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## SPECIAL ASPECTS OF THE BANKING INSTITUTIONS RATING: A CASE FOR UKRAINE

### Abstract

In today's rapidly changing global financial market, potential counterparties are in dire need of reliable and timely information on the partner bank performance in order to find the most successful one in terms of conducting credit and deposit transactions. Public ratings of banks serve to solve this problem and are considered as one of the effective tools for choosing such a bank. In Ukraine, the rating of banking institutions is not widely used by business entities because of the imperfect methodology of analysis of banks, a rating process that is closed to the public, the assignment of an unreliable rating to selected banks, the use of obtained ratings by banks for marketing purposes, etc. Therefore, the purpose of the study is to improve the existing rating systems for Ukrainian environment. International and domestic regulatory documents on rating, data of the National Bank of Ukraine and commercial banks, materials of rating agencies, as well as scientific publications of well-known Ukrainian and foreign scientists made the theoretical basis of the study. It is proposed to take a number of priority measures to legislatively regulate the activities of bodies for rating scores of banking institutions, to create a branched infrastructure of the rating market and to establish effective interaction of its participants, to end demonopolization and weaken entry barriers and to introduce new agencies in the rating market, to identify new rating methodologies. The conclusions are aimed at the development of a civilized and transparent rating business in Ukraine, which will ultimately contribute to the timely detection and neutralization of crisis phenomena in the banking sector, restoring confidence between banks and their clients, creating the preconditions for making sound business decisions.

**Keywords** commercial bank, rating, rating agency, Ukraine

**JEL Classification** G21, G24

### INTRODUCTION

The effective operation of the Ukrainian economy and the opportunities for its development depend significantly on its banking system effectiveness. Given the constant variability of the environment and numerous financial risks, legal and natural persons seek to deal only with reliable banks, which in the long run will allow clients to secure their capital, obtain credit resources at an affordable price, and make payments smoothly. That is, the banking sector acts as a stabilizer for the economy, neutralizing the negative impact of threatening phenomena, and its destabilization results in a deepening crisis in all spheres of economic activity.

In world's leading countries, developing and making sound management decisions for individuals and businesses to choose a commercial bank is based on a rating of its performance. The perfect system of analytical calculation of indicators for construction of such ratings makes it possible to conclude about the financial position of a banking institution and its reliability as a whole.

In Ukraine, before the 21<sup>st</sup> century began, there was no market for rating services. The ratings of commercial banks published by a number of organizations took into account a small number of factors, which made it impossible to obtain a comprehensive understanding of the bank's financial position or reliability. Powerful enterprises, which had sufficient financial resources and adequate staffing, independently carried out analytical calculations to determine the reliability of the selected serving commercial bank. Later, specialized agencies began to provide such services, but the methodologies used in rating were and remain largely a trade secret and, therefore, there is no certainty about these results adequacy. Medium-sized and small businesses and households used inaccurate media or subjective expert assessments, because rating agencies' services were expensive, leading to a loss of their capital. Typical are the cases when rating agencies, on the order of banks, publicly release certain ratings for mass use.

Improvement of rating systems for assessing banking institutions will allow not only to rationalize the activity of legal entities and individuals in the banking sector of the economy, but also to specify the main problems in a timely manner and identify the banks in need of priority rehabilitation or transformation.

## 1. THEORETICAL BASIS

For a long time, creating perfect rating systems for evaluating the performance of commercial banks in Ukraine is the issue that has drawn attention of many researchers and scientists. Thus, using theoretical and practical experience, scientists have conducted research into the input parameters used in the construction of such systems, as well as conduct research towards improving the existing domestic rating systems of banking institutions.

The scientific literature used in Ukraine lacks a conceptual understanding of rating. In particular, Fursova and Pivnenko (2015) consider rating of banks as a comprehensive approach to determining the financial position of each bank and identifying the basic trends of its development. Karminskiy, Peresetskiy, and Petrov (2005), who have thoroughly studied the methodology of banking ratings, choose the following description: rating is a comprehensive assessment of the status of an entity (bank) that allows it to be classified in a particular class or category. Afanasenko (2011) defines the rating as "a comprehensive comparative assessment of the performance of an economic decision-making system based on financial reporting and expert judgment. This definition is quite close to the previous one by its very nature. Further refinement defines rating as a management method and shows the comprehensive nature of this type of evaluation. Rysin (2014), while interpreting the "bank rating" definition, emphasizes that it is a tool to demonstrate the investment

attractiveness of a bank through its ability to manage professionally and profitably in a complex area such as financial business. Lohvynenko (2009), in the study of the nature and importance of ratings in an entrepreneurial environment, considers the rating process to be central and states it is a professional activity, which involves a comprehensive assessment of different spheres of activity of a rating object and a rank, which reflects its true position (reliability, investment, attractiveness, creditworthiness and solvency, etc.) according to the developed scale, and also allows to formulate a realistic forecast of development in the short and long run. Nabok (2006) states that the rating system is a comprehensive system, which determines a bank's position according to certain parameters in the financial market.

According to Afanasenko (2011), the authors generally apply 10 basic categories to determine the etymology of the term "rating": evaluation, characteristic, system, indicator, setting, method, tool, process, distribution, and forecast. This definition variety confirms once again that scientists have not yet reached common ground regarding the disclosure of the content of the ratings.

"Rating" and "credit rating" are considered as same concepts, and the rating procedure is used as a process of assigning the very credit rating. Thus, IBI-Rating (2018) agency notes on its official webpage that the credit rating reflects the opinion of the agency's experts on the ability and willingness of the business entity to fully and within its own

terms fulfill its financial obligations. National rating agency (NRA) Rurik (2018) interprets credit rating as an independent expert rating by a specialized rating agency regarding the degree of credit risk of a debt that indicates the likelihood of failure to meet an obligation or default. The Credit-Rating (2018) agency defines a credit rating as a conclusion about the creditworthiness of a rating object as a whole and its individual debt according to the National Rating Scale. The rating analysts of the Standard-Rating (2018) agency offer to consider credit rating as a universal mechanism for assessing the reliability of debt according to a specially designed scale of credit risk assessment (Kozlovsky & Fonitska, 2013).

The Expert-Rating (2018) rating agency gives the following definition: credit rating is a classic product (instrument) that is assigned to banks and describes the degree of their financial soundness (solvency), which is measured by the probability of default.

According to the provisions of Article 1 of the Law of Ukraine "On State Regulation of Securities Market in Ukraine", a credit rating is a conditional expression of the creditworthiness of an object of rating as a whole and its individual debt under the National Credit Rating Scale. Whereas credit rating (rating) means providing professional services in the financial market, aimed at finding out the creditworthiness of a rating object, which may be conducted by a certain rating agency (1996).

The specialists of Moody's (2018) are convinced that the credit rating is the ability of the issuer to make payments and meet financial obligations in a timely and full manner. According to the Standard & Poor's (2018) concept, a credit rating is an expert opinion on the overall ability of a company to meet its obligations (creditworthiness). FitchRatings (2018) describes the credit rating as a relative risk measure.

Fuzzy logic by S. Kozlovskiy, Mazur, Vdovenko, Shepel, and V. Kozlovskiy, (2018) is the current method used to rank banks. The use of fuzzy logic theory makes it possible to work with both qualitative and quantitative indicators, form an artificial intelligence system and develop forecasts of the level of rating. Fuzzy logic is an innovative

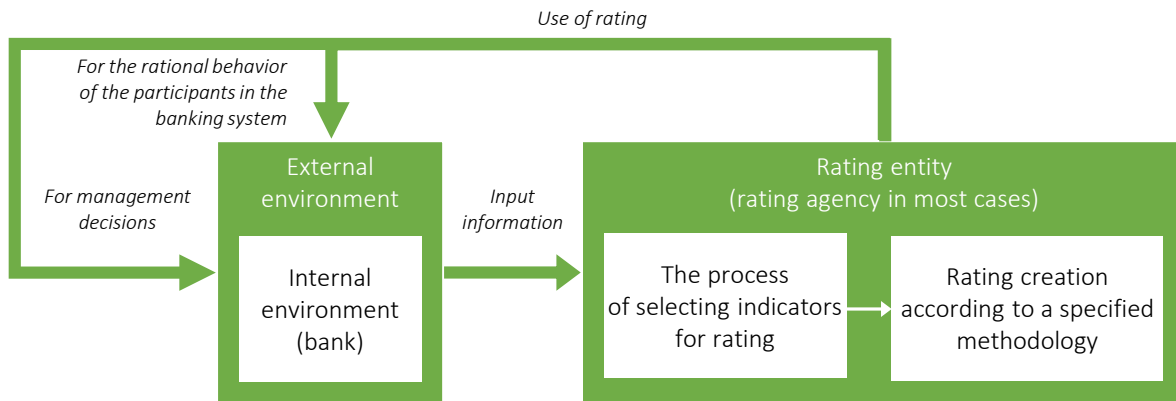
mathematics that can be used to solve a research problem.

At the same time, developing highly accurate and adequate rating systems for evaluating the activity of commercial banks, despite a number of works on this topic, is still relevant and needs further study. In this regard, it is advisable to study the methodology, analyze the advantages and disadvantages of rating techniques.

The need for rating banking structures was caused by the desire of key financial market actors to navigate, know and have an integrated assessment of their personal financial position with respect to their partners or competitors. Before getting acquainted with the methodology and features of the existing rating systems for evaluating the bank's activity, it is worth explaining the subject matter of the concept of "commercial banks rating", the essence of which is interpreted by scientists in different ways. Based on a thorough analysis of the theoretical and practical aspects of rating, the current study offers the following interpretation of the rating of banks, which reveals the essence of the rating process: the rating of commercial banks is the position of banks in the general list, which is determined on the basis of a unified methodological approach to the calculation of indicators used as a basis of rating, which makes it possible to conclude on the effectiveness of the commercial bank activity.

In general, the rating process (see Figure 1) is based on the selection of necessary indicators from the flow of information from the internal and external environment of a commercial bank. The quality characteristics and amount of input data for rating depend on the methodology of the rating process of commercial banks. The obtained ratings are used directly by the bank (management), in making management decisions in order to improve its performance, and the external entities (clients, to choose a reliable servicing bank, as well as the Central Bank for timely identification of problems and improvement of the banking system) (Bekh, 2012).

Rating agencies are considered to be the main entities involved in rating the banks. Each of them has a specific methodology to analyze input indi-



**Figure 1.** General rating scheme of commercial banks

cators and a unique process of rating the activities of banking institutions.

In 2018, the National Securities and Stock Market Commission includes the following rating firms in the State Register of Authorized Rating Agencies of Ukraine: IBI-Rating, Rurik, Credit-Rating, Standard-Rating, and Expert-Rating.

Thus, IBI-Rating (Ukraine) makes a rating of bank deposits reliability, which is intended for individuals and legal entities that have concluded or plan to conclude a deposit agreement with a commercial bank, having previously monitored its reliability. The users of this rating are based on a rating scale: from 6 (exceptional reliability; a commercial bank is the most preferable financial institution in terms of default risk) to 1 (low reliability; high bankruptcy probability). According to the agency, the indicators of this rating can be considered indicators of the financial position of banks. This rating makes it possible to obtain reliable information (the agency is classified as the authorized) without disclosing and disseminating confidential data of a commercial bank. A rating is formed on the basis of a closed Methodology for determining the rating of bank deposits developed by the agency. Data are updated quarterly to provide relevant ratings to users.

IBI-Rating forms a credit rating based on a detailed analysis of banks' credit activity, which is intended to inform potential investors and partners about the efficiency of conducting credit activity by a bank and problems in the structure of its credit portfolio. In addition, the rating is used directly by

commercial bank managers to make management decisions while optimizing its lending activities. The results are drawn up by the agency using the National Rating Scale separately for long- (over 1 year) and short-term (up to 1 year) credit transactions. Similarly, building credit rating is based on Credit Portfolio Quality Methodology developed by the agency. The rating covers a relatively broad range of banking entities, as it is compulsory under Ukrainian legislation. Data on ratings are updated quarterly or half-yearly (IBI-Rating, 2018).

NRA Rurik (Ukraine) compiles the ratings of deposit accounts, borrowers, debt instruments and the integrated long-term rating of the country's banking system. According to the agency, the reliability rating of deposit accounts can only be used if the environment (factors that influenced the commercial bank in the rating) is stable. The rating scale varies from r5+ (very high) to r1- (very low), the practical interpretation of which is similar to the IBI-Rating scale. Unlike the previous agency, NRA Rurik provides information on the general rating methodology. In assessing the reliability of deposit accounts, in addition to the groups of key indicators (liquidity and solvency, asset quality and resource base, capitalization and efficiency of operations), the agency takes into account incidental factors (implementation of economic standards by a commercial bank, organizational structure and its quality characteristic, probability of loss of reputation, payment delay statistics, other factors affecting the outflow and inflow of deposits). In total, 17 key indicators are used, depending on the value of which the bank is assigned a certain score for each indicator, and

then the total score is determined. The estimate obtained is adjusted based on the incidental factors. The integrated evaluation is approved only by a rating committee comprising highly qualified specialists.

While building the credit rating, Rurik explores a wide range of aspects of commercial banks' activities: direct banking, juridical and legal basis for operation, bank and risk management system, implementation of economic standards and limits. This technique is designed for all entities eligible to provide credit services. The ratings obtained are not subject to public interpretation (Rurik, 2018).

The Credit-Rating agency (Ukraine) provides credit rating services for various lenders and debt instruments. The main advantage of such rating is the adaptation of the methodology to the Ukrainian environment, including taking into account the likelihood of deepening crisis situations. The procedure for determining the position of banks in the rating is closed, only key areas of research are published (specialization of a commercial bank, client base, organizational and functional structure, financial and economic activity and dynamics of its key indicators, etc.). The agency's credit rating of the bank deposit gives information about the possibility of the deposit repayment during the year. The scale varies from 5 (highest reliability) to 1 (low reliability), with the possibility of using intermediate results with the marks "+/-". In fact, the scale is identical to the previous ones and is convenient for mass practical application. To build a rating, the bank's liquidity and resource base are analyzed, diversification and quality of its assets, opportunities to attract resources are assessed, the efficiency of banks and their sensitivity to negative factors are studied. The last block is particularly noteworthy, which provides a study of the dependence of the bank's functioning on the projected changes in the market or in other areas of the economy, its interaction with authorities (Credit-Rating, 2018).

Standard-Rating operates as a national rating agency in the Ukrainian market for rating services. Its main specificity is the recognition of the rating as relevant only during the period of agreement between the banking institution and the agency. The agency's services include mainly cred-

it ratings, whose methodology is based on the use of the key indicators for the CAMELS model (capital adequacy, asset quality, management features, earnings, liquidity and market share). Moreover, the ratings are long-term, although they can be interpreted as short-term and rating scales can be compared (Standard-Rating, 2018).

Expert-Rating, the authorized agency, is the largest operator of the voluntary rating segment in Ukraine, actively participating in the formation of the Ukrainian open and competitive market for rating procedures, specializing in determining credit and infrastructure ratings on national and international rating scales as possible benchmarks solutions. In addition, the agency is steadily developing a line of individual ratings, which are represented not only by classic credit ratings, but also by corporate governance and investment attractiveness, as well as public institutional and product ratings. It also conducts independent complex rating studies in the Ukrainian financial services market. The rating agency's methodological base covers the banking, insurance, investment and real sectors of the Ukrainian economy.

Expert Rating is considered to be a qualified full-cycle agency, that is, the rating procedure first takes place and then it is quarterly confirmed every year, after which everything is repeated anew. In the process of implementing (updating) banks' rating, the following criteria are used: capital adequacy; liquidity; asset quality; profitability of operations; relations with the regulator and shareholders; market share and competitive environment; currency and interest rate risks; additional factors (management of the bank and its experience, special aspects of personnel management and regional units of the bank, presence of branches and representative offices outside Ukraine, etc.). When assessing the impact of the above parameters on a bank's credit rating, the average of similar indicators in the banking system or group of banks and their dynamics over time is taken into account. If the set of factors is not quantifiable, then the evaluation is carried out expertly by the rating committee members of the agency, based on the rating scale under which the evaluation is carried out.

The corporate ethics standards, as well as the degree of responsibility of the Expert-Rating staff

to the participants of the rating services market, are fixed in the Code of Ethics. In doing so, the agency fully complies with the recommendations of the International Organization of Securities Commissions (IOSCO) on the rating procedure transparency, not only revealing methodological approaches to rating creation, but also the progress of the analytical process by means of rating reports and notifications of their updates.

A transparent and objective rating system of Expert-Rating, combined with unique channels of information dissemination, enables banks to meet the requirements of government regulators and regularly inform investors and depositors about

the level of their risks. This transforms ratings into an instrument that ensures effective promotion of their products in the Ukrainian financial market (Expert-Rating, 2018).

Each of the Ukrainian rating systems discussed above has a number of advantages and disadvantages, which testifies to the inevitability of creation of a unified rating system for banks in the near future in Ukraine see Table 1.

Methodologies by Kromonov and Shyrynska are another popular approach to rating the performance of commercial banks in Ukraine. According to the Kromonov's method, ratings are

**Table 1.** Advantages and disadvantages of rating systems for evaluating the performance of commercial banks in Ukraine

Source: Compiled by authors based on Credit-Rating (2018), Expert-Rating (2018), IBI-Rating (2018), Rurik (2018), Standard-Rating (2018).

Rating system	Advantages	Disadvantages
Reliability rating of bank deposits, credit rating of IBI-Rating	<ul style="list-style-type: none"> <li>• It is considered reliable;</li> <li>• uses confidential data of commercial banks, which are not available for public use;</li> <li>• practical interpretation of the results in the form of explanations to the rating scale;</li> <li>• gives a comprehensive view of the bank as a borrower (its image, reliability, position in the market);</li> <li>• covers a wide range of banks;</li> <li>• periodically updates data</li> </ul>	<ul style="list-style-type: none"> <li>• The bank has the right not to publish the results of the rating, which causes the use of the rating mainly for marketing purposes;</li> <li>• closed rating methodology, which does not allow for assessing the adequacy of ratings and comparing them with other similar ratings;</li> <li>• ignoring the solvency indicators of commercial banks in the calculations</li> </ul>
Reliability rating of deposit accounts, borrowers, debt instruments, credit rating, integrated long-term rating of the banking system of Ukraine, NRA Rurik	<ul style="list-style-type: none"> <li>• Public release of most ratings;</li> <li>• a well-established PR system;</li> <li>• taking into account international standards of rating procedures;</li> <li>• a number of related services (management and finance consultancy);</li> <li>• open access to the general principles and substance of rating practices</li> </ul>	<ul style="list-style-type: none"> <li>• Does not take into account the probably deepening crisis phenomena;</li> <li>• the agency is not fully responsible for the adequacy of the ratings, arguing that the quality of the input data and their completeness depend largely on the banks;</li> <li>• public interpretation of the calculated parameters is the agency's commercial secret;</li> <li>• credit ratings are universal (that is, not adapted solely to commercial banks)</li> </ul>
Bank deposit reliability rating, credit ratings of various creditors and debt instruments, the Credit-Rating agency	<ul style="list-style-type: none"> <li>• Taking into account the peculiarities of the Ukrainian economy, crisis phenomena and potential risks;</li> <li>• a well-established customer feedback process</li> </ul>	<ul style="list-style-type: none"> <li>• Closed information on the rating methodology;</li> <li>• information provided by customers is considered to be reliable and non-auditable</li> </ul>
Credit ratings of the Standard-Rating agency	<ul style="list-style-type: none"> <li>• Long-term rating;</li> <li>• comparability of long-term and short-term credit rating scales;</li> <li>• use of all key indicators</li> </ul>	<ul style="list-style-type: none"> <li>• Lack of information on the rating procedure;</li> <li>• custom-built rating is not publicly available (used as a marketing tool)</li> </ul>
Credit and infrastructure ratings of Expert-Rating	<ul style="list-style-type: none"> <li>• Relative simplicity of calculations and detailed assessment of many aspects of the bank's activity;</li> <li>• high speed of the rating process due to the clear algorithms;</li> <li>• disclosing the content of the rating methodology and clarifying in the rating report how the agency's analysts came to the final rating;</li> <li>• taking into account the dynamics of indicators and the possibility of remote rating;</li> <li>• increased objectivity and reliability of ratings as a result of reducing the influence of subjective factors</li> </ul>	<ul style="list-style-type: none"> <li>• Inability to calculate the rating only on the basis of the official financial statements;</li> <li>• insufficient validity of choosing reference values of evaluation indicators-criteria;</li> <li>• inappropriate selection of correctional weight coefficients;</li> <li>• inability to detect deterioration of banks' financial position in a timely manner</li> </ul>

based on capital, liquidity and liquidity risk indicators. That is, the rating is mainly aimed at assessing the optimal structure of assets and liabilities of a commercial bank. A bank's rating position is a 100-point overall assessment of a bank's reliability (from unsatisfactory reliability (less than 30) to strong one if there is a 90-100-point assessment), which involves the calculation of a synthetic reliability index that allows for random factors.

Methodology by Shyrynska is based on the use of more indicators (capital, asset structure, profitability, liquidity, liquidity risk, and credit risk). The result of rating by this method is a synthetic coefficient, which is determined based on pre-calculated weighted coefficients using these groups of indicators.

Priority of using rating of banking institutions by the Kromonov and Shyrynska's methodology is due to their simplicity. They allow for making their own calculations and do not require unnecessary material costs, and they also do not need data that is "bank secrecy". Among the significant disadvantages are the following: only the key indicators are taken into account (the aspects of management, scale of operation of the bank, and client base are not analyzed); the methodology is not suitable for assessing the position of a bank with foreign capital; there are controversial approaches to the correction and weighing of coefficients; the additive technique often does not produce adequate results (Fursova & Pivnenko, 2015; Pshyk, 2014).

The rating methodology and the indicators used by agencies are in fact a commercial secret that does not make it possible to assess the adequacy and appropriateness of using a rating for a specific purpose. There is also no assurance that the rating systems described by commercial banks are fairly perfect. Thus, in particular, comprehensive analysis of methods by Kromonov and Shyrynska that are publicly available revealed numerous discussion points, which calls into question the possibility of their usage.

At the same time, the vast majority of rating agencies in Ukraine carry out rating of commercial banks on order and at their expense. In the case of undesirable positions, banks hide the results of their performance rating. Therefore, the rating is

often not a tool for making rational decisions by its users (customers, partners, investors), but an advertising tool. A significant drawback is that most agencies do not verify the information provided by commercial banks, and accordingly are not responsible for the relevance of the ratings developed. Only certain rating systems for assessing the activity of commercial banks can be considered fully adapted to the peculiarities of the Ukrainian economy, which involves taking into account the possibility of intensification of crisis phenomena or processes, the study of the relationship of the bank with state bodies and some representatives of the authorities, sharp economic and political changes, etc.

In addition, the current regulation of the rating services market in Ukraine does not meet current European standards. Therefore, the Comprehensive Program of Ukrainian Financial Sector Development until 2020 and the Association Agreement between Ukraine and the EU provide for the urgent provision of the institution of rating agencies, as well as bringing the legislation of Ukraine in the field of rating to European standards.

Nowadays, rating agencies in Ukraine are regulated by a normative legal act of the National Securities and Stock Market Commission, and Article 4-1 "Rating agencies and rating" of the Law of Ukraine "On State Regulation of the Securities Market in Ukraine", which defines only the general framework of their activity. That is, the current Ukrainian legislation does not set requirements for the methodology and rating process at all, and the information disclosed by the rating agency is mainly of a statistical nature and does not allow a full analysis of its activity (Verkhovna Rada of Ukraine, 1996).

In order to solve this problem in a constructive way, a Law of Ukraine "On Rating" was drafted in 2018, which is now taken as a basis in the first reading and expects reconsideration by the Verkhovna Rada of Ukraine after further development taking into account the comments and proposals of the legislative initiative entities.

This document aims at creating real prerequisites for enhancing the efficiency and functionality of rating agencies, in particular introducing a mechanism for rating agencies that intend to establish

private ratings and public credit ratings, whose information on assignment, reviewing and withdrawal is subject to mandatory approval. The document also introduces the procedure for confirming credit rating assigned by international rating companies. The draft regulates all issues of state regulation and supervision in the rating market and the application of financial sanctions to rating agencies in case of violating the current legislation (2018).

It is obvious that the upcoming adoption of the Law of Ukraine "On Rating" allows to establish the organizational and legal foundations for rating agencies functioning and state control over them, to determine the ratings and their use, to form a system of professional unbiased rating, which will lead to revitalization of investment processes and the investment climate improvement in Ukraine.

Thus, the analyzed rating methods used in Ukrainian banking have quite significant differences in the composition and set of factors taken into account, the list of banks' performance indicators, the determination of the significance of specific coefficients in the totality and their thresholds. This leads to the situation when different rating agencies assign different ratings to banks that work equally and does not give an opportunity to compare their performance in general. That is, in Ukraine the rating business is in its infancy. In particular, the demand for rating services has been formed in the country, its own rating system has been created, and the National Rating Scale has been implemented. At the same time, the structure of the Ukrainian market has all the features of an oligopoly, and this has a negative impact on the quality of independent professional evaluation of banking institutions.

Therefore, it is of utmost importance for Ukraine to develop reliable rating technologies and to promote a culture of bank rating that is a common worldwide practice that can influence the further choice of a reliable partner bank by rating users. It is well known that financial sector players in most developed countries provide the rating agencies with the necessary information on their own and in a timely manner, as the availability of NR (Not Rated) ratings is considered by potential or actual clients as a signal of unfavorable financial position and probable insolvency of unrated banks.

From these points of view, it is relevant to analyze the best practices of other countries regarding banks' rating, which can help to develop alternative or similar well-established methods of their analysis, taking into account the peculiarities and conditions of the financial market in Ukraine. The most well-known rating systems are those developed by internationally specialized rating firms (Moody's, Standard & Poor's, Fitch), which cover up to 90% of total market demand for rating agencies (White, 2018).

At the same time, the credibility of international rating companies was significantly eroded by their untimely response to the devastating effects of the recent financial and banking crisis and the inability to anticipate a series of bank failures globally. This resulted in the self-rating of banks, which led to changes in domestic legal norms and international standards of functioning of the rating entities in order to minimize the submission of false information by banks and to avoid fraudulent ratings, improve the methodological provision of rating in banking services and review mechanisms and amounts of fees paid to rating agencies.

Thus, the activities of leading rating agencies affect the behavior of creditors and investors around the world. Therefore, reforming the rating environment as an important component of the global financial system will strengthen the market discipline of its participants and will give a new impetus to the harmonious development of the global competitive and transparent banking service.

## 2. RESULT

Ukrainian rating agencies focus on analyzing indicators of asset quality, profitability, liquidity and management in their methods of rating banks, while international ones emphasize asset quality, solvency and risk. The methodology of rating systems for evaluating the activity of commercial banks, which is developed by international rating agencies, is publicly available, which allows to investigate the adequacy and relevance of the ratings obtained, their advantages and disadvantages (see Table 2).



**Table 2.** Peculiarities, rating scale, advantages and disadvantages of international rating agencies' rating systems

Source: Compiled by authors based on Fitch Ratings (2018), Karminskiy, Peresetskiy, and Petrov (2005), Kiff, Kisser, and Schumacher (2013), Laere, Vantiegheem, and Baesens (2012), Moody's (2018), Packer and Tarashev (2011), Standard & Poor's (2018).

	Rating agencies		
	Moody's (USA)	Standard & Poor's (USA)	Fitch (Great Britain, USA)
Peculiarities	Particular emphasis is placed on forecasting the bank performance	Special role in the rating is given to the analysis of risk indicators and the ability to manage them	Risk analysis (liquidity, capital investment) plays a special role in rating formation
	Consistency is taken into account: providing support to the bank from the outside, especially in times of crisis		
Rating scale	<b>Aaa</b>	<b>AAA</b>	<b>AAA</b>
	Banks with exceptional creditworthiness and minimal risk. Changing the creditworthiness of such banks is unlikely to contribute to the deterioration of their strong positions		
	<b>Aa</b>	<b>AA</b>	<b>AA</b>
	Excellent creditworthiness, but banks are more susceptible to long-term risks, and the level of protection may not be as significant as that of Group I banks		
	<b>A</b>	<b>A</b>	<b>A</b>
	Good creditworthiness, however, banks' susceptibility to risk may worsen their position		
	<b>Baa</b>	<b>BBB</b>	<b>BBB</b>
	Adequate creditworthiness. Banks lack some security features or they may be unreliable in the long run		
	<b>Ba</b>	<b>BB</b>	<b>BB</b>
	Doubtful creditworthiness. Often, the ability of banks to fulfill their obligations in a timely manner can be questionable, therefore they are not reliable in the long run		
	<b>B</b>	<b>B</b>	<b>B</b>
	Low creditworthiness. After a long period, the likelihood of banks meeting their obligations in time is low		
	<b>Caa</b>	<b>CCC</b>	<b>CCC</b>
	Extremely low creditworthiness. Such banks can be declared bankrupt or there is a significant threat to their financial position		
	<b>Ca</b>	<b>CC</b>	<b>CC</b>
Banks under default on their obligations			
<b>C</b>	<b>C, D</b>	<b>C, D</b>	
Defaulting banks that are unlikely to improve their situation			
Advantages	Open rating methodology; a detailed description of each stage of rating formation (including calculation of input indicators); taking into account the state of the economy of the country for which ratings of commercial banks are formed; a specific methodological approach to rating in countries with deepening economic crisis; segmentary methodology and essence of rating for a commercial bank (involves diagnosing the financial position of an individual banking institution, identifying problems and prospects for its development in order to make rational decisions by the management apparatus) and building general ratings (for external users); periodic improvement of methodologies; upgrading the activities of rating agencies to increase their transparency (in particular, the separation of research and finance departments to reduce corruption)		
Disadvantages	The level of rating accuracy is low given the crisis in the country's economy, destabilization of the banking system (estimated at 0.40-0.50 in the short and 0.25-0.40 in the long run); high cost of services; the likelihood of obtaining a preferred rating position by a commercial bank in the case of a "custom rating"; uncertainty about obtaining 100% reliable information from a commercial bank, so there are cases of obtaining significantly different rating positions created by different international rating agencies; incompleteness of ratings in terms of forecasting the future state of the banking sector as a whole (intended for short-term prospects); the possibility of a subjectivity factor due to the presence of small, closed parts of the methodology that are not intentionally reproducible for commercial purposes		

In addition to the rating systems described above that are used in international practice, the following are known: banking sector supervisory authorities (CAMELS, PATROL, ORAP); banking risk assessment systems (RATE, RAST); "bank-

ruptcy – adaptation – steadiness" statistical rating systems (SEER, SCOR, SAABA, GMS); systems of financial ratios and analysis of individual groups of banks (monitoring system of US banking institutions, BAKIS) (see Table 3).

**Table 3.** Specific features of rating systems for evaluating banking institutions' performance in the world's leading countries

Source: Compiled by authors based on Fursova and Pivnenko (2015), Khodorovskiy and Polushina (2010), Morgan (2002), Mospanenko and Bondarenko (2014), National Bank of Ukraine (2018), Ong (2002), Yeletsykykh and Petryshcheva (2016).

Group	Name	Purpose	Criteria
Rating systems of banking sector supervisors	CAMELS (USA)	Determining general position of commercial banks, including assessment of the quality of management, risk level, financial condition and quality of operations	Capital adequacy, asset quality, management and corporate governance, revenue, liquidity, market risk sensitivity, operational risk
	PATROL (Italy)	General remote financial analysis to identify problem credit structures with the aim of their further detailed study	Capital adequacy, credit quality, profitability, organization, liquidity
	ORAP (France)	Risk assessment to identify problems with the lending institution	Indicators of asset quality groups, solvency, profitability, liquidity, market risk, management and control
Banking risk assessment systems	RATE (Great Britain)	Assessing risk to determine the financial soundness of a commercial bank as a credit institution	<ol style="list-style-type: none"> <li>1) Indicators of risk assessment (directly assessing the level of risk and control of a commercial bank according to risks);</li> <li>2) analysis of supervisory tools (research and improvement of existing supervisory methods, techniques and means);</li> <li>3) evaluation of the effective use of supervisory tools (reporting on trends in the bank's activity during the supervisory period)</li> </ol>
	RAST (the Netherlands)	Comprehensive assessment of banking risk	<ol style="list-style-type: none"> <li>1) Financial analysis of the banking institution based on official or verified data;</li> <li>2) structuring the bank by management and activity areas;</li> <li>3) risk assessment at the level of units allocated in the previous stage;</li> <li>4) report aggregation</li> </ol>
Statistical rating systems	SEER (USA)	Diagnosing the current state of commercial banks and forecasting their rating in the future in terms of bankruptcy	Asset quality, profitability, solvency, liquidity
	SCOR (USA)	Predicting the probable bank institution's credit rating deterioration	Asset quality, profitability, solvency, liquidity
	SAABA (France)	Early forecast of possible losses	<ol style="list-style-type: none"> <li>1) Research into the loan portfolio quality;</li> <li>2) analysis of the financial position of the bank's shareholders;</li> <li>3) diagnosis of management and liquidity</li> </ol>
	GMS (USA)	Diagnosing development trends	Asset quality, solvency, liquidity
System of financial ratios and analysis of individual groups of banks	US banking monitoring system (USA)	A comprehensive study of the financial condition of the banking sector as a component of the financial sector	Asset quality, solvency, liquidity, profitability
	BAKIS (Germany)	Rapid assessment of the financial position of a commercial bank as a lender, study of the dynamics of risks (credit, liquidity, market) in order to determine trends in the development of the financial market	<ol style="list-style-type: none"> <li>1) Indicators of credit risk and solvency;</li> <li>2) market risk research;</li> <li>3) estimation of bank profitability</li> </ol>

However, the investigated rating systems of banking institutions have significant drawbacks: only the inspection of the reliability of the input information for rating construction is carried out (the auditing is absent); expensive procedure for forming ratings from the point of view of spending money (to create a base of analyzed indicators, remuneration of inspectors or analysts, etc.) and time (especially given the large amount of data); the probability of errors due to the subjectivity of determining the weighting coefficients in the cal-

ulation process; failure to account for variability and the possibility of deepening crisis in the economy by a number of systems; preferably a medium- or short-term analysis, etc.

In the context of Ukraine's integration into the EU, it is worth paying attention to the rating systems for evaluating the activity of commercial banks of this community. Thus, EU member states attach great importance to rating because the ratings generated affect the investment flow to a par-

ticular country as a whole. In accordance with the International Standards of the Basel Committee on Banking Supervision, banks' capital assessments are based on risk-weighted assets. According to Basel II, in 2004, two methods of assessment were approved: a standardized and an internal rating approach. The first approach clearly identifies the levels of risk and types of debtors, and according to the second one, banks are allowed to independently assess the risk parameters for loans on models, which must be confirmed by the competent authorities. In the course of the Basel II implementation, commercial banks have developed techniques that can legitimately improve rating positions, but the disclosure of such practices has led to a lack of confidence in internal rating systems for evaluating banking institutions.

Therefore, in March 2016, the Basel Committee proposed changes to the rating methodology based on the assessment of banks' capital. Internal models should be based on "input floors", i.e. the minimum values of risk parameters, and in the future it is expected to protect rating users against unforeseen losses. At the same time, researchers have identified a number of disadvantages of such a system: increased costs of commercial banks for risk management; expensive procedure for introducing a new rating method (specialized staff for developing individual methods or making analytical calculations, costs on control and preparation of relevant documentation, etc.); lack of trust of the bank management apparatus in such methods of rating at the initial stages (if the system saves users from higher risks by setting "input floors", then for managers it violates the adequate perception due to the probable overestimation of these indicators) (Resti, 2016).

Currently, the rating space in Ukraine is being formed, which is determined not only by Ukrainian but also by international agencies. The rating of banks' activities is an urgent requirement today, in particular the Basel Committee on Banking Supervision, since an ideal rating helps to attract resources in the interbank capital market and conduct operations in international financial markets to borrow additional funds. In this regard, powerful banks are interested in obtaining such a rating and that its business partners should have it. At the same time, the rating provides a com-

prehensive description of the bank's operation in the "history – mission and goals – management – current results – prospects" chain and allows to establish, based on a standardized set of indicators, a general assessment of its financial status for management to make informed management decisions and to predict further successful operation in a risk and highly competitive environment.

Bank rating is a relatively new tool for Ukraine. It is a universal information source for interested users on the development tendencies of a particular banking institution in the financial market. Worldwide, banks' ratings serve to assess financial sustainability and reliability and influence their image formation. In Ukraine, the ratings of international agencies assigned on an international and national scale are more important for large and medium-sized banks, although many of them receive ratings from Ukrainian agencies. At the same time, it should be noted that nowadays the rating of a bank by international rating agencies is a necessary prerequisite for its entering the foreign markets of loan capital.

At the same time, despite the importance of international rating for the Ukrainian banks, some of them refuse the services of leading world rating agencies, which do not sufficiently take into account the specificity of other countries and provide inadequately low ratings, which is a consequence of lack of healthy competition and abuse of dominant of the Big Three (Moody's, Standard & Poor's, and Fitch). International rating agencies mostly rely on the legal norms and economic realities of their countries, a developed financial sector infrastructure, free access of all banks to international markets, while the environment for Ukrainian banking institutions differs significantly from the conditions for foreign banks' activities. In addition, the services of international agencies are of high cost and only the largest Ukrainian banks planning to actively operate in the world financial markets can allow themselves such a rating procedure. However, the rating process participants in Ukraine pay considerable attention to cooperation with international rating agencies, but for the needs of the internal market it is urgent to develop a system of national ratings, taking into account the experience of only reputable agencies with impeccable reputation (Ferri, Liu, & Majnoni, 2001).

In Ukraine, the processes of improving the rating systems of banks correspond to the current global trends. However, the adaptation of the world practice to the Ukrainian conditions encounters some problems: the rating analysis of banking institutions requires the best tools, which is impossible without unification of the existing methodological approaches; the unresolved is the problem of the adequacy of rating methods in the rapidly and constantly changing development conditions of the Ukrainian economy; existing ratings are informational, mainly aimed at identifying current difficulties of the bank, and do not fulfill its predictive duty; too little attention is paid to the interrelation of individual banks' ratings and the financial soundness and stability of the state's banking system; a valid rating procedure is inadequate to the risks posed by internal and external bank factors.

Exploring the current rating market in Ukraine, a number of contradictions related to the use of bank ratings have been identified. In particular, the final results of this assessment should be open to the public, but in the event that the bank is classified as unfavorable financial position, which ultimately does not cause serious consequences, the publication of such report may lead to its clients' concern, massive outflow of funds or deterioration of financial and economic position of the banking institution. In other words, there is a situation where the rating agency forms an idea of the bank's operation and does not bear any responsibility for the quality of the ratings. In international banking practice, the rating is based on the analysis of quantitative and qualitative indicators of bank activity, which necessarily involves the use of evaluative judgments of experts which have signs of subjectivism, and therefore can be contradictory and erroneous, which places their adequacy and validity in question. A significant dilemma of banking institutions ranking is that they are often incomparable, that is, according to different characteristics, the best and worst are different banks. In addition, it is worth pointing out that rating is most remote, and this usually leads to conclusions that are not true. In contrast, the inspection method of rating construction requires the presence of a large staff of qualified specialists, and not all Ukrainian rating firms are not capable of doing this.

On the other hand, there is always a lot of discussion around the rating approach of banks' ratings regarding which indicators should be included in one or another methodology, which share should be assigned to each of them in the final rating and whether their rating should be calculated. Some experts even propose to completely abandon factor analysis, explaining their position with a rather low accuracy of existing methods and the negative impact of its results on the public consciousness, because ratings are considered as effective tools of both advertising and anti-advertising. Others take the opposite view and try to make up for the inaccuracy of certain techniques by introducing as many metrics as possible. At the same time, a number of banking analysts believe that the rating technique is imperfect, instead of which it is advisable to conduct the so-called analysis of the dynamic financial equilibrium of the bank, which has the prognostic properties of predicting probable crisis events. However, everyone agrees that there is a need to substantially reform the rating methodologies and make them more objective and accurate.

Analysis of peculiarities of formation of a comprehensive credit rating system in Ukraine confirms its methodological limitations: it does not take into account the complex assessment of many factors that directly affect the work of banks, incorrectly uses certain methods of analysis, gives opposite conclusions when interpreting any other metrics, etc. The following are the major disadvantages of implementing the rating service for Ukrainian banking institutions.

- Lack of reliable information. The financial statements of a bank make the informational basis for most of the techniques used for ratings, which does not always adequately reflect the bank's financial position. Obviously, the reporting alone is not enough to accurately and objectively evaluate banks, they need additional information about the asset quality, the structure of their income and expenses, etc. However, even with the best global rating standards, a rating procedure may not produce a reliable result, as the financial and statistical reporting of a bank may be intentionally distorted. This situation is somewhat mitigated by the use of expert estimates that

adjust the formal calculation results. At the same time, it is advisable to introduce the practice of publishing a bank statement after the obligatory confirmation of its reality, correctness or completeness of audit findings in order to avoid information asymmetry.

- The complexity of forming an optimal system of indicators. Today, several hundred coefficients are used to compile banks' ratings, and therefore rating agencies face the difficult task of selecting the most significant ones that will allow a comprehensive assessment of the bank's financial position and a summary rating. A promising way of solving this problem is to call for factor analysis, which allows for finding out which factors influence one or another statistical value and which should be rejected as insignificant. Simultaneously, the problem of calculating the weighting coefficient for each indicator used in calculating the final rating is solved.
- Construction of predictive values. A major disadvantage of existing banking rating methods is that the assessment is based on retrospective analysis, while its purpose remains to predict the future of the banking institution. Therefore, along with static information on a specific date, one needs to consider the dynamic characteristics to show in which direction the selected objects of research will develop. Accordingly, it is appropriate to use the SEER methodology, which is gaining in popularity in today's rating environment. It involves generating two final ratings: assessing the current and long-term (expected) position of the bank. The advantage of this method is the ability to predict risk based on the study of the dynamics of both internal and external factors, which provides high accuracy and validity of the results.
- Use of adequate bank grouping. All ratings are only meaningful when they are compared with the ratings of other rating object. This means that banks should be divided into individual groups within which they are scheduled to rank. In order for the systematization to adequately reflect the existing position of the banks, it is inevitable to operate a cluster analysis taking

into account the selected criteria, which automatically integrates the banking institutions of the heterogeneous banking system of Ukraine into homogeneous groups, which are significantly different from each other.

- The cumbersome calculations. Ranking requires the maintenance of a powerful data collection apparatus and continuous monitoring of the population under investigation, which increases the cost of rating. The implementation of clustering approaches is considered to be the most promising procedure for in-depth diagnostics of the banking system.
- Subjectivity when evaluating quality metrics. Unlike the world practice, which is dominated by internal qualitative features, in the Ukrainian rating methods of banks the huge emphasis is placed on external negative influences. It is clear that ratings, when subjective (expert) data are the source information for the bank's rating analysis, which contains inaccurate and distorted information in some places, cannot pretend to be objective, universal and complete. Accordingly, the quality of the end result depends largely on the professionalism of experts, and the question of formalizing and developing an average criterion for the impact of expert opinion on a bank's position in the rating remains open. Therefore, it is necessary to create a so-called "bank of experts", which allows the consistency of different views of the expert environment, the management of all banks, authorized representatives of the National Bank of Ukraine or other interested parties and contributes to improving the transparency of the rating methodology, taking into account the specifics of banking activities in Ukraine.

Considering the well-known approaches to determining bank ratings, one should pay attention to those that involve the use of integrated rating methods, including the taxonomic method. These ratings provide a comprehensive and more accurate assessment of the work of the analyzed object, as well as to find out the current status and reserves for strengthening the capital of banking institutions, assess the position of a particular bank relative to other banks, identify potential opportuni-

ties for their progress, etc. Recently, in international banking practice it has been argued that the rating should be based on Data Envelopment Analysis (DEA), which meets the needs of the external rating management of the bank and allows to evaluate its performance according to the integrated performance indicator, to find performance points, adjust the behavior of all rating objects. When forming a rating, it is important to take into account the effect of risks on the bank's stability. In this context, stress testing is considered to be a rather effective method, which allows to predict and quantify risks and to choose tactical and strategic directions for sustainable bank development. At the same time, it is appropriate to include the criteria of social responsibility in the methodology of rating construction, which becomes a guarantee of client orientation of banking institutions and trust from their clientele and significant competitive advantage in the current context.

### 3. DISCUSSION

Organizing a highly effective public rating system and attracting ratings to identify the strategic goals for improving banks as a whole and the network of their affiliates or branches, individual employees and operations are possible if the rating is purely voluntary, not compulsory (mandatory). Otherwise, the main purpose of the rating and its credibility are lost and the whole rating institution is actually discredited, especially in the situation of underdeveloped and monopolized rating services market of Ukraine, which contradicts the market economy requirements. Therefore, the state is obliged, directly or indirectly through its institutions, to create a civilized market-competitive environment for the activities of any rating agency, avoiding directives, all kinds of prohibitions and restrictions.

Therefore, the diagnostics of the Ukrainian market of rating agencies services, which is today at the initial stage of development, assures that in Ukraine the period of spontaneous and unpredictable functioning of banks is over and only a tactical and prompt forecasting and rating is a condition for their survival in a dynamically changing environment. Assessment of financial stability and reliability of banks is an extremely important step in the management of banking institutions. This allows to determine the current situation of banks, to formulate promising policies, to influence the increase of their competitiveness in the domestic and foreign financial markets.

The rating approach does not necessarily guarantee the establishment of absolute efficiency of the bank's activity, no rating methodology is perfect and there is still no universal way to create a system of rating analysis of banking institutions. However, as a rule, having a high rating not only serves as a benchmark for the bank's counterparties, but also provides the latter with many strategic advantages. In particular, it opens up opportunities to reach new target markets and increase the overall market share. It also gives opportunities for growth of international reputation, prestige and business reputation within the country and trust from potential clients; increase in the attractiveness as a financial intermediary, actively attracting new investments and expanding the own client base; achieving and maintaining competitive status in the financial market over the long term.

Thus, analyzing the best global experience in the field of rating banks' activities, one can find the most acceptable ways of eliminating the identified problems that would stimulate stabilization and further uplift of the Ukrainian banking system.

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### CONCLUSION

Development of advanced state-of-the-art rating systems for assessing bank activity will allow for timely identifying problems in the banking sector and taking appropriate measures to improve the banking institutions at the levels of the Central Bank and the management of commercial banks. Such actions will increase the confidence of the borrowers, investors and depositors in the banking system of Ukraine, and reliable constantly updated ratings will facilitate the adoption of rational economic decisions. The use of high-quality bank ratings prevents negative trends in the financial market and helps stabilize

the behavior of macroeconomic agents. That is, a multiplier effect is as follows: economic success in the country results in a higher rating of banks, and increase in their rating contributes to the increase in the inflow of investment for the domestic economy development.

In order to improve existing methods and apply the experience of the world's leading countries, the following steps are appropriate:

- to provide open access to rating methodology, which makes it possible to assess the relevance and adequacy of the results obtained;
- at the legislative level, to approve a set of obligatory ratings of different orientation (reliability of bank deposits, crediting, etc.) with the coverage of all commercial banks;
- to reduce the share of “custom” rating;
- to create conditions for free access to ratings to all entities;
- to develop a procedure for taking into account the risk indicators and the scale of banking institutions' activity;
- to adapt rating systems to new Ukrainian realities (sharp deepening of the economic crisis, significant influence of political factors, etc.);
- to modernize the systems towards the complexity of taking into account the factors of changes in the banks' macro environment and ease of calculations;
- to create a system of quick audit of the input information for rating;
- to develop forecast rating systems;
- to guarantee transparency of rating agencies.

The prospects for further research are in the search for a compromise in the triad of “banks – rating agencies – clients” owing to the approval of the new Law of Ukraine “On Rating”. This will allow financial regulators to develop effective mechanisms to validate commercial banks' ratings.

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