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UDC 336.71:336.774

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**MODERN APPROACHES TO THE EVALUATION OF THE BORROWER'S
CREDITWORTHINESS OF A COMMERCIAL BANK: THEORETICAL AND
METHODOLOGICAL ASPECTS**

Holyk M.M. Modern approaches to the evaluation of the borrower's creditworthiness of a commercial bank: theoretical and methodological aspects. The article is devoted to the study of modern domestic and foreign approaches to the evaluation of the borrower's creditworthiness of a commercial bank. The author considers the existing theoretical approaches to the understanding of the essence of creditworthiness as the capacity of the bank's client to pay off debt obligations fully and in the term specified in the loan agreement. The key models and methods for the evaluation of the borrower's creditworthiness of a banking institution that are used in domestic and foreign practice are investigated. The necessity of taking into account qualitative indicators in evaluating the borrower's creditworthiness by Ukrainian banks is emphasized to reduce the probability of occurrence of credit risk for the banking institution and increase the efficiency of the domestic banking system functioning as a whole.

Key words: creditworthiness, evaluation of creditworthiness, borrower, commercial bank, rating method, model of integral indicator calculation.

Голик М.М. Сучасні підходи до оцінки кредитоспроможності позичальника комерційного банку: теоретико-методологічні аспекти. Статтю присвячено дослідженню сучасних вітчизняних та зарубіжних підходів до оцінки кредитоспроможності позичальника комерційного банку. Розглянуто існуючі теоретичні підходи до розуміння сутності кредитоспроможності як спроможності клієнта банку в повному обсязі та у визначений кредитним договором термін розрахуватися за своїми борговими зобов'язаннями. Досліджено ключові моделі і методи оцінки кредитоспроможності позичальника банківської установи, що застосовуються у вітчизняній та зарубіжній практиці. Наголошено на необхідності врахування якісних показників при оцінці кредитоспроможності позичальника банками України з метою зниження ймовірності настання кредитного ризику для банківської установи та підвищення ефективності функціонування вітчизняної банківської системи загалом.

Ключові слова: кредитоспроможність, оцінка кредитоспроможності, позичальник, комерційний банк, рейтинговий метод, модель розрахунку інтегрального показника.

Голик М.М. Современные подходы к оценке кредитоспособности заемщика коммерческого банка: теоретико-методологические аспекты. Статья посвящена исследованию современных отечественных и

зарубежных подходов к оценке кредитоспособности заемщика коммерческого банка. Рассмотрены существующие теоретические подходы к пониманию сущности кредитоспособности как способности клиента банка в полном объеме и в определенный кредитным договором срок рассчитаться по своим долговым обязательствам. Исследованы ключевые модели и методы оценки кредитоспособности заемщика банковского учреждения, применяемые в отечественной и зарубежной практике. Отмечена необходимость учета качественных показателей при оценке кредитоспособности заемщика банками Украины с целью снижения вероятности наступления кредитного риска для банковского учреждения и повышения эффективности функционирования отечественной банковской системы в целом.

Ключевые слова: кредитоспособность, оценка кредитоспособности, заемщик, коммерческий банк, рейтинговый метод, модель расчета интегрального показателя.

Target setting. In the conditions of the financial and economic crisis, characterized by an increase in the insolvency of economic entities of the credit market, which causes an increase in the proportion of doubtful loans in banks' loan portfolios, the issue of studying the evaluation of the borrower's creditworthiness of a commercial bank takes on special urgency. This is due, firstly, to the fact that a significant part of the outstanding loans arises due to insufficiently in-depth analysis of the borrower's creditworthiness at the stage of making a decision on lending due to the lack of the newest methods of evaluating the borrower's creditworthiness, which would clearly correspond to the requirements of the present.

Actual scientific researches and issues analysis. The theoretical aspects of determining the borrower's creditworthiness of banks are thoroughly considered in the writings of banking researchers, in particular, Azarenkova H., Bilyk M., Vyhovskyi V., Vovchak O., Hrytsenko L., Hume-niuk M., Dudnyk I., Meda N., Tavasieva A. etc.

However, despite the considerable scientific achievements of academics regarding the selected topics, only fragmentarily highlighted questions remain concerning the comparison of domestic and foreign approaches to the evaluation the borrower's creditworthiness of banking institutions with a view to improving the process of granting loans by banks in Ukraine. In view of this, it is worth to generalize the existing approaches to the evaluation the borrower's creditworthiness of the banking institution, applied in domestic and foreign practice, define the problematic aspects of evaluation the borrower's creditworthiness of a bank and offer the ways of its improvement. All of the above determined the scientific and practical relevance of the chosen topic of research.

The research objective. The purpose of the article is to highlight existing approaches to the evaluation of the

borrower's creditworthiness in the domestic banking system and abroad and offer proposals for their improvement in Ukraine.

The statement of basic materials. Today during lending the potential borrowers, banking institutions face to the key task of evaluating the borrower's creditworthiness.

In view of the existence of a large number of banking institutions in the banking services market and, accordingly, the peculiarities of providing the various types of banking activities, including lending activity, commercial banks apply different approaches to the evaluation the borrower's creditworthiness.

Providing active operations by a commercial bank shall be carried out in accordance with the conditions specified in the current legislation. The credit committee is obliged to evaluate the borrower's creditworthiness, the effectiveness of which directly effects on the lending activity of a bank. A banking institution is interested in the most realistic reflection of the borrower's creditworthiness, in view of the fact that the more effective the evaluation will be, the less probability of occurrence of credit risk and, consequently, the greater likelihood of the borrower's repaying of his obligations in favour of a bank and receiving economic benefits in the future.

For the purpose of detail and need to determine the role of modern approaches to the evaluation the borrower's creditworthiness for the effectiveness of the lending activity of a commercial bank, firstly consider the essence of the concept of "creditworthiness". Thus, the analysis of scientific literature demonstrated the lack of a single established definition of the concept of creditworthiness (Table 1).

Generalizing the above definitions of creditworthiness, we consider that the most complete is the interpretation of creditworthiness as a definite financial status of a borrower, which confirms his ability to accumulate funds for

Table 1

The current interpretation of the essence of creditworthiness

№	Source	Definition
1.	Regulation for Formation and Use of Reserves for Losses Generated by Banks' Asset Operations [1]	Creditworthiness is the presence of a borrower (counterparty of a bank) of the prerequisites for conducting a credit transaction and his ability to repay the debt fully and in the contractual terms.
2.	Vovchak O., Meda N. [2, p. 12]	Creditworthiness is the ability of a borrower to accumulate cash flows sufficient for timely repayment of debt obligations in accordance with a pre-agreed schedule of repayment of credit funds and payment the interest.
3.	Vyhovskyi V. [3, c. 210]	Creditworthiness is the ability of a borrower to pay off the debt obligations to the bank fully and by cash generated by the enterprise at a specified time.
4.	Bilyk M., Prytuliak N. [4, p. 336]	Creditworthiness is the capacity of the bank's client to pay off debt obligations fully and in the term specified in the loan agreement.
5.	Tavasiev A. [5, p. 145]	Creditworthiness is the capacity and the readiness of a person to repay his loan debts in time and fully (principal amount of the debt and interest).

debt repayment in the term specified by the contract, which is an obligatory condition for lending.

Legally the evaluation of the borrower's creditworthiness is enshrined in the Regulation for Measuring Credit Risk Generated by Banks' Asset Operations, approved by the National Bank of Ukraine by its Resolution No. 351 of 30 June 2016 [6].

The Documentation about the decision-making to lending includes the need to draw up a conclusion of authorized bank experts to the evaluation of the borrower's creditworthiness [6]. That is, during the lending among the list of economic indicators, an important role is played by the evaluation of the borrower's creditworthiness.

The evaluation of the borrower's creditworthiness enables the banking institution to make a prediction of the borrower's ability to repay debt obligations in a timely manner, including the number of credit risk effecting on the loan repayment process. The presence of liquid assets in the borrower with other satisfactory indicators of his economic activity partially ensures his creditworthiness in the future.

Meanwhile, the evaluation of the creditworthiness partially provides to the subjects of the credit market the following: the commercial bank receives the maximum of possible profit at the lowest risk and the borrower receives the financial resources for definite goals.

Note that the existence of different approaches to the interpretation of the essence the borrower's creditworthiness explains the existence of a great number of approaches to its evaluation. Any commercial bank in Ukraine can independently choose the best indicators for the analysis of borrower's creditworthiness, taking into account the recommendations for the evaluation of the borrower's creditworthiness by commercial banks [6].

In view to the fact that this legal act is rather dispositive than imperative, in practice there is no unanimous mechanism for the evaluation of the borrower's creditworthiness. Thus, the question of creating a unified mechanism for the evaluation of the borrower's creditworthiness, taking into account the sectoral aspects of economic activity, is still relevant. We believe that in practice, the use of such a holistic mechanism will create a single algorithm of selecting borrowers, and this can protect the interests of clients and ensure the financial reliability of commercial banks.

Domestic and foreign banking experience demonstrates different approaches to the evaluation of the borrower's creditworthiness, which is conditioned by different levels of economic development of the countries. The practical experience of evaluating of the borrower's creditworthiness has shown that commercial banks use a comprehensive model consisting of a combination of methods for the evaluation of the borrower's creditworthiness.

The most common domestic methodology to the evaluation of the borrower's creditworthiness is a rating method that allows predicting the future loan payments in time and assessing the overall financial status of the borrower [7, p. 231].

This method is widely used in Ukraine because of its simplicity, ease of use, and ease of formalization of the integral characteristics of the financial and economic status. The general procedure of rating evaluation involves the following list of actions [8, pp. 207-208]:

1. Establishment of the limits of indicators' ranges taking into account the sector specifics of the entity's operation.

2. Determination of the number of indicator points to established levels of qualitative evaluation of the financial status. At the same time, a higher value of the points corresponds to a higher level of financial status, and lower value of the points corresponds to a less level of financial status.

3. Formation of intervals of the aggregate rank of the entity in accordance with the defined qualitative levels of financial status.

At the same time, the model of integral indicator calculation of the debtor, enshrined in the Regulation for Measuring Credit Risk Generated by Banks' Asset Operations, approved by the National Bank of Ukraine by its Resolution No. 351 on 30 June 2016 [6], based on the principles and recommendations of the Basel Committee on Banking Supervision (BCBS) provides the use of the logistic model with the following formula:

$$Z = \beta_0 + \sum_{i=1}^n \beta_i x_i, \quad (1)$$

Z – integral indicator;

x_i – indicators, determined on the basis of financial ratios, calculated on the basis of the financial statements of the debtor, taking into account the ranges for each financial indicator set by the National Bank of Ukraine;

β_i – indicators of logistic model, which are determined taking into account weight of indicators;

β_0 – a free member of the logistic model, the value of which is updated by the National Bank of Ukraine.

This model allows evaluating the status of borrower's creditworthiness and determining the class of its reliability, taking into account the values of the indicators for the corresponding type of entity.

Instead, in foreign banking practice, models of complex analysis (on the basis of "semi-empirical" methodologies based on expert evaluations of the analysis of economic expediency of lending like 5C, CAMPARI, PARSE, etc.) are used most often. A feature of the last ones is that within the framework of complex models of analysis, it is possible to use both quantitative and qualitative characteristics of the borrower (Table 2) [2, p. 14; 9, p. 156].

Table 2

The foreign practice of evaluation of the borrower's creditworthiness

№	Method	Characteristic of the method structure
1.	CAMPARI	C – character; A – ability; M – marge; P – purpose; A – amount; R – repayment; I – insurance.
2.	PARSEL	P – person; A – amount; R – repayment; S – security; E – expediency; L – remuneration.
3.	5 C	C – character; C – capacity; C – capital; C – collateral; C – conditions.
4.	MEMO RISK	M – management; E – experience; M – market; O – operations; R – repayment; I – interest; S – security; C – control.
5.	4 FC	Management Quality; Industry Dynamics; Security Realization; Financial Condition.

As the world banking experience demonstrates, the most common approaches to evaluate the borrower's creditworthiness are 5C and 4 FC.

Generalizing, note that in a domestic practice, a rating evaluation of the borrower's creditworthiness, which is easy to apply and takes into account qualitative indicators, is mostly used. Like the previous method, a model of integral indicator calculation, which involves the use of a logistic model based on taking into account the indicators of the financial status of the borrower, is also widely applied. Instead of domestic practice, in foreign countries, integrated models of the borrower's creditworthiness analysis, which are characterized by effective deduction of quantitative and qualitative indicators, are used.

Investigation of the methodology of evaluation the borrower's creditworthiness has shown that banks have their own approaches to evaluation of the borrower's creditworthiness. However, due to the deepening of economic globalization and increasing financial instability in the global economy, in today's conditions, there is a need to unify the existing approaches to the creditworthiness of potential borrowers. In this sense, the domestic credit market is no an exception.

The main difference between foreign and domestic approaches to evaluation of the borrower's creditworthiness is the presence of the calculation of qualitative indicators in foreign countries and the lack of an efficient algorithm of evaluating the qualitative indicators in domestic practice. We believe that it is important that this system functions with minimal influence on it of subjective factors

because the most part the qualitative indicators depend on the individual evaluation of bank analyst, who can, firstly, make profitable profits to him and, secondly, be insufficiently qualified to conduct qualitative calculation of points. It is also necessary to reduce the subjectivity during the formation of a sample of indicators, in particular, qualitative, which are subject to analysis, and taking into account the importance of the influence of individual indicators on the overall results of the analysis.

Conclusions. So, the creditworthiness should be understood as a financial status, in which a borrower is able to accumulate a specified amount of funds for repayment of debt obligations in the term specified by the credit agreement. It is established that the necessity of evaluation of the borrower's creditworthiness is due to the following reasons, namely: a legally established requirement approaches to the evaluation of the borrower's creditworthiness during lending, the need to reduce credit risk and the volume of unpaid loans in a loan portfolio to predict the ability of the borrower in the future to pay obligations, provide definite economic objectives of the borrower and the creditor.

Further studies of particular issues will be conducted in the context of identifying the problems to the evaluation of the borrower's creditworthiness, the resolution of which will reduce the probability of occurrence of credit risk for the banking institution and increase the accuracy of the mechanism evaluation the borrower's creditworthiness.

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