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Слід також пам'ятати, що недооцінювати важливість комплаєнсу в діяльності вітчизняних банківських установ – є ризикованим. Адже це загрожує виникненням низки наслідків, які негативно вплинуть на фінансову стійкість банківської установи та її ділову репутацію.

На думку автора, завдяки запровадженню системи комплаєнс кожна банківська установа здатна вибудувати собі репутацію надійної та прозорої фінансової установи, яка працює відповідно до вимог міжнародних стандартів і ґрунтується при цьому на дотриманні основ професійної етики, корпоративній культурі та нетерпимості до корупції. Це, у свою чергу, забезпечить банківській установі довіру її клієнтів, інвесторів, співробітників, партнерів, держави та забезпечить їй імідж установи, що відповідає всім найвищим стандартам якості.

4.2 development of a risk-based financial security management strategy for the bank

Globalization of the world financial market, the intensified international economic relations, the most advanced information technologies, complicated forms and increased riskiness of financial transactions, the strengthened competition in the banking sphere, the economic criminality growth result in new challenges and threats to the banks' financial security. All this points to the existing number of issues associated with the need to create effective mechanisms ensuring bank's financial security, and strategically oriented mechanisms hold the top place among those mentioned.

Depending on the specific conditions that arise in the country and the world, the economic cycle stage and other factors, the strategy ensuring the bank's financial security should rely on the system tools applied to achieve the set goals. When it comes to selecting the financial security strategy, consideration must be given to the peculiarities and objectives related to the general development strategy of Ukrainian banks, their competitiveness, regulatory, organizational, financial, personnel and technological capabilities, intensified efforts aimed to minimize and eliminate

challenges and threats, proportionality of expenses for ensuring the banks' financial security and the actual level of threats and challenges.

Within the strategy ensuring the Ukrainian banks' financial security, the strategic goal lies in the stable and secure financial development of banks, their clients and counterparties.

The key strategic goals of ensuring the Ukrainian banks' financial security include:

- growing banks' market capitalization;

- compliance with the requirements of a high risk management level, optimal parameters of banks' financial strength, sustainability and stability, reliability, investment attractiveness, performance efficiency;

- increase in the amount of profit received by banking institutions.

Considering the risk-oriented approach introduced to the management of key banking areas, strategic management decisions in developing an effective strategy aimed to ensure the bank's financial security are based on the identification and assessment of banking risks. The risk management importance in strategic management is emphasized in [72, p. 125] acknowledging the fact that risk management makes an integral part of the banking strategy focused on minimizing the bank's vulnerability and the complexity of the environment in which it operates. Therefore, the risk component should be present in the process of forming the bank's financial security management strategy. Although the scientists [72, 73] recognize the need to take into account risks in the strategic process, no specific mechanisms and approaches to determining their composition, assessment, establishing the level of aggregate risk in developing the bank's financial security management strategy are currently available.

Selecting the types of risks that should be considered when forming the bank's financial security management strategy requires a first-priority focus on the possibility of their quantitative measurement. From this perspective, the Bank Inspection Guidelines "Risk Assessment System" [74] identify a group of financial risks – banking risks that are subject to quantitative assessment. In particular,

financial risks include credit, liquidity, interest rate refixing, market, currency and operational and technological risks.

V.V. Bobyl finalized the financial risk classification and placed the operational and technological risk into a different category stating that its separation from the financial risks is accounted for the unlikeliness to quantify it. The financial risks include: credit, interest rate, stock, currency and liquidity risks [75, pp.15-16].

Most experts tend to consider the credit risk and the liquidity risk arising from the banks' classic functions while determining the banking risks [72, p. 123]. Without denying the importance of these risks, we, however, believe that banking is not limited to the latter, and share the views expressed by the authors of the monograph [76] that proposes to apply the risk criterion when selecting the bank's anti-crisis strategy and determines the following financial risk types: credit, interest rate, investment, currency, liquidity and resource base instability risks.

As justly stated in the monograph [77, p.21], "only the subjectively conscious objective uncertainty which can be quantified may be regard as a risk". Therefore, while specifying the general definition of the risk content, it is important not only to clarify the nature of its association with uncertainty, but also to clearly establish the indicators of its quantification. In this context, the next step in implementing the risk-oriented approach to form the bank's financial strategy is to substantiate the list of indicators for assessing particular risks. When building the indicator system, it is advisable to follow the criteria summarized in [788]:

the indicators should reflect the essential features of the analyzed condition;

the indicators should be quantified and have the appropriate information support;

the indicator calculation should be available taking into account the banks' statistical information openness;

the indicators should be universally applicable, i.e. such that can be calculated for any bank operating in Ukraine;

the indicators should be clear and unambiguous, prevent from double interpretations and have a common definition or one that is recognized by most

leading scientists.

Following on from the above criteria, the bank's financial risks will be assessed by the coefficient method.

Various indicators are used to assess the bank's credit risk. Based on the summarized literature sources [76, 79, 80, 811], one of the most common criterion indicators applied internationally – the share of credit risk reserves in the credit portfolio – was selected as such an indicator. The fact that this indicator was selected expediently is also confirmed by the unidirectional tendency of its dynamics with the overdue credit debt dynamics and the availability of data for its calculation in open financial statements.

The liquidity risk is the risk of imbalanced cash inflows and outflows, which causes the liquidity shortage or excess [82, p. 26]. Liquidity risk is assessed using various methods, coefficients and approaches. As mentioned above, the risk assessment will be based on the coefficient method. Therefore, the liquidity risk criterion will be the instant liquidity ratio (H4), which sets the minimum required amount of high-liquidity assets to ensure the fulfillment of current liabilities during one transaction day and is defined as the ratio of high-liquidity assets to the bank' current liabilities [83].

The interest rate risk arises in response to the existing mismatch between the positions that are subject to interest rate adjustments over a period of time. The bank's lending, financing and investment activities create the interest rate risk. The interest rate refixing exerts a direct effect on the bank's net interest income, and a long-term effect on the bank's net value, as it influences the economic value of assets and liabilities. In terms of profitability, the analysis is targeted at the impact of interest rate fluctuations on the earned income. This is the traditional approach to assessing the interest rate risk, which lies in measuring the changes in the net interest income (NII) or net interest margin (NIM), i.e. the difference between the total interest income and the interest expense amount [72].

The bank's investment risk is a measure (degree) of uncertainty regarding the possible impairment of securities purchased by the bank, the potential failure to reach

the planned return level of new banking products, services, transactions, technologies, as well as real capital investment [77]. This risk may be assessed through the ratio of bank's securities impairment reserves to the securities portfolio amount.

The resource base instability risk is an existing or expected risk that threatens the bank's income and capital, associated with the existing significant share of instable resources (demand funds and interbank loans) in the channels of bank's financial resources [84]. The level of this risk may be calculated as the ratio of the customers' current accounts and raised interbank funds to the bank's total liabilities.

Regarding the currency risk assessment, after excluding the currency position standards from the list of mandatory standards governing the Ukrainian banks' activities [83], it is not possible to obtain information on the banks' currency positions from open sources.

A list of indicators for assessing the bank's financial risks is proposed in [85]. Thus, the credit risk is assessed by the share of loan impairment reserves in the credit portfolio; the liquidity risk – by the instant liquidity ratio; the interest rate risk – by the net interest margin; the investment risk – by the share of securities impairment reserves in the securities portfolio; the resource base instability risk – by the resource base instability coefficient.

It is not possible to unambiguously determine by individual coefficients whether the level of the bank's aggregate financial risk is high, middle or low. Therefore, the risk assessment indicators are combined into integrated indicators using the taxonomic method (Euclidean distance method) described in [86]. At the same time, in order to choose the bank's financial security management strategy, it is expedient to determine the level of financial risk management efficiency; based on this, while building the taxonomic indicator, the stimulators should include the instant liquidity ratio and the net interest margin, and the destimulators – the share of loan impairment reserves in the credit portfolio, the share of securities impairment reserves in the securities portfolio and the resource base instability coefficient. The financial risk indicators are calculated in the dynamics using the financial statements provided by

one of the Ukrainian banks, which is part of foreign banking groups. In order to prevent the negative impact potentially caused by the results of this study on the bank's image, it is presented under a conventional name (Bank A).

The value dynamics of the taxonomic indicator of Bank A's financial risks in relation to the values of the integrated financial security indicator (obtained by the taxonomic method applying the coefficient convolution: the regulatory capital adequacy, reliability, capital participation in the formation of assets, current liquidity, total liquidity, return on assets) is shown in Fig. 1.

As can be seen from the constructed schedules, the highest level of financial risk management efficiency was observed in Bank A in Q4 2017, which coincided with the maximum value of the integrated financial security indicator. In Q1 and Q2 2018, there was a significant decline in the financial risk management efficiency while reducing the level of the bank's financial security. In Q3 2019, Bank A's financial risk management efficiency significantly deteriorated due to poor liquidity risk management. The integrated financial security indicator showed the opposite tendency and increased slightly compared to Q2 2019.
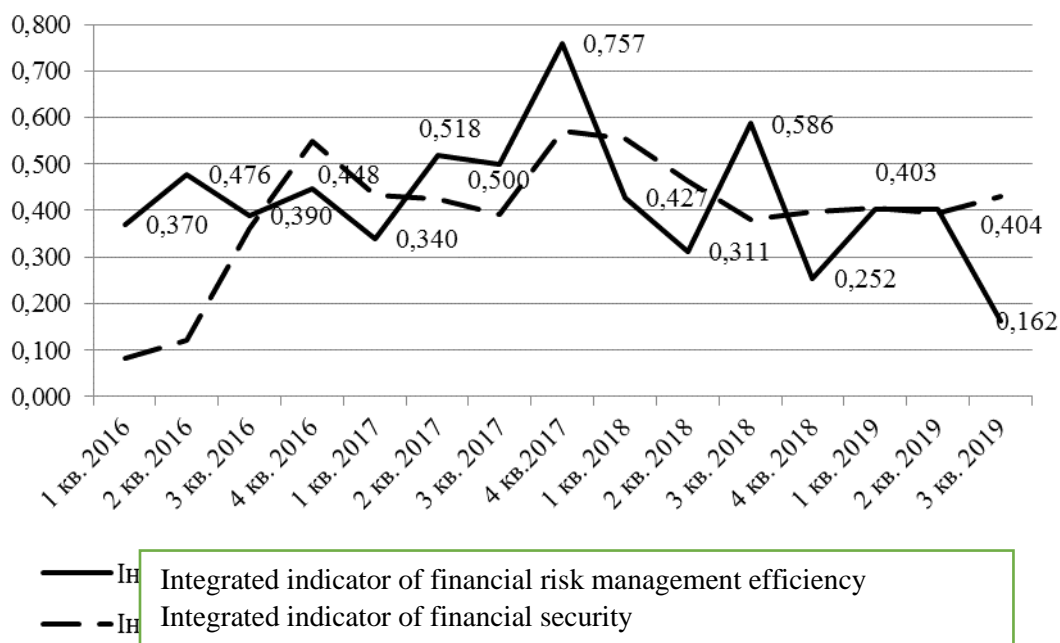

Fig. 1. Integrated indicator dynamics of Bank A's financial risk management and financial security

To develop the bank's financial security management strategy, it is necessary to determine the method on the basis of which it will be selected.

Among the main methods of selecting strategies for both businesses and banks – graphical, index, matrix – the latter is recognized by modern researchers as the most used and effective [87, p. 136; 88, p. 503; 89, p. 44; 90 , p. 135-136], given that, as noted by O.I. Khomenko, "the matrix method provides for a detailed assessment of the strategy with minimal resource costs and taking into account various influence factors (depending on the matrix size); the graphical interpretation ensures comparing strategic alternatives easily; it is simple and demonstrative to use" [90, p. 135]. In addition, when forming a certain strategy type, this method ensures the selection of those groups of factors that are most related to it.

The most popular in strategic management are two-dimensional matrices, which quadrants are formed by the ratio of two indicators [87, 91, 92]:

- "a product – a market" by I. Ansoff, according to which it is possible to determine the product strategy depending on the combination of a new or existing market and a new or existing product [93];

- "a market share – a competitive advantage source" by M. Porter to determine the basic leadership strategies according to costs, differentiation, focus [94];

- "a market growth rate – a relative market share" by the Boston Consulting Group (the BCG matrix), according to which strategic decisions are made depending on the situation of a particular product type and aimed at choosing a particular pathway for the product line development;

- "the company's competitive position – attractiveness of the activity" (the GE-McKinsey matrix), which provides general recommendations for certain business areas: growth and development, maintenance and support, "harvesting" and liquidation [95];

- "a market growth rate – a competitive position" by A. Thompson and A. Strickland, which offers a variety of strategies for diversification, concentration, integration, cost reduction, market exit [96];

- "market prospects – the organization's competitiveness" (the Shell/DPM

matrix), which serves as a basis for formation of the following strategies: business/growth leader, increased activity/position, increased competitive advantage, limited extension, cash and profit accumulation generator, slow or partial closure, market exit [87];

- "a life cycle of the industry (product) – a competitive position" (the Hofer/A.D. Little life cycle balance matrix), which together with the general competitive strategies provides for the formation of a refined set of strategic decisions on the organization's product line or the direction of its activities [97].

In practical terms, matrices with different dimensions are used. It is believed that the more quadrants a matrix contains, the more informative it is, but forming strategies for a matrix with a large number of quadrants is a time consuming process. The optimal option from this perspective is a matrix with a size of 3×3, an example of which is the GE-McKinsey matrix. This matrix type is used as a guide herein.

The defined parameters in the matrix for selecting the bank's financial security management strategy (Fig. 2) are the bank's financial security level (Y axis) and financial risk management efficiency level (X axis).

Bank's financial security level		Bank's financial risk management efficiency level		
	High	**7** **Concentration strategy**	**8** **Strengthening strategy**	**9** **Maintenance strategy**
	Middle	**4** **Intensification strategy**	**5** **Balancing strategy**	**6** **Strengthening strategy**
	Low	**1** **Urgent action strategy**	**2** **Intensification strategy**	**3** **Concentration strategy**
		Low	Middle	High

Bank's financial risk management efficiency level

Fig. 2. Matrix for selecting the financial security management strategies

The proposed matrix is conditionally divided into six zones. The first zone corresponds to quadrant 9, which characterizes the best position of the bank with a high financial risk management efficiency level and a high financial security level – this is the leader's position, for which the strategy of its maintenance is appropriate. The second zone is represented by quadrants 6 and 8, which are characterized by both the high (middle) financial risk management efficiency level and the high (middle) financial security level; this zone corresponds to the strengthening strategy. The third zone is represented by quadrant 7, which characterizes the situation where the bank has a high financial security level and a low financial risk management efficiency level, which indicates the need to concentrate management efforts on achieving a higher level of this component, so the effort concentration strategy is appropriate for this quadrant. The same strategy may be applied to quadrant 3, which corresponds to the bank's high financial risk management level and low financial security level. This position requires to study the situation in terms of all financial security factors, and if the causes are identified – to concentrate the management's efforts on the determining factor. The fourth zone corresponds to quadrant 5, which is the matrix center, and coincides with the position with middle levels of the bank's financial security and financial risk management efficiency. The complexity of this position is that any management's action can change the situation in one direction or another, which requires special attention, so quadrant 5 corresponds to the balancing strategy. The fifth zone is represented by quadrants 2 and 4, which describe an undesirable situation in which low and middle levels of matrix parameters are observed. These positions indicate the need for rapid management's response in order to prevent possible serious negative consequences for the bank, so an intensification strategy is appropriate for this area. The sixth zone is represented by quadrant 1, which describes a critical situation with low levels of matrix parameters, i.e. the urgent action strategy is needed to improve the situation.

To determine the levels of the bank's financial security and financial risk management efficiency, it is proposed to form a scale based on the "golden section" method [98], according to which all changes occur at 38.2% and 61.8%. Since the

difference between the maximum and minimum values on the scale is 1 (the minimum value for integrated indicators is 0, the maximum value is 1), multiplying this difference by 0.382 and 0.618, respectively, and subtracting each of the sums obtained from the "maximum", will give the scale values at which, according to the "golden section" method, changes are most likely to occur. Therefore, the range [0; 0.382] corresponds to the low level; the range [0.382; 0.618] – to the middle level and the range [0.618; 1] – to the high level of the bank's financial security and financial risk management efficiency. The determined integrated indicator levels are given in Table 1. It should be borne in mind that selecting the financial security management strategy should not be based on quarterly values of integrated indicators; reasoning from this fact the annual values are chosen.
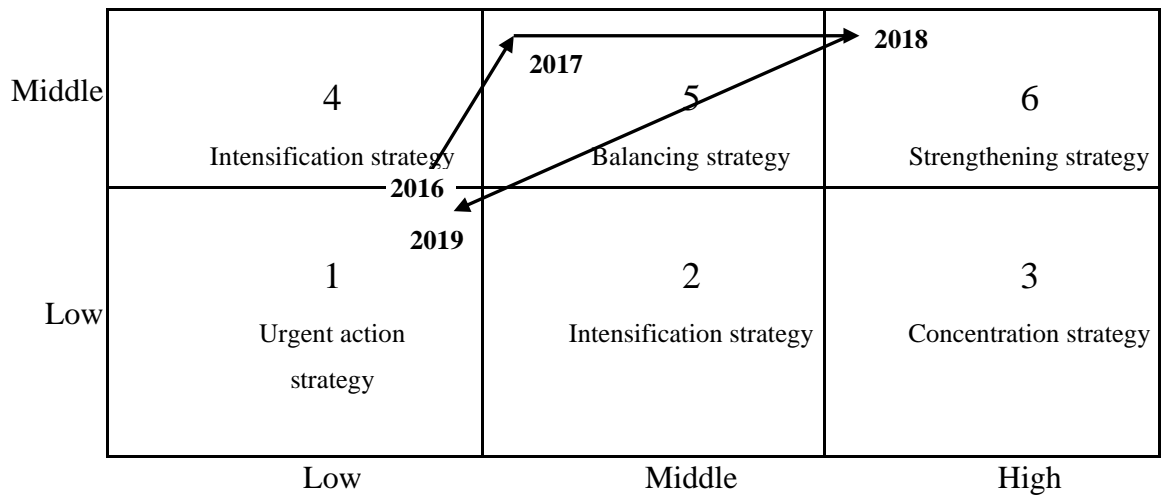
Table 1

Integrated indicator levels of Bank A's financial security and financial risk management efficiency

Year	Integrated indicator of the financial risk management efficiency		Integrated indicator of the financial security	
	value	level	value	level
2016	0.370	low	0.083	low
2017	0.448	middle	0.550	middle
2018	0.757	high	0.570	middle
2019	0.252	low	0.398	middle

Bank A positioning in the matrix of financial security management strategy selection is presented in Fig. 3.

financial	High	7 Concentration strategy	8 Strengthening strategy	9 Maintenance strategy

Bank's financial risk management efficiency level

Fig.3. Bank A positioning in the matrix of financial security management strategy selection

As can be seen from the constructed matrix, in 2016 Bank A had a low value of both the integrated financial security indicator and the integrated financial risk management indicator. In 2017, the situation improved in terms of achieving the middle level by both indicators, and in 2018 the financial risk management efficiency level was characterized as "high". However, in 2019 there was a significant reduction in the levels of the bank's financial security and financial risk management to the mark "low". Against this background, Bank A may receive a recommendation to apply the urgent action strategy, which puts the development of measures to minimize financial risks in the first place.

Thus, the proposed approach to selecting the bank's financial security management strategy takes into account the level of financial risks that represent a source of threats to financial security. The study provides the indicators that characterize the credit, liquidity, interest rate, investment and resource base instability risks formed to quantify the financial risks. The summarized indicator of financial risk management efficiency of the bank being the study subject has been calculated by the taxonomic method and its qualitative levels on a scale constructed on the basis

of the "golden section" method have been defined.

The study proposes to build the bank's financial security management strategy following on from a matrix formed by a combination of parameters defining the bank's financial risk management efficiency and financial security, which has five zones that determine the content of the developed strategies: maintenance, strengthening, balancing, concentration, intensification, urgent action. This will contribute to the development of effective measures aimed at combining the tools for minimizing financial risks and improving the financial security of banking institutions.

4.3 risk-management system of credit-investment activities in banks

Formulation of the problem. The construction of a purposeful and planned risk management system is due to the presence of risks in the commercial activities of banks. In modern conditions in the banking sector, the importance of assessing and managing the risks assumed by the bank in carrying out various operations is growing. The problem of credit and investment risk management in the bank remains one of the most pressing. Economic experience shows that over time, the level of risk will begin to increase even more. In order to minimize banking risks, it is necessary to define clearly formulated recommendations for their effective implementation, which is the result of scientific research. Therefore, the construction of a comprehensive system of credit and investment risk management in banks is a key factor in ensuring effective credit and investment activities of banks.

The study of the problem of forming an effective system of risk management of credit and investment activities of banks is given considerable attention by both domestic and foreign scientists. Theoretical and methodological aspects of the development of the risk management system in banks in their scientific works are considered by such scientists as: V. Vitlinsky, V. Bobyl, L. Boykivska, L. Klyoba, V. Kovalenko, A. Starostina, O. Pernarivsky, L Primostka, L. Schuster. Such scientists as V. Vidlatsky, O. Dzyublyuk, E. Dollan, V. Zymovets, O. Kuzmak, O. Lavrushin,