THEORETICAL AND METHODOLOGICAL APPROACHES TO THE FORMATION OF A MODEL FOR INCREASING THE EFFICIENCY OF THE SYSTEM FOR ENSURING THE ECONOMIC SECURITY OF A BANKING INSTITUTION

ABSTRACT

The main purpose of the article is to form a model for improving the efficiency of the system for ensuring the economic security of a banking institution. The object of the study is the system for ensuring the economic security of a banking institution. The importance of finding ways to improve the efficiency of the system for ensuring the economic security of a banking institution is proven. The methodology of the article provides for the use of a modern graphical-functional modelling method that allows the achievement of the goals set by forming a model for improving the efficiency of the system for ensuring the economic security of a banking institution. As a result, a model was obtained to improve the efficiency of the system for ensuring the economic security of a banking institution. The main stages of modelling an increase in the efficiency of the system for ensuring the economic security of a banking institution are characterized. Thus, the proposed methodological approach to improving the efficiency of the system for ensuring the economic security of a banking institution can be considered an element of scientific novelty. The results obtained, described in the article, have limitations in the form of taking into account only the specifics of the activities of a banking institution, however, further research will include expanding the range of modelling. Further research should be devoted to the analysis of international experience in the public administration of financial and economic security in modern conditions.

Keywords: model, banking institution, banking activity, system, security, economic security, ensuring the security

JEL Classification: G20, G21

INTRODUCTION

Economic security is the basis for ensuring the national security of the country in general and its sustainable socio-economic development. Revealing the definition of economic security, one can proceed from different interpretations. Economic security can be defined as the ability of the country's economy as a whole and its regions separately to ensure stable development and appropriate protection of the economic interests of individuals, business entities, regions and the country. The country's economic security can be considered from the standpoint of ensuring the protection of the vital interests of all residents of the country, society and the state in the economic sphere from internal and external threats.

The processes of globalization and integration of our country into the world economy, the expansion of areas of banking activity, increased competition in the banking sector, the underdevelopment of financial markets and infrastructure, the introduction of new information technologies, the imperfection of current legislation, corruption and criminalization of the economy pose new tasks to the banking system, entail the appearance of previously uncharacteristic threats and risks.

Security of banking activity should be understood, firstly, as the security of the bank as an organization; the security of bank personnel; security of banking operations. The
economic security of a bank is a state in which its economic development and stability of operations are ensured, the protection of its financial and material resources is guaranteed, and the ability to respond adequately to changes in the internal and external situation. Recent advances in science and technology, and the use of modern technologies, expose banks to new and more dangerous threats. For commercial banks, such conditions of effective and safe activity as ensuring the return of loans, increasing profitability, maintaining liquidity, and reducing banking risks are particularly significant. Therefore, among the problems of protecting banking activity from external and internal threats, the need to ensure the protection of financial resources, the protection of information and the property of a commercial bank, as well as the creation of a system of economic security, is becoming more and more relevant.

The essence of economic security in the banking system is to ensure the state of the best use of its resources to prevent threats to commercial banks and create conditions for stable, efficient functioning and profit maximization. Ensuring the bank's economic security is the process of achieving a state of protection of the bank's economic interests, which are revealed during the implementation of the statutory goals and objectives, and consists in creating favourable conditions for the implementation of the types of banking activities provided for by the statute.

The security system of banking activity can be defined as a set of special bodies, means, methods and measures that ensure the protection of activity against the influence of internal and external threats. The system of economic security of a banking institution is a combination of various elements (security of material resources, financial security, information security, as well as personnel security), interconnected by versatile connections, aimed at protecting against threats and countering them in the most important areas of the bank's activity.

The development of methodical approaches with the corresponding stages of enabling the achievement of this process will contribute to increasing the efficiency of the system for ensuring the economic security of banking institutions. That is why the choice of the selected research topic is relevant.

**LITERATURE REVIEW**

According to most scientists [1-3], the mechanism of economic security of a bank is a sequence of stages and a set of methods of interaction between objects and subjects of economic security to achieve an economically secure state of the organization and maintain it at the proper level in a building and operating perspective based on a clearly defined list of principles. Ensuring economic security should be focused on ensuring the priority protection of confidential information and only then other objects of potential threats.

As noted in the literature [4-5], the security of a commercial bank is the state of protection of the interests of owners, management and customers, as well as material values and information resources from internal and external threats.

Most scientists believe that the systemic economic security of a bank should be ensured through a certain ordering of security measures, the formation of an appropriate algorithm for their application, based on common security technologies and their centralized management. In turn, an integrated approach to the economic security of the bank is implemented through the application of financial, legal, informational, socio-psychological, technical and other measures, as well as using the capabilities of all bank structures.

As noted in the scientific and practical literature [6-7], socio-economic transformations in the economy of Ukraine are characterized by a number of factors that significantly affect the formation of risks and threats, including in banking. Among the latter, one can mention the instability of the political and socio-economic situation in the country, the imperfection of legislation that does not contribute to the protection of the interests of banks in the course of their activities, the insignificant internal possibilities for the formation of financial resources of banks, the low level of public confidence in them, quite significant indicators of crime in society, in including in banking, dishonest behaviour and unprofessional activities of bank employees At the same time, the current threats in banking are characterized primarily by their diversity and are complex in nature and manifest themselves in banks in their entirety. At the same time, the results of the implementation of these threats, as a rule, are manifested in the economic consequences of the activities of banks. The decline in competitiveness, liquidity, and financial losses of banks - all these are the results of a complex of threats inherent in today's banking services market. Under such conditions, the main problem for banks is the search for effective, adequate, sufficiently dynamic threat formation measures to ensure their economic security, minimizing the negative impact of such threats and ways to create security systems that can withstand the challenges of the current market situation. Recently, the issues of ensuring the economic security of a banking institution have been given particular importance, but despite this, it remains debatable and requires further study and discussion.
There is a scientific opinion in the literature [8-10] that the system of economic security of a banking institution should include the following mandatory elements: objects and subjects of economic security of the bank, subsystems of economic security, an economic security system is built, a mechanism for managing the economic security of the bank, etc. d. When building a modern system of economic security of a bank, it is necessary to take into account factors that can have a destructive effect on the level of economic security that this system is able to provide organizations and the vectors of state influence on the system of economic security of a banking institution.

AIMS AND OBJECTIVES

The main purpose of the article is to form a model for improving the efficiency of the system for ensuring the economic security of a banking institution. The object of the study is the system for ensuring the economic security of a banking institution. The main task of the article is to model ways to improve the efficiency of the system for ensuring the economic security of a banking institution.

METHODS

The research methodology can be divided into two parts. The first part consists of general scientific methods, among which we can distinguish methods of analysis and synthesis of information, methods of deduction and induction, methods of systematization, and abstract methods. All these methods make it possible to carry out a theoretical and methodological analysis of scientific information on ensuring the economic security of a banking institution.

The second part of the methodology of the article is a modern method of graphical functional modelling, which, through the given parameters, allows you to best depict the execution of the stages of a particular process. In our case, two goals will be set to improve the efficiency of the system for ensuring the economic security of a banking institution.

RESULTS

If we consider the organizational side of managing the economic security of banking, then it is closely related to the risk management system in conducting current banking operations. The risky aspect of security is related to the fact that security and risk are interrelated categories. The higher the level of security, the more simplified the risk management model, and vice versa, the failure of the security system increases the likelihood of negative consequences associated with excessive risks.

The area of banking activity is associated with a concentration of significant material values and economic mechanisms that affect the entrepreneurial activity of business entities and all sectors of the economy. The volatility of financial activity and the reduction of its control by the state significantly weaken the banking concept, making it very susceptible to illegal encroachments. In this regard, close attention has recently been paid to crime in the field of banking. It should be noted that it is the state that is the main guarantor of the economic security of banking.

The effectiveness of the economic security of a banking institution is achieved in two ways, firstly, by developing measures to prevent, expressed in reducing the number of such crimes, and, secondly, by developing measures to disclose already committed criminal acts. Obviously, prevention is associated with both prevention and other actions, but not in the classical form (since they are not able to convince a potential criminal not to do what he has planned, due to the presence of the possibility of obtaining material benefits), but in the form tough sanctions, such that even the possibility of using the object of profit in case of solving a crime is excluded.

The economic security of a banking institution, its independence and prevention of sliding into the zone of critical risk can be ensured if the most important strategic directions for ensuring business security are determined, a clear logical scheme is built for the timely detection and elimination of possible dangers and threats, and mitigation of the consequences of economic risk.

In general, the economic security of a banking institution should be based on the identification of signs and highlighting its following aspects: interpretation of security as a means of ensuring long-term sustainable development and protection from strategic threats (within the framework of strategic management); interpretation of security as the security of banking activities (within the limits of risk management); allocation of specific activities regarding the protection of the interests of shareholders (within the framework of corporate governance).
Before proceeding to modelling, it is necessary to summarize the theoretical analysis carried out and note that, in our opinion, the system for ensuring the economic security of a banking institution should be understood as a set of tools and processes, the development and implementation of which by the security service leads to the formation of safe conditions for the introduction of banking activities to provide related services to clients. Our interpretation focuses on the security service, which should play an important role in ensuring the economic security of a banking institution.

So, let's define the main purpose of modelling and give a mathematical designation in the form of T0 (Figure 1).

T0

Improving the efficiency of the system for ensuring the economic security of a banking institution

T1 Creation of special programs to ensure economic security
T2 Identification of fraudulent systems in Internet banking
T3 Involvement of specialists to ensure economic security
T4 Formation of technical means of ensuring economic security
T5 Operational measures to ensure economic security

Figure 1. The purpose and stages of modelling are to improve the efficiency of the system for ensuring the economic security of a banking institution.

Thus, we characterize each stage of achieving the goal T0 "Improving the efficiency of the system for ensuring the economic security of a banking institution":

- **T1.** Creation of special programs to ensure economic security. Development and creation by the bank's security service of special training programs to ensure security, reduce threats and risks of illegal actions on the use of electronic means of payment. Thanks to such programs, which will be provided free access only for bank customers in the mode of tracking users by bank security specialists, the level of financial literacy of the population will significantly increase, therefore, the number of crimes in the field of cyber fraud will decrease, and ultimately the economic security of the bank will increase.

- **T2.** Identification of fraudulent systems in Internet banking. Development and implementation by the security service of a system for collecting device data, which is a timely detection of fraudulent schemes in Internet banking. This system should not only reduce the risk of cyber fraud but also identify all kinds of threats. Such a system can be based on enhanced risk identification and analysis of the behaviour of users of remote banking services. The system should immediately block various suspicious or risky customer transactions and transfer user data to the bank's security service.

- **T3.** Involvement of specialists to ensure economic security. Allocation of separate specialists in the security service to ensure economic security, continuous financial monitoring and internal control in order to counteract cyber fraud, as well as reduce the risk of illegal actions. A computer monitoring system is a modern and indispensable model that can give certain, unpredictable failures and be exposed to virus software, while a professional bank employee using this program can collect data on all client transactions in real-time, build a mathematical model of its behaviour, continuously analyze all client actions, highlight suspicious patterns - any deviations from the profile - and identify suspicious transactions.

- **T4.** Formation of technical means of ensuring economic security. Provision by the security service of technical measures to protect funds from theft of the bank at ATMs, including equipping all ATMs with anti-skimming devices. These devices are connected to a device that regulates the voltage in an ATM, upon removal of which the card becomes impossible. Here, one should take into account the fact that each bank chooses a device that it considers effective and not overly expensive. To date, there are many anti-skimming devices that differ from each other by manufacturers, quality, shape and price.
- **T5.** Operational measures to ensure economic security. Improving the system of prompt receipt and verification by law enforcement agencies of information about crimes with payment cards, and electronic payments by allocating individual specialists whose powers will be directed to the prompt collection and processing of information for transmission to law enforcement agencies.

At the main stages described and using the proposed method of graphical-functional modelling, we will form a model for increasing the efficiency of the system for ensuring the economic security of a banking institution (Figure 2).

![Figure 2. The model for increasing the efficiency of the system for ensuring the economic security of a banking institution.](image-url)

Figure 2 shows the main stages that, in the opinion of the team of authors of the article, will best contribute to improving the efficiency of the system for ensuring the economic security of a banking institution. Of course, depending on the specifics of the banking institution itself, the list, content and essence of the stages can be changed and edited. This is a flexible plus of the proposed model. Some elements have a general meaning. This applies to resource provision, which begins with the first stage and accompanies the implementation of all the others. That is, in fact, at the input we have a certain amount of resources, which ultimately gives us a certain socio-economic effect. This effect is a certain result, depending on the banking institution itself. Some banking institutions set themselves one goal, while others another. Therefore, the result of the output of the model should be designated precisely as a socio-economic effect. This also applies to the development strategy, which each banking institution forms at its own request and appeal. Banking regulation directly depends on the external environment.

Describing in detail the one shown in Figure 2 model for improving the efficiency of the system for ensuring the economic security of a banking institution, it should be noted that it has a number of unique elements that contribute to the achievement of its goals. First of all, this is manifested in the emphasis on the constant provision of information about the movement and the execution of each of the stages (T). This also applies to certain directives that must accompany each
stage. It is also necessary to highlight the evaluation of the results of each stage. This will contribute to a better understanding of whether everything is done correctly or not. It is possible to plan the time interval for achieving each stage proposed in the model (Figure 3).

![Figure 3. Temporary guidelines for the implementation of the stages of ensuring the economic security of a banking institution.](image)

A study of the situation of ensuring economic security in banks in recent years indicates that the latter is not singled out by them as a separate type of security, and its activities are carried out in the general order of activity of the security forces of banks. As for small banks or branches or branches of banks, there are generally no economic security measures or they are carried out at a passive level - protection. A special disadvantage is that banking security is traditionally considered a function of a special unit of the security service and is not transformed into other units of the bank.

In conclusion, it should be noted that the prevention of the considered criminal acts should be built into the overall system for the prevention of crimes committed using information and telecommunication networks. The elements of the modern crime are closely intertwined and interrelated, therefore, preventive measures should also have a coordinated, complementary character and, in their entirety, represent a single system of combating crime, focused on the effective protection of the individual, society and the state from socially dangerous encroachments. It is believed that the economic security of a banking institution is such a situation in a bank when the presence of a more optimal use of resources leads to the elimination of probable dangers of the bank's activities and the implementation of successful risk management, forms a favourable area for the purpose of implementing the tasks and functions of the bank, its sustainable, stable, modern, independent formation and maximization of income.

Criminogenic factors influencing the banking sector are divided into groups: economic; organizational management; legal; social and socio-psychological character. Currently, among them, organizational and managerial factors are of particular importance, which includes, firstly, the imperfection of reform activities at the national level. Therefore, measures of a general social nature should form the basis of measures to prevent banking crime.

Measures of general social prevention, focused mainly on the neutralization of criminogenic factors of an economic, organizational, managerial, legal and social nature, are:

- the entire social structure, but also its individual elements - in particular, the banking sector;
- at the level of organization of banking activity - elimination of the participation of criminal capital through a gradual decrease in the rate of profit of commercial credit organizations (in modern conditions, which is disproportionately high), an increase in government revenues and an increase in the stability of the banking sector as a result of the use of traditional economic instruments: prices, finance, credit, taxes. (partial regulation of the credit rate of commercial banks, a timely increase in the refinancing rate, an increase in deductions to the budget, insurance and reserve funds, etc.).

To achieve the highest level of economic security in the banking sector, a commercial bank must carry out effective work to ensure the stability, efficiency and reliability of the functioning of the fundamental elements, which, in turn, include: the financial component, information component, technical and technological component, sociological, personnel component and a legal component.
DISCUSSION

Discussing the results of the study, we should consider similar to ours in order to compare them. For example, a number of scientists [11-15] studied the strategic aspects of information support for the economic security of a banking institution. Information and analytical support is defined by them as a system of interaction between subjects and the use of special methods, means and forms of obtaining, accumulating and analyzing information, generating forecasts, developing information and analytical documents and directly participating in the creation of banking products.

Discussing the results of the study, it should be noted that economic security is quite significantly dependent on its staffing since these issues underlie the emergence of threats to economic security. Experience shows that the majority of crimes and offences in banking are committed, as a rule, with the participation or with assistance of bank employees. This situation is confirmed by examples when information about such violations by bank employees already goes beyond banks and becomes the object of journalistic investigations. Personnel security measures do not apply to economic security but are carried out according to the general plan for the selection and control of personnel. As a rule, few special measures for personnel security, which directly affect the provision of economic security and its quality, are carried out in banks. Under such conditions, there is no system for preventing violations or dishonest behaviour of employees either at the level of protection of operations or at the level of technological counteraction to violations (quick detection of any violations in the technologies of banking operations). As a rule, the unscrupulous behaviour of employees is manifested by its consequences in the event of certain damage, damage to the image of the bank, conflict situations with customers or between the employees themselves.

Other scientists singled out [16-20], which focused on assessing the economic security of a banking institution. The main criterion for evaluating the bank's economic security system will be the stability of its economic development in accordance with its plans and objectives. Information and analytical support is the main component, which provides for the interaction of all departments of the bank in the formation of the bank's information resource, information support of activities and banking operations.

Discussing similar results, it should be noted that the difference presented in our article is clear. We have presented a new approach for this area to improve the efficiency of the system for ensuring the economic security of a banking institution, which is distinguished by a functional-graphic modelling style.

CONCLUSIONS

Summing up, we can say that the systemic economic security of the bank should be ensured through a certain ordering of security measures, the formation of an appropriate algorithm for their application, based on common security technologies and their centralized management. In turn, an integrated approach to the economic security of the bank is implemented through the application of financial, legal, informational, socio-psychological, technical and other measures, as well as using the capabilities of all bank structures. From the point of view of the problem under study, the main goal of banking security is to ensure the continuous functioning of the banking system in the conditions of its interaction with a constantly changing environment, as well as to identify and neutralize external and internal threats to the sustainable functioning of the banking system, organize counteraction to these threats, and minimize the consequences of their influence.

The bank's economic security system must clearly perform certain functions, the main of which are: accurate forecasting, identification and prevention of various criminogenic dangers and threats; ensuring the security of the bank's activities as a whole and its personnel, the preservation of its property, as well as the creation of a favourable competitive environment and the elimination of the consequences of the damage caused.

Thus, it should be noted that according to the results of the study, we have formed a model for improving the efficiency of the system for ensuring the economic security of a banking institution. Also, the main stages of modelling an increase in the efficiency of the system for ensuring the economic security of a banking institution were subjected to characterization. As for scientific novelty, its elements are presented in the form of a methodological approach to improving the efficiency of the system for ensuring the economic security of a banking institution.

Like any other scientific study, ours has a number of limitations, which can be seen by taking into account only the specifics of the activities of a banking institution, however, further research will include expanding the range of modelling. A promising area of research may be the analysis of financial security in the context of ensuring economic security.
REFERENCES


Криштанович М., Шуляр Р., Світлик М., Зоря О., Фатюха Н.

ТЕОРЕТИКО-МЕТОДОЛОГІЧНІ ПІДХОДИ ДО ФОРМУВАННЯ МОДЕЛІ ПІДВИЩЕННЯ ЕФЕКТИВНОСТІ СИСТЕМИ ЗАБЕЗПЕЧЕННЯ ЕКОНОМІЧНОЇ БЕЗПЕКИ БАНКІВСЬКОЇ УСТАНОВИ

Основною метою статті є формування моделі підвищення ефективності системи забезпечення економічної безпеки банківської установи. Об'єктом дослідження є система забезпечення економічної безпеки банківської установи. Доведено важливість пошуку шляхів підвищення ефективності системи забезпечення економічної безпеки банківської установи. Методологія статті передбачає застосування сучасного графічно-функціонального методу моделювання, який уможливлює виконання поставленої мети у вигляді формування моделі підвищення ефективності системи забезпечення економічної безпеки банківської установи.

У результаті дослідження отримано модель підвищення ефективності системи забезпечення економічної безпеки банківської установи. Елементом наукової новизни є запропонований методичний підхід щодо підвищення ефективності системи забезпечення економічної безпеки банківської установи. Описані в статті отримані результати мають обмеження у вигляді врахування лише специфіки діяльності банківської установи, проте подальші дослідження передбачатимуть розширення спектру моделювання. Подальші дослідження слід присвятити аналізу міжнародного досвіду державного управління фінансово-економічною безпекою в сучасних умовах.

Ключові слова: модель, банківська установа, банківська діяльність, система, безпека, економічна безпека, забезпечення безпеки

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