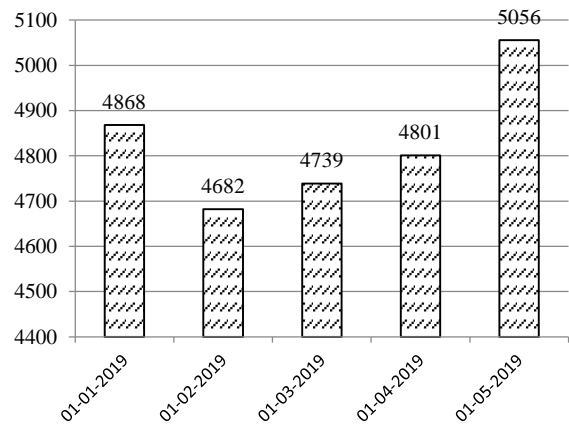


Fig. 4. Dynamics of the loan portfolio of the banking sector of the Belgorod region for 5 months of 2019, million rubles*

* Compiled by the authors based on data from the Belgorod Region Branch of the Bank of Russia, https://cbr.ru/Collection/Collection/File/27911/OFS_20-01.pdf

The volume of credit operations of commercial banks in the Belgorod region, on the contrary, is increasing from 4868 million rubles. up to 5056 million rubles. However, at the beginning of February, there was a minimum volume of loan issuance transactions. The growth of the loan portfolio is a positive moment in the activities of banks in the Belgorod region.

The quality of the loan portfolio is characterized primarily by the amount of overdue debt and its share in the total volume of lending.

The overdue debt of the banking sector of the Belgorod region in the period under study is shown in the figure 5.

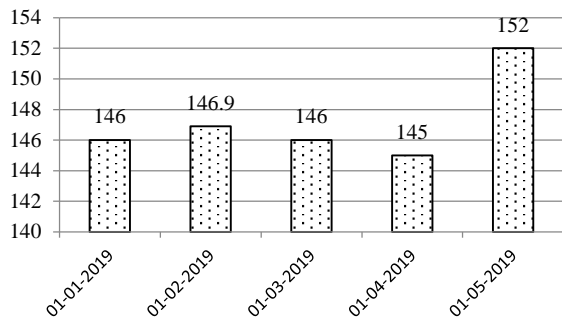


Fig. 5. Dynamics of overdue debt in the banking sector of the Belgorod Region for 5 months of 2019, million rubles.*
* Compiled by the authors based on data from the Belgorod Region Branch of the Bank of the Bank of Russia, https://cbr.ru/Collection/Collection/File/27911/OFS_20-01.pdf

Overdue debt of commercial banks in the Belgorod region increased in the period under study by 6 million rubles. and reached 152 million rubles by the end of the period.

The most objective assessment of the quality of the loan portfolio of banking operations in the region will make it possible to analyze the dynamics of the relative indicator - the share of overdue debt in the loan portfolio of banks in the region.

The dynamics of the share of overdue debt in the loan portfolio of the banking sector of the Belgorod region in the study period is shown in the figure 6.

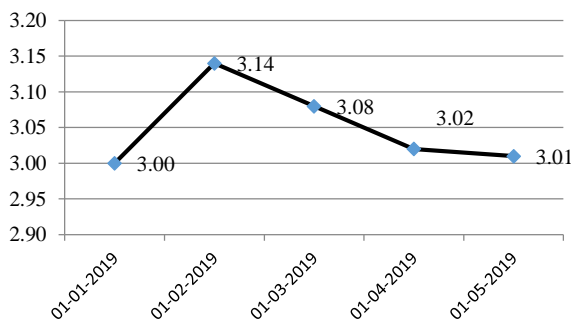


Fig. 6. Dynamics of the share of overdue debt in the loan portfolio of the banking sector of the Belgorod Region for 5 months of 2019, RUB million.*
* Compiled by the authors based on data from the Belgorod Region Branch of the Bank of the Bank of Russia, https://cbr.ru/Collection/Collection/File/27911/OFS_20-01.pdf

At the beginning of the study period, overdue debt accounted for 3% of the total amount of loans issued. this indicator reached the largest amount in early February (3.14%) with the least amount of lending in this period. Further, there is a positive trend in reducing the share of overdue debt in the loan portfolio. By the end of the study period, this figure is 3.01%.

The dynamics of funds attracted from customers by the banking sector of the Belgorod region in the period under study is shown in the figure 7.

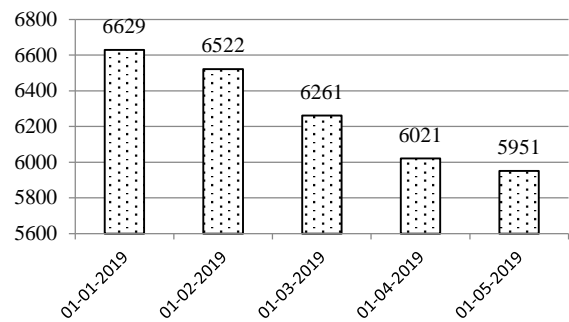


Fig. 7. Динамика привлеченных средств клиентов банковским сектором Белгородской области за 5 месяцев 2019 года, млн. руб.*
* Compiled by the authors based on data from the Belgorod Region Branch of the Bank of the Bank of Russia, https://cbr.ru/Collection/Collection/File/27911/OFS_20-01.pdf

In the study period, there is a negative trend in the decrease in the volume of funds attracted from clients (legal entities and individuals) to bank accounts. If as of 01.01.2019 this indicator for the banking sector of the Belgorod Region was 6,629 million rubles, then as of 01.05.2019 it decreased to 5951 million rubles.

The dynamics of household deposits attracted by the banking sector of the Belgorod region in the study period is shown in the figure 8.

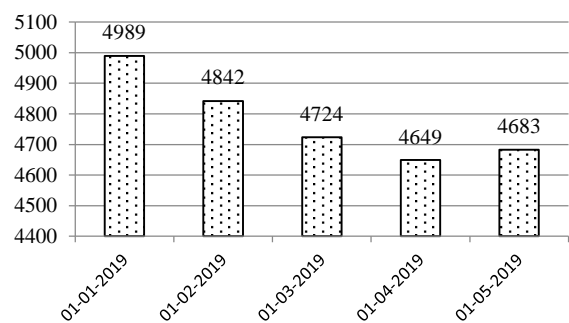


Fig. 8. Dynamics of deposits of individuals in the banking sector of the Belgorod region for 5 months of 2019, million rubles.*
* Compiled by the authors based on data from the Belgorod Region Branch of the Bank of the Bank of Russia, https://cbr.ru/Collection/Collection/File/27911/OFS_20-01.pdf

The dynamics of household deposits in the study period is declining. If at the beginning of the period commercial banks of the Belgorod region attracted 4989 million rubles. in the form of deposits of individuals, then by the end of the period this indicator decreased to 4683 million rubles.

A decrease in the attracted funds of clients (including deposits of the population) will affect the decrease in the bank's liabilities, which in turn has been reflected in the dynamics of its assets (Fig. 1).

The analysis of the main indicators characterizing the state of the banking sector in the Belgorod Region revealed the following main trends:

- a negative trend towards a reduction in the bank's total assets associated with a decrease in liabilities as a result of a reduction in the main item of borrowed funds from banks - customer funds (including household deposits)
- increase in financial results by the end of the period, which testifies to the effective operation of banks in the Belgorod region;

- an increase in lending volumes while maintaining the share of overdue debt in the loan portfolio at an acceptable level.

In general, the analysis revealed both positive and negative aspects of the activity of the regional banking sector.

3.2. Research of Factors Affecting the Economic Security of the Banking Sector of the Belgorod Region

Having studied and systematized the available opinions in the scientific literature, we can conclude that the economic security of the banking sector in the region is influenced by various factors that can be grouped into two groups: external factors and internal factors.

External factors do not depend on the activities of the bank, but they have a significant impact on the bank as a whole and on the economic security of the credit institution, in particular. The factors of this group include: the state of the economy, the level of development of the financial market, the monetary policy of the Central Bank, the state of the banking system, etc.

Internal factors are factors that completely depend on the bank's activities: the bank's business reputation, the scale of the bank's activities, the level of banking risks, the amount of formed reserves, etc.

In this paper, we have selected eight factors to study the factors affecting the economic security of the banking sector in the Belgorod Region (Table 2). The factors influencing the economic security of the banking sector in the region were selected by studying and systematizing the opinions of various authors studying this problem [3-6, 8-12, 24-28].

TABLE II. FACTORS THAT HAVE A NEGATIVE IMPACT ON THE ECONOMIC SECURITY OF THE BANKING SECTOR OF THE BELGOROD REGION, SELECTED FOR THE STUDY

N	Conventional designation of a factor	Factor affecting the economic security of banks in the region
1	<i>f1</i>	Exposure of the regional banking system to global risks
2	<i>f2</i>	Vulnerability of the information infrastructure of banks in the region
3	<i>f3</i>	High level of risks when performing banking operations (credit risk, currency risk, etc.)
4	<i>f4</i>	Low solvency of bank clients
5	<i>f5</i>	The state of the regional economic system
6	<i>f6</i>	Unemployment rate in the region
7	<i>f7</i>	Banking management quality
8	<i>f8</i>	Asset quality of the banking sector in the region

As a procedure for studying the influence of the selected factors, we have chosen an expert assessment, which will be carried out in several stages (Fig. 9).

The experts were employees of commercial banks (PJSC Sberbank, PJSC Bank VTB, JSC Rosselkhozbank, PJSC Alfa-Bank, JSC UKB Belgorodsotsbank) of the Belgorod region.

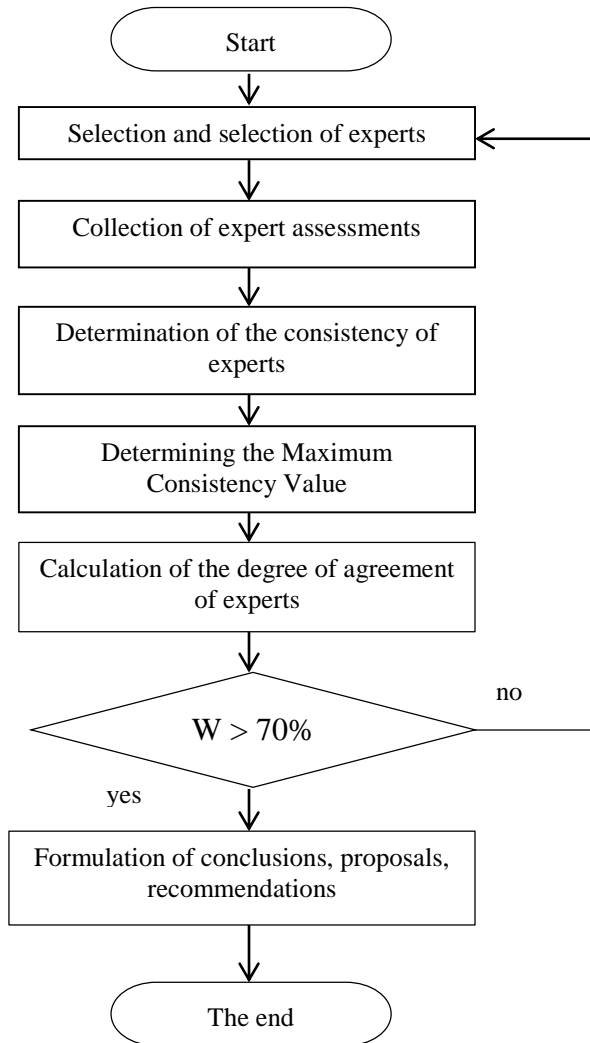


Fig. 9. Block diagram of the algorithm for the analysis of expert assessments in the study of factors affecting the economic security of the banking sector in the region

The task of the experts was to express their opinion on the influence of various factors on the economic security of the banking sector in the Belgorod Region. The question to the experts was formulated as follows: "What factors have a negative impact on the economic security of the banking sector in the Belgorod region?"

The proposed factors had to be put in their places as follows: put the factor that has the greatest negative impact on the economic security in the region in the first place, the factor next in the degree of influence, and so on. The rating scale was the same for all experts: it was necessary to assign each factor a rank from 1 to 8, depending on the place of the factor assigned by the expert. So, the factor that the expert will assign the first place had to be put 1, the factor that the expert put in the second place - 2, etc., the factor that ended up in the last place is assigned the rank 8.

When collecting expert assessments, we interviewed 20 experts, for consistency of expert opinions, we used the concordance coefficient:

$$w = \frac{12 S}{n^2(m^2 - m)} \tag{1}$$

where S – is the sum of the squares of the deviations of all rank estimates of each object of expertise from the mean

n – number of experts;

m – number of objects of expertise.

In turn, S is determined by the formula:

$$S = n \sum (x - \bar{x})^2 \quad (2)$$

where X – is the sum of the ranks of each object of examination;

\bar{X} – is the average value of the ranks.

The results of calculating the sum of squares of deviations of all rank estimates of each object of examination from the mean value are presented in the table 3.

TABLE III. CALCULATION OF THE SUM OF SQUARES OF DEVIATIONS OF ALL RANK ESTIMATES OF EACH OBJECT OF EXPERTISE FROM THE MEAN

Фактор	X	$X - \bar{X}$	$(X - \bar{X})^2$
$f1$	86	-76	5776
$f2$	66	-96	9216
$f3$	106	-56	3136
$f4$	223	61	3721
$f5$	242	80	6400
$f6$	261	99	9801
$f7$	145	-17	289
$f8$	167	5	25
<i>Всего</i>	1296	-	38364

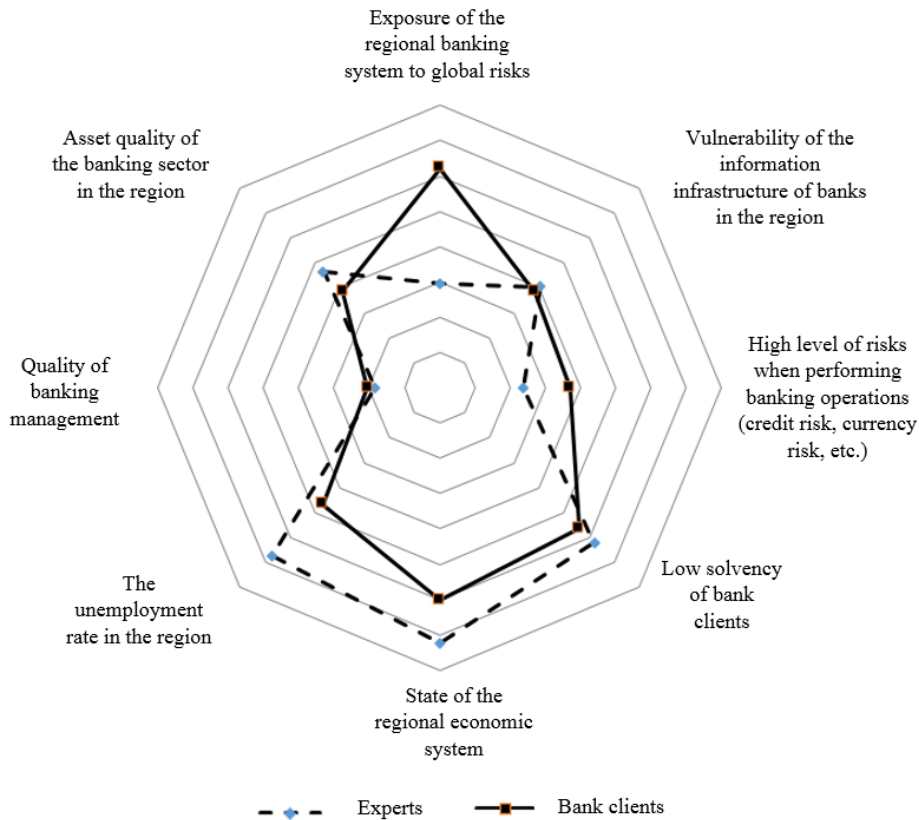


Fig. 10. Opinions of experts and clients of banks on the factors affecting the economic security of the banking sector in the Belgorod Region

Next, we will calculate the degree of agreement of experts by calculating the coefficient of concordance:

$$W = \frac{12 \times 38364}{36^2 (8^3 - 8)} = 0,7048.$$

The concordance factor of 0.7048 indicates a high degree of agreement among experts, which allows us to draw conclusions and proposals based on the assessment.

In addition to experts, we interviewed 90 clients of banks in the Belgorod region, who were asked the same question and were asked to assign ranks to the same factors. The summary results of the survey of clients and experts are presented in the table 4.

TABLE IV. AVERAGE RANKS FOR THE STUDIED FACTORS

Factor	Mean value of the rank assigned	
	expert	clients
<i>f1</i>	4,3	6,22
<i>f2</i>	3,3	3,84
<i>f3</i>	5,3	3,69
<i>f4</i>	11,15	5,63
<i>f5</i>	12,1	6,01
<i>f6</i>	13,05	4,67
<i>f7</i>	7,25	2,06
<i>f8</i>	8,35	3,88

* Compiled by the authors based on data from the Belgorod Region Branch of the Bank of Russia

The data in Table 4 show that the opinions of experts and bank clients differ. For a more visual study of the positions of bank clients and experts, we will graphically depict the average ranks for the factors under study (Fig.10).

IV. CONCLUSION

The conducted research allows us to conclude that the factor that has the strongest impact on the economic security of the banking sector in the Belgorod region is the quality of banking management. It should be noted that this factor is highlighted by both experts and bank clients.

According to experts, the second most influential factor is the exposure of the region's banking system to global risks (this factor is becoming especially relevant in the modern world, we are talking about the negative impact of the coronavirus pandemic on all aspects of human activity). It should be noted that the opinion of experts is not shared by the bank's clients, who believe that the vulnerability of the information infrastructure of the region's banks has a strong negative impact on the economic security of the region's banking sector. According to experts, this factor has a strong impact on the economic security of credit institutions.

Opinions are divided over the factor that has the weakest impact on the development of lending in the region. Thus, bank clients believe that the factor "high level of interbank competition" is weakly affecting bank lending in the Lipetsk region, while experts attribute this factor to a number of factors with significant influence.

According to experts, the weakest of the studied set of factors are the state of the regional economic system and the unemployment rate in the region.

Both parties interviewed believe that the high level of risks in performing banking operations have a significant impact on the economic security of the banking sector in the Belgorod region.

Both experts and bank clients believe that the quality of assets of credit institutions has a weak effect on the economic stability of the region's banks.

It should be noted that, in the opinion of both parties, the "low solvency" factor has little effect on the economic security of the banks in the region.

Thus, in the opinion of the respondents, the strongest influence is exerted by: the quality of banking management, the exposure of the region's banking system to global risks, and the vulnerability of banks' information infrastructure.

Consequently, to improve the economic security of the banking sector in the Belgorod region, it is necessary, first of all, to improve the quality of banking management. Thus, no matter what external factors affect the activities of banks, economic security will largely depend on the competence of the bank's management.

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