

## THE BANKS' RISKS MANAGEMENT: THE CURRENT DEVELOPMENT TENDENCIES

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UDC [005.52:005.334]+336.71(477)

### Pleskun I. V. The Banks' Risks Management: The Current Development Tendencies

The article considers the essence of the risks management system and the existing directions of its improvement in the domestic banks. The important components of the effective risks management process are identified. The necessity of introduction of the advanced system of compliance control for risks management of banking institutions is proved. The essence of the concept of «compliance» is highlighted and a methodical approach to building of a compliance program based on the risk assessment is proposed. A complex of organizational and methodical measures as to implementation of a compliance program of control over compliance of banks with the requirements of the effective legislation is offered.

**Keywords:** bank, risk, system, risks management, compliance control.

**Fig.:** 2. **Bibl.:** 18.

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УДК [005.52:005.334]+336.71(477)

**Плескун І. В. Управління ризиками банків: сучасні тенденції розвитку**  
У статті розглянуто сутність системи управління ризиками та існуючі напрями вдосконалення її у вітчизняних банках. Визначено важливі складові процесу ефективного управління ризиками. Доведено необхідність впровадження вдосконаленої системи комплаєнс-контролю для управління ризиками банківських установ. Висвітлено сутність поняття «комплаєнс» і запропоновано методичний підхід до побудови комплаєнс-програми, заснований на оцінці ризиків. Запропоновано комплекс організаційно-методичних заходів з впровадження комплаєнс-програми контролю за дотриманням банками вимог чинного законодавства.

**Ключові слова:** банк, ризик, система, управління ризиками, комплаєнс-контроль.

**Рис.:** 2. **Бібл.:** 18.

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УДК [005.52:005.334]+336.71(477)

### Плескун И. В. Управление рисками банков: современные тенденции развития

В статье рассмотрена сущность системы управления рисками и существующие направления совершенствования её в отечественных банках. Определены важные составляющие процесса эффективного управления рисками. Доказана необходимость внедрения усовершенствованной системы комплаєнс-контроля для управления рисками банковских учреждений. Освещена сущность понятия «комплаєнс» и предложен методический подход к построению комплаєнс-программы, основанный на оценке рисков. Предложен комплекс организационно-методических мероприятий по внедрению комплаєнс-программы контроля за соблюдением банками требований действующего законодательства.

**Ключевые слова:** банк, риск, система, управление рисками, комплаєнс-контроль.

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In the conditions of active development of globalization processes the parameters of banks' activity become more diversified, acquire new characteristics and properties. Gradually, banking institutions are expanding their clientèle bases and offering a wider range of services, resulting in new types of risks that predetermine the need to improve the existing systems of management in banks. A separate undervalued bank risk becomes a structural risk and damages the bank as a whole.

The banking institution is inherently a highly risky system. During the period of 2014–2017, the NBU recognized insolvent 88 banking institutions, which was result of the response to macroeconomic instability in the country. This fact is systematically important in the aspect of influence on defining the further directions of economic development, choice of the organizational and methodical instrumentarium of its provision, necessitating the need to strengthen supervision over abundance by the effective regulations of the activities of national banks. With this in mind, the problem of practice of theoretical provisions and methodological approaches to the bank's risks management system appears very important and relevant.

The review of theoretical sources and practical materials testifies that the research of the problem of risk management of banks is paid attention in a sufficiently large number of scientific works of both domestic and foreign economists, e. g.: E. Altman [1], J. F. Marshall [2], P. K. Rose [2], V. V. Bobyl [3], T. A. Vasileva [4], V. V. Vitlinskiy [5], S. O. Dmytrov [6], L. O. Prymostka [7] and others. These scientists in their publications disclose the essence of risk, determine the main classification attributes of different types of risks, propose complex systems of the multi-purpose managerial decisions.

The article is aimed at generalizing the existing theoretical provisions and methodological approaches to the bank's risks management system, in particular the compliance system, their improvement in the aspect of creating the latest methodological instrumentarium based on the results of analysis of interrelations of banks and their clientèle in the current conditions of functioning of national economy.

The vast majority of national financial institutions are interested in ensuring the functioning of profitable and stable banking business in the long term perspective.

Like any kind of economic activity, the banking business is guided by the general laws of the market and is vulnerable to numerous threats and risks, which requires a continuous process of improvement of the entire management system.

Regarding the specifics of banking activities, it is worth mentioning that the bank risks not only its money, but mainly the funds of its clientele. This can cause large financial losses for all participants, linked by monetary obligations.

During the first half of 2018, the NBU estimates that the level of credit risk and the level of risk of profitability of the banking sector decreased. The liquidity risk remains low [8].

The National Bank of Ukraine takes further measures regarding introduction of modern approaches to corporate management in the banking system of Ukraine. Banking institutions are now required to build effective risks management systems. This is requirement of the NBU resolution No. 64 [9].

The process of banking risks management includes five main stages: identification of risks faced by the bank in the course of activity; analysis and assessment of risks to which the bank is exposed; deciding whether to accept or reject the risk; development of measures to minimize or avoid risks; implementation of the system of measures on risks management and monitoring of its efficiency, control of the impact of the instruments of banking risks management system. The use of the above stages of banking risks management gives the bank an opportunity to identify, assess, minimize and control such risks in a timely manner.

The main purpose of the risk management process is minimization, transfer or complete avoidance of risk.

The bank carries out a comprehensive assessment of at least such significant types of risks:

- 1) credit risk;
- 2) liquidity risk;
- 3) interest rate risk of the bank book;
- 4) market risk;
- 5) operational risk;
- 6) compliance risk;
- 7) other significant types of risks which the bank is exposed to during its activity [9].

In the current conditions of operation of banking institutions, a significant place in the sphere of banking risks management is occupied by risks that are difficult to quantify and assess, which poses a serious threat to the activities of banks, i.e., operational risk, strategic risk, risk of loss of business reputation. In particular, a quite new kind of risks in the modern conditions of banks' activities in view of all external and internal factors of influence is the "compliance risk".

The system of banking risks management is an aggregate of modalities (means and methods) of work the bank's staff, providing to ensure a positive financial result

at presence of uncertainty in conditions of operation, to predict onset of a risky event and take measures up to its exclusion or reduction of its negative consequences [10].

Each bank has a system of banking risks management with its unique features and components. At formation of a system of risks management, the administration of separate bank should pay attention to volumes and specificity of its operation. Because implementation and performance of the risks management system requires enormous costs. This makes it necessary to compare the level of costs for its formation and ensuring its further functioning with possible volume of possible losses according to the confirmed risks.

According to the typical organizational structure of the risks management system, responsibilities and authorities in terms of risks management are distributed among all the entities of the system (structural management bodies).

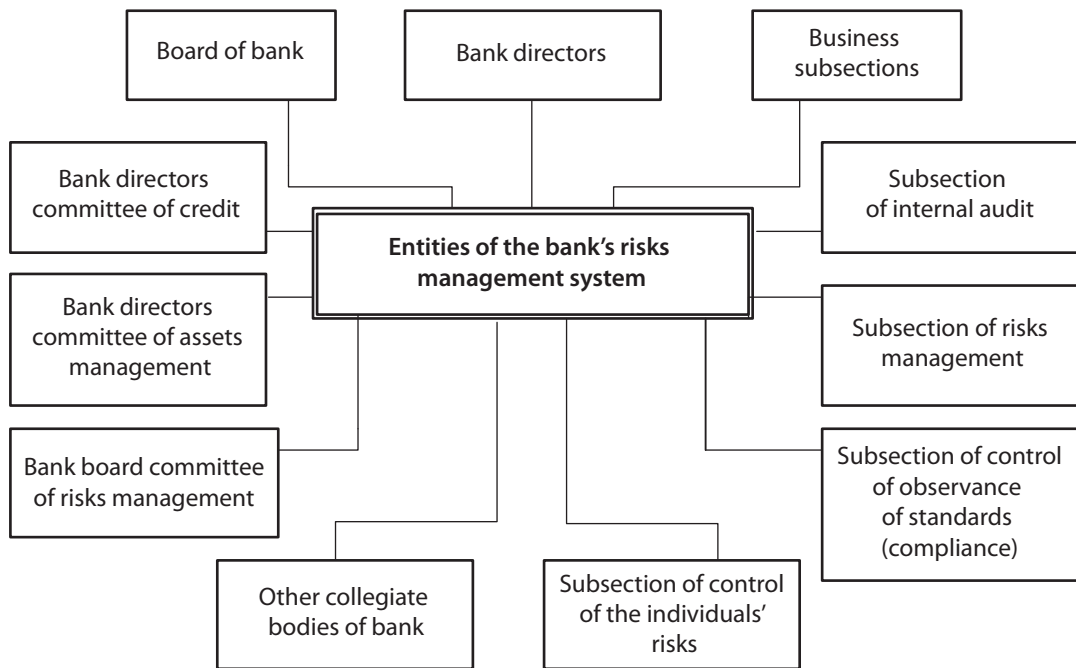
As seen from the Fig. 1, bank creates the organizational structure of the risks management system, which ensures a clear distribution of functions, responsibilities and authorities in terms of risks management among all the entities of the risks management system. The board of bank is responsible for the overall risks management, the bank directors, being the executive body, recognize and fulfill the requirements for independent performance of responsibilities by the subsections of risks management and control of observance of standards (compliance), the profile committees carry out document circulation and prepare documentation on discussion and the adopted decisions.

In our view, the organizational structure of the risks management system should include a subsection of control of the individuals' risks. The subsection of control of the individuals' risks may include the following functions:

- ✦ participation in development of techniques of classification of clients-individuals according to the NBU requirements for adequate assessment of risks, which are characteristic of such clientele;
- ✦ development of rules for verification of the data, provided to the bank by clientele;
- ✦ carrying out analysis of the client's activity with the request of supporting documents;
- ✦ advising the employees of the bank's structural subsections as to the procedures for assessing the financial and social situation of clients;
- ✦ report generation and carrying out analysis on the basis of the prepared reports.

For any financial institution an important component of ensuring the efficient risks management is the final adoption of the appropriate decision (selection of a possible option of scenario development), e. g., whether it is possible to trust the potential client.

According to article 1, paragraph 1, clause 21 of the current wording of "On prevention and counteraction to



**Fig. 1. Entities of the bank's risks management system**

the legalization (laundering) of proceeds of crime, the financing of terrorism and the financing of the proliferation of weapons of mass destruction”, client is any person who applies for the provision of services to the entity of primary financial monitoring (EPFM) and/or uses the services of the EPFM. Banking institutions, being the EPFM, are required to identify, verify the client, study the clientèle, and update the client information [11].

The National Bank of Ukraine has obliged banks to change approaches to the studying of financial activities of their clientèle. The domestic banks from now should check the origin of their clients' funds more thoroughly. Concerning the current conditions of banks' operation in the sphere of money circulation, one of the orientation targets is achieving maximum income, the implementation of which is associated with numerous risks.

The “Know your customer” rule is actively applied in the world practice, its purpose is to minimize the risks associated with possible money laundering, suspicious financial transactions that may expose the bank to reputation risks. The final task is to make sure that the client's operations are transparent and to cooperate exclusively within the legal field. When a client turns to the bank, except for the usual primary identification procedures for most clients at the stage of establishing business relations (opening accounts), banks are obliged to clarify the purpose and nature of future cooperation, to find out the origin of the client's money, if they have been on the deposit, where are they come from, what are sources of their income, to analyze and assess the financial condition of the clientèle [12].

In the process of servicing a large number of clients, both legal entities and individuals, there is a pro-

portion of clientèle who attract special attention. Banks should not respond to denial of service to the high-risk customers, but should control each operation and carry out financial monitoring.

In May 2018, the NBU applied enforcement actions to the four banks-violators in the sphere of financial monitoring. Thus, «MTB Bank», «Credobank» and «Prominvestbank» received written warnings, and «UkrSibbank» was fined of UAH 400 thousand for violating the legal requirements in terms of identifying the customer's affiliation and studying clients-public persons, as well as people close to them [13].

In February 2018 the NBU, in terms of enforcement actions, fined «Taskombank» of UAH 6 million for the identified signs of risky activity in the sphere of financial monitoring, failure to comply with the requirement of refusing to serve clientèle in cases provided by law, and improper performance of obligations in respect of risk management [13].

The results of analysis of the statistic data related to the above events confirm the legality and expediency of using the compliance control as one of the means of supervision over conformance with the existing norms to regulate the bank's activity. It should be noted that the actions connected with the process of management of compliance risk (compliance control), which came from the practice of foreign companies, have gained considerable popularity in the activities of banking institutions in Ukraine and has become necessary according to the estimates of the NBU.

The compliance control has to be understood as the complex system of supervision of the bank's performance to be carried out in accordance with the current legisla-

tion, its own rules (internal regulations), principles of business ethics, in order to minimize the compliance risks.

According to the Regulation on organization of the internal control in banks of Ukraine № 867 since 29.12.2014, the concept of «compliance» is wider defined as compliance by the bank with legislative acts, market standards, as well as the standards and internal documents of the bank, including the related procedures [14].

According to the basic documents of the International Compliance Association, the term of «compliance» is regularized in official documents as an ability to act according to the law, a set of rules and regulations or determined requirements and internal procedures [15].

**I**t should be borne in mind that compliance is an important component of the overall system of the internal bank control. The main task of the compliance system is to minimize the risk of involvement of organization in the processes of legalization of criminal incomes. The factor of development of compliance-control is the State regulation of new forms in this concern at the stage of strengthening of globalization processes. Subject to fulfillment of the mandatory requirement, when each agreement can be checked over, it stimulates the participants of financial relations in the aspect of responsibility and minimizing the risk of losses of both business reputation and money. The introduction of compliance primarily involves the mandatory responsibility of the compliance manager to the management and employees in relation to the identification and management of compliance risks.

Over the past years, the global banking practice has increasingly focused on the efficiency of the compliance-risks management. Compliance risk is the risk of legal sanctions, financial losses or loss of reputation as result of the bank's failure to comply with legislative acts, market standards, also the bank's standards and internal documents, including related procedures [16]. Compliance risks are the object of compliance control. By researching the content of compliance risks, it is necessary to pay special attention to their interconnectedness with operational risk and reputation risk. Failure to comply with the requirements of the regulator causes the main compliance risks on the part of banks, in terms of their activities. In the methodical and organizational aspects, banks, in terms of their activities, are concentrated precisely on fulfillment of basic requirements and procedures of compliance-control.

In 2005, the Basel Committee on Banking Supervision published in the normative document «compliance and its functions in banks» 10 principles of organization of compliance in banking institutions [17].

Structuring of the basic requirements and procedures of compliance control in the bank is presented in Fig. 2.

In the theoretical research of the basic requirements and procedures of compliance control in the bank,

a new principle of the compliance organization can be formulated according to the normative document of the Basel Committee «Compliance and its functions in banks» – Staff Training Policy (Policy of training of the bank's staff and clientèle with the purpose of creation of an organizational-methodical instrumentarium for securing work on prevention of possible situations in the future concerning implementation of certain types of operations, preventing such implementation both on the part of banks and on the part of clientèle).

The highly qualified staff gradually becomes more competent and important asset of the organization. Employees who are responsible for the implementation of compliance (compliance controllers) must have the appropriate qualifications, professional qualities and experience to coordinate the work of this direction. However, it should be noted that a compliance controller is not physically able to track all the risks on his own, so it is necessary to involve other bank's employees in training on the requirements of compliance policy. In this respect, a quality presentation of information in the form of trainings, seminars, etc. is necessary. It is important to explain to employees what risks threaten the bank and each of them in case of non-compliance with the established policy. Training of the bank's employees be carried out in order to ensure their competence and experience regarding the issues related to the functions of the subsection of compliance control (compliance) and concerning the actual requirements of the legislation, legal acts of the NBU, and internal bank documents.

**T**he national banks nowadays use different forms and methods of training: conducting the trainings directly in the bank; internship in foreign banks; advanced training courses and seminars. Improvement of training of employees of banking institutions in view of aggravation of competition in the market of banking services is a precondition for dynamic development of banking activity, as only professional work oriented towards needs of clientèle, creates a bank the image of a reliable and practical financial institution.

Compliance may be considered as an organizational and methodological complex of measures, which plays the role of a key element both in the countering money laundering and in supporting the stability of the functioning of financial systems in general.

The essence of compliance control is embodied in its main functions: analytical, information, preventive, securing, etc. This is a new financial control mechanism for financial services [18].

The banking institutions need to apply the method of building an effective compliance program based on the risk assessment.

The method includes four successive stages:

1) identification of the risks specific to a particular bank (considering its own specificity of activities and its priorities);

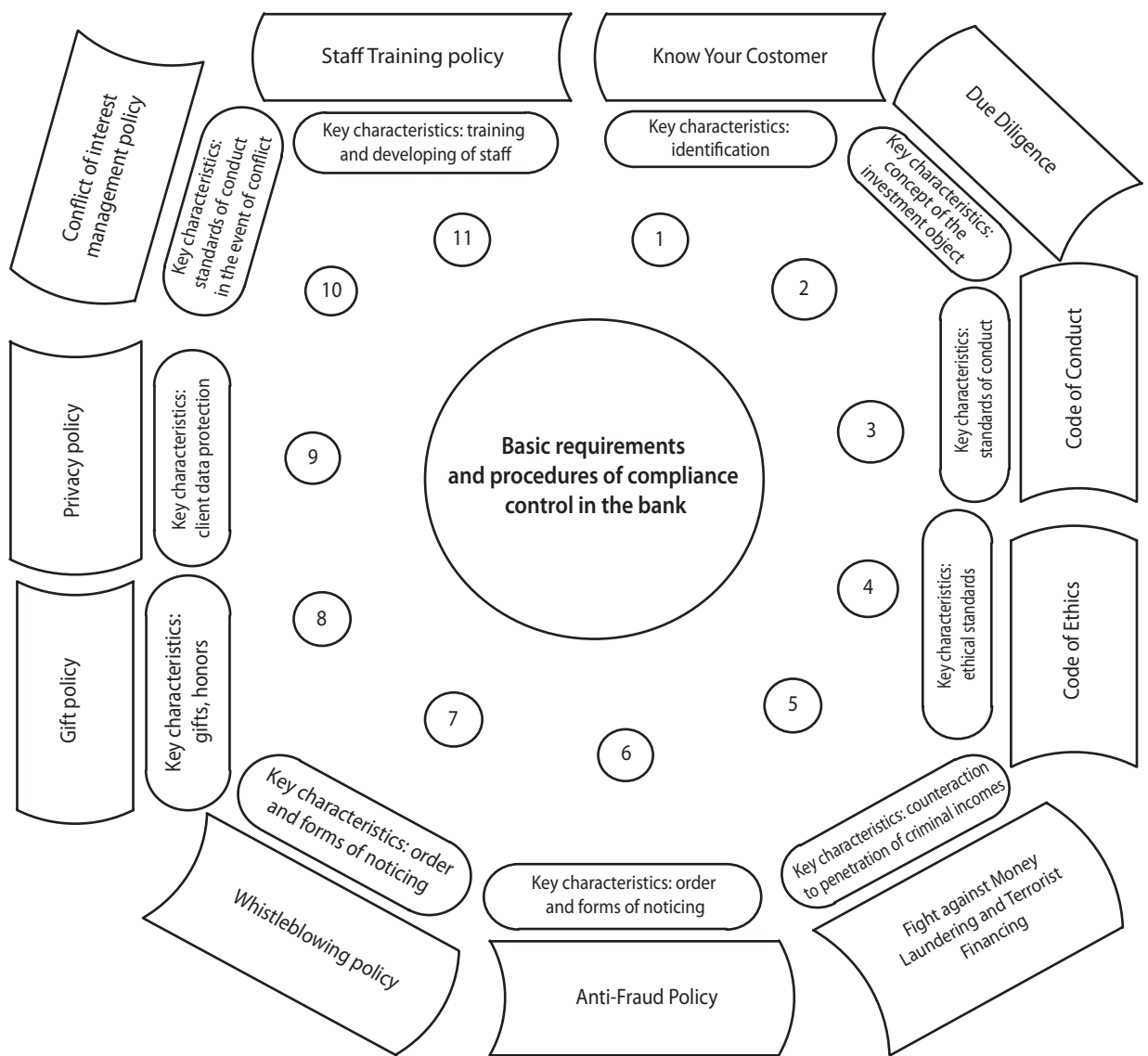


Fig. 2. Map-Diagram of the basic requirements and procedures of compliance control in the bank

2) risks assessment: ranking the probability of risk onset as identified in the first stage - from low to high;

3) minimization of risks: introduction of specific procedures, policies, carrying out trainings for prevention of the identified risks or minimization of their negative consequences;

4) assessment of the implementation of the first three steps, which be carried out at least once a year, and a regular confirmation of goodwill of the compliance management.

### CONCLUSIONS

Generalization of the existing theoretical provisions and methodical approaches to the bank's risks management system and in particular the compliance system of the banking institution allowed to identify that the introduction of requirements to the entities structure of bank in terms of the organization of risks management, strengthening of the requirements towards authorities, competence and independence of the subsections in re-

lation to risk management and compliance control, sufficiency of financial and human resources in performance of the tasks assigned to them and their reporting directly to the bank's board will result in improving the efficiency of risks management in banks.

The theoretical generalization of the basic requirements and procedures of compliance control in the bank, according to the normative document of the Basel Committee «Compliance and its functions in banks», helped to formulate a new principle of the organization of compliance - Staff Training Policy (Policy of training of the bank's staff and clientèle with the purpose of creation of an organizational-methodical instrumentarium for securing work on prevention of possible situations in the future concerning implementation of certain types of operations, preventing such implementation both on the part of banks and on the part of clientèle), the application of which through trainings, courses and seminars, would provide employees of banking institutions

with appropriate competence and experience regarding the implementation of compliance control.

In view of all the above-mentioned it is necessary to note that compliance may be considered as an organizational and methodological complex of measures, which appears a key element of both countering the money laundering and supporting the stability of functioning of the financial systems in a whole. Certainly, the organization of an effective system of its functioning should be introduced adequately, taking account of all available recommendations, practice of foreign banks. For the practical implementation of such introduction it is expedient to develop a uniform compliance program with attention to the following set of measures:

- 1) adoption by a higher management body of the uniform compliance-code of the bank;
- 2) provision of the top-management goodwill to the compliance strategy;
- 3) updating the strategy;
- 4) development and implementation of policies, processes and procedures in the basic areas of compliance;
- 5) formation of an efficient system of reporting of violations;
- 6) development of the continuous system of training and attestation of staff in accordance with the requirements of compliance;
- 7) formation and submission of reports by the compliance officers to the higher management bodies of the bank.

Prospect for further researches should be the development of the clarified internal regulations, methods and standards of activity of the national banks, improvement of procedures of compliance-control in view of specificity of activity of the concrete bank and according to the conditions of the current stage of the country's economic development. ■

## LITERATURE

1. **Altman E. J.** Financial Ration, Discriminant Analysis, And the Prediction of Corporate Bankruptcy. The Journal of Finance. 1968. Vol. 23. No. 4. P. 589–609. URL: <https://pdfs.semanticscholar.org/cab5/059bfc5bf4b70b106434e0cb665f3183fd4a.pdf>
2. **Marshall J. F., Rose P. K.** Financial Engineering: A Complete Guide to Financial Innovation. N. Y.: Institute of Finance, 1992. 728 p.
3. **Бобиль В. В., Макаренко Ю. П.** Управління фінансовими ризиками банків : монографія. Дніпропетровськ : Вид-во «Герда», 2014. 266 с.
4. Управління ризиками банків : монографія : у 2-х томах. Т. 2 : Управління ринковими ризиками та ризиками системних характеристик / А. О. Єпіфанов, Т. А. Васильєва, С. М. Козьменко та ін. Суми : ДВНЗ «УАБС» НБУ». 2012. 229 с.
5. **Вітлінський В. В., Верченко П. І.** Інструменти оцінювання ризику в динаміці. *Моделювання та інформаційні*

системи в економіці. 2004. Вип. 71. URL: <https://drive.google.com/drive/folders/0BwxkiLKNWmDNelE5T2w2RGEyRTQ>

6. **Дмитров С. О., Діденко С. В., Медвідь Т. А.** Фінансовий моніторинг у банку : навч. посіб. Черкаси : Видавель Чабаненко Ю. А., 2014. 266 с.

7. **Примостка Л. О.** Банківські ризики. Теорія та практика управління : монографія. Київ : КНЕУ, 2008. 450 с.

8. Звіт про фінансову стабільність Національного банку України червень 2018 р. URL: <https://bank.gov.ua/doccatalog/document?id=71475860>

9. Постанова НБУ «Про затвердження Положення про організацію системи управління ризиками в банках України та банківських групах» від 11.06.2018 р. № 64. URL: <http://zakon.rada.gov.ua/laws/show/v0064500-18>

10. **Лаврушин О. И.** Система управління банківськими ризиками. URL: [www.elitarium.ru/sistema\\_upravlenija\\_bankovskimi\\_riskami/](http://www.elitarium.ru/sistema_upravlenija_bankovskimi_riskami/)

11. Закон України «Про запобігання та протидію легалізації (відмиванню) доходів, одержаних злочинним шляхом, фінансуванню тероризму та фінансуванню розповсюдження зброї масового знищення» від 14.10.2014 р. № 1702-VII. URL: <http://zakon3.rada.gov.ua/laws/show/1702-18>

12. **Колодізєв О. М., Плєскун І. В.** Вдосконалення методичного підходу з оцінки ризикованості операцій клієнтів банку // I Міжнародна науково-практична конференція «Проблеми і перспективи сучасного розвитку фінансів, обліку та банківської діяльності» (м. Дніпро, 19 березня 2018 р.). Дніпро, 2018. С. 191–194.

13. Офіційний сайт Національного банку України. URL: <https://bank.gov.ua/control/uk/index>

14. Постанова НБУ «Про затвердження Положення про організацію внутрішнього контролю в банках України» від 29.12.2014 р. № 867. URL: <http://zakon4.rada.gov.ua/laws/show/v0867500-14>

15. International Compliance Association. URL: <https://www.int-comp.org/>

16. Постанова НБУ «Про затвердження Змін до Положення про здійснення банками фінансового моніторингу» від 25.05.2017 р. № 42. URL: <http://zakon5.rada.gov.ua/laws/show/v0042500-17>

17. Комплаєнс і його функції в банках. Квітень 2005 / Базельський комітет з банківського нагляду. URL: [www.bis.org/publ/bcbs113.pdf](http://www.bis.org/publ/bcbs113.pdf)

18. **Внукова Н. М.** Управління ризиками фінансових установ у сфері фінансового моніторингу. *Наукові записки Національного університету «Острозька академія». Серія «Економіка»*. 2018. № 8. С. 64–68.

**Supervisor – Kolodiziev O. M., D. Sc., Professor,**  
Head of the Department of Banking, Simon Kuznets Kharkiv National University of Economics

## REFERENCES

- Altman, E. J. "Financial Ration, Discriminant Analysis, And the Prediction of Corporate Bankruptcy". The Journal of Finance. 1968. <https://pdfs.semanticscholar.org/cab5/059bfc5bf4b70b106434e0cb665f3183fd4a.pdf>
- Bobyly, V. V., and Makarenko, Yu. P. *Upravlinnia finansovoyu ryzykamy bankiv* [Management of financial risks of banks]. Dnipropetrovsk: Vyd-vo «Herda», 2014.
- Dmytrov, S. O., Didenko, S. V., and Medvid, T. A. *Finansoviy monitorynh u banku* [Financial monitoring at the bank]. Cherkasy: Vydavets Chabanenko Yu. A., 2014.

International Compliance Association. <https://www.int-comp.org/>

“Komplaiens i yoho funktsii v bankakh. Kvitens 2005” [Compensation and its functions in banks. April 2005]. Bazelskyi komitet z bankivskoho nahliadu. [www.bis.org/publ/bcbs113.pdf](http://www.bis.org/publ/bcbs113.pdf)

Kolodziev, O. M., and Pleskun, I. V. “Vdoskonalennia metodychnoho pidkhodu z otsinky ryzykovanosti operatsii kliientiv banku” [Improvement of the methodical approach for assessing the riskiness of operations of the bank's clients]. *Problemy i perspektyvy suchasnoho rozvytku finansiv, obliku ta bankivskoi diialnosti*. Dnipro, 2018. 191-194.

[Legal Act of Ukraine] (2014). <http://zakon3.rada.gov.ua/laws/show/1702-18>

[Legal Act of Ukraine] (2014). <http://zakon4.rada.gov.ua/laws/show/v0867500-14>

[Legal Act of Ukraine] (2017). <http://zakon5.rada.gov.ua/laws/show/v0042500-17>

[Legal Act of Ukraine] (2018). <http://zakon.rada.gov.ua/laws/show/v0064500-18>

Lavrushin, O. I. “Sistema upravleniya bankovskimi riskami” [Bank Risk Management System]. [www.elitarium.ru/sistema\\_upravleniya\\_bankovskimi\\_riskami/](http://www.elitarium.ru/sistema_upravleniya_bankovskimi_riskami/)

Marshall, J. F., and Rose, P. K. *Financial Engineering: A Complete Guide to Financial Innovation*. New York: Institute of Finance, 1992.

Ofitsiynyi sait Natsionalnoho banku Ukrainy. <https://bank.gov.ua/control/uk/index>

Prymostka, L. O. *Bankivski ryzyky. Teoriia ta praktyka upravlinnia* [Banking risks. Theory and practice of management]. Kyiv: KNEU, 2008.

Vitlinskyi, V. V., and Verchenko, P. I. “Instrumenty otsiniuvannia ryzyku v dynamitsi” [Instruments for risk assessment in dynamics]. *Modeliuvannia ta informatsiini systemy v ekonomitsi*. 2004. <https://drive.google.com/drive/folders/0BwxkiLKNWmDNeIE5T2w2RGEyRTQ>

Vnukova, N. M. “Upravlinnia ryzykamy finansovykh ustanov u sferi finansovoho monitorynhu” [Risk management of financial institutions in the field of financial monitoring]. *Naukovi zapysky Natsionalnoho universytetu «Ostrozka akademiia»*. Seriya «*Ekonomika*», no. 8 (2018): 64-68.

Yepifanov, A. O. et al. *Upravlinnia ryzykamy bankiv [Bank risk management], vol. 2: Upravlinnia rynkovyimi ryzykamy ta ryzykamy systemnykh kharakterystyk*. Sumy: DVNZ «UABS» NBU», 2012.

“Zvit pro finansovu stabilnist Natsionalnoho banku Ukrainy cherven 2018 r.” [Report on financial stability of the National Bank of Ukraine June 2018]. <https://bank.gov.ua/doc-catalog/document?id=71475860>