CENTER FOR STRATEGIC INNOVATIONS AND PROGRESSIVE DEVELOPMENT (Ukraine)
ZELENOGUR UNIVERSITY (Poland)
GDAŃSK UNIVERSITY (Poland)
TECHNICAL UNIVERSITY OF KOCISE (Slovakia)
VARNA FREE UNIVERSITY NAMED AFTER CHERNOBRYZKA CHRABRA (Bulgaria)
CHERNIGOV NATIONAL UNIVERSITY OF TECHNOLOGY (Ukraine)
NATIONAL UNIVERSITY OSTROH ACADEMY (Ukraine)
HIGHER EDUCATIONAL INSTITUTION UNIVERSITY OF EDUCATIONAL MANAGMENT NAPS (Ukraine)
EDUCATIONAL-SCIENTIFIC INSTITUTE OF FINANCE, BANKING MATTERS OF THE UNIVERSITY OF THE STATE FISCAL SERVICE OF UKRAINE (Ukraine)
NATIONAL INSTITUTE OF ECONOMIC RESEARCH (Georgia)
ALL-UKRAINIAN INSTITUTE OF EURASIAN STUDIES AND ORIENTAL STUDIES (Ukraine)
INSTITUTE FOR SOCIAL POLICY OF THE REGION (Ukraine)
With the participation and assistance of:
Batumi Educational University of Navigation (Georgia)
Sukhumi State University (Tbilisi, Georgia)

ASSOCIATION AGREEMENT:
FROM PARTNERSHIP TO COOPERATION

collective monograph

Edited by
Maryna Dei
Olga Rudenko

2018

CENTER FOR STRATEGIC INNOVATIONS AND PROGRESSIVE DEVELOPMENT (UKRAINE)
ZELENOGUR UNIVERSITY (POLAND)
GDAŃSK UNIVERSITY (POLAND)
TECHNICAL UNIVERSITY OF KOCISE (SLOVAKIA)
VARNA FREE UNIVERSITY NAMED AFTER CHERNOBRYZKA CHRABRA (BULGARIA)
CHERNIGOV NATIONAL UNIVERSITY OF TECHNOLOGY (UKRAINE)
NATIONAL UNIVERSITY OSTROH ACADEMY (UKRAINE)
HIGHER EDUCATIONAL INSTITUTION UNIVERSITY OF EDUCATIONAL MANAGMENT NAPS (UKRAINE)
EDUCATIONAL-SCIENTIFIC INSTITUTE OF FINANCE, BANKING MATTERS OF THE UNIVERSITY OF THE STATE FISCAL SERVICE OF UKRAINE (UKRAINE)
NATIONAL INSTITUTE OF ECONOMIC RESEARCH (GEORGIA)
ALL-UKRAINIAN INSTITUTE OF EURASIAN STUDIES AND ORIENTAL STUDIES (UKRAINE)
INSTITUTE FOR SOCIAL POLICY OF THE REGION (UKRAINE)
with the participation and assistance of:
Batumi Educational University of Navigation (Georgia)
Sukhumi State University (Tbilisi, Georgia)

ASSOCIATION AGREEMENT: FROM PARTNERSHIP TO COOPERATION

collective monograph

Edited by
Maryna Dei
Olga Rudenko

Published by Accent Graphics Communications & Publishing

Hamilton

2018

CONTENTS

$$K = P_{NB} \cdot q + P_{IBC} + P_{DC} \cdot q + P_{SD} \cdot q$$

Where, P_{NB} – is average price of the national bank's resources

$P_{IBC.}$ – average actual value of the interbank credits,

P_{DD} – real average interest of the demand deposits;

$P_{.CD}$ – real average interest of the call deposits;

q – Share of the credit types.

Average value of the resources and hence the bank's costs will be as high as the liabilities are reliable and stable, i.e. as high are the deposit terms and amount.

Significant part of the commercial bank cost analysis is analysis of the costs for production of the bank's aggregate products and cost prices of the products and operations.

Similar to the cost prices of the industrial goods, though quite conditionally, the banks consider so called cost prices of the banking operations, comprising integral part of the pricing mechanisms of the credit organizations. It could be analyzed by consolidated or total operations or by groups of certain specific operations.

Consolidated operation value in analysis the aggregate coefficient of the bank operations cost price

K_vS can be calculated by the formula:

$$K_vS = \frac{R - Dd}{A - An} \cdot 100\%$$

Where:

R – bank's total costs;

Dd – Additional incomes;

A – total balance asets of the bank in the period under consideration;

An- amount of the non-income generating asset items.

This coefficient is the minimal one that does not provide profit, price of the aggregate bank product and one of the key indicators generalizing effective use of the resources by the bank.

In analysis of the internal value of the bank product the costs related to its activities are identified, the soundness of their performance is evaluated and effect of change of the key factors on the product value is studied, among them: value of assets' attraction, quantity and structure of the assets, interbank costs.

According to the generally accepted techniques of costs calculation, bank's key costs related to performance of their active operations are classified as the direct and indirect costs. Direct costs are attributed to performance of the certain operations of group of operations while indirect costs are on general banking nature and are the overhead costs by their substance. Identifying the direct and indirect costs by operations, we can calculate internal value of each banking operation.

It is reasonable to calculate the average coefficient of the internal value of individual operations with the following formula:

$$K_{vsi} = \frac{R_i + K_i - D_i}{A_i - A_z} \cdot 100\%$$

Where:

Ri – direct costs of the bank's operations of given type;

Ki – Bank's indirect costs

Di – Additional incomes;

Ai – assets of the operations of given group

Az – frozen assets of given operations sphere.

Analysis of the interval value of the bank operations allows identification of more income generating types. Lower is the coefficient, in relation to this situation, the higher is their economic effectiveness, with respect of cost price.

Analysis of the bank's key operations or their key types should be performed as at the stage of formation of the price of credits to be granted, also at a time of making actual costs, including the unplanned ones, in the process of deals, in the course of credit servicing.

One of the ways of determination of the active operation for attraction of the bank's funds is its calculation as the share of total active operations multiplied by all funds attracted by the bank.

Direct costs of the operation, in addition to the ones related to procurement of the resources, include technical support of the operations. Part of these costs is obtained by direct calculations and the other – by statistical comparison of monetary value of the active operations and aggregate costs for certain procedures of these operations.

Analysis of the cost price of individual bank operations by items allow accurate attribution of certain costs (especially the general banking ones) to the specific operation (for example, in calculation of the cost price of credit operations by items, costs for procurement of the license on foreign currency operations, commissions for procurement (or sale) of the foreign currency, costs for the cash bags, repair and restoration etc. will be included. In calculation of

the bank's shared costs for providing activities with each operation are proportionally distributed over all operations, including those that do not belong either to the direct or indirect ones).

Cost price of any operation is obtained from its characteristics – its type, terms, interest accrual method and other terms and conditions.

Internal value of the credit operations can be calculated in the other way as well. Its substance is that the contractual interest includes actual price of the credit resources, as well as the spread – difference between interest rates of bank's attracted funds and those paid to the borrowers; this is determined independently by each bank. In addition, for profitable operation of the bank, the contract price of the credit shall not be lower than average value of the resources, i.e. the sufficient margin (Md) comprising minimal difference between the assets and liabilities rates of the operations allowing the bank covering the general costs of functioning that do not generate profits. Given figure is calculated as follows:

$$M_d = \frac{R_o - R_p + R_a - D_p}{A_d}$$

Where:

Ro – is operation costs;

Rp – paid interests

Ra – administration maintenance costs

Dp – other costs

Ad – average balance of the income generating assets.

Other incomes include those from the operations that are not of credit nature, as well as fines and penalties from the interests and commissions of the past period.

Bank costs can be divided into three key groups: 1. those included into the cost price of bank's services; 2. attributed to the financial results of the banking activities; 3. those made to the profit account remained at bank's disposal after taxes. Analysis of the bank's costs, based on the above classification, should be performed regarding reasonability and feasibility.

This, approach related to analysis of the bank's aggregate costs allow studying of the entire set of the bank's costs, evaluating the effect of not only key factors on them but that of the factors that hardly could be identified based on the classifications of the costs on the basis of single characteristic. Costs analysis allow identification of the reserves for improvement of the bank's profits and their effective use.

References:

1. Carlin T.R., Analysis of the Financial Statements (on the basis of CAAP): Textbook – M: INFRA-M, 1998
2. Kachalin V.V., Financial Accounting and Accountability in Accordance with CAAP Principles. 2nd revised and corrected edition. – M: Delo 1998
3. Quantitative Methods of Financial Analysis / Editors: J. Brown and M.P. Kritzman: translation from English – M: INFRA – M, 1996
4. Commercial Banking / Reed A., Cotter R., Gill A, et all: translation from English, under editorship of V.M. Usoskin – 2nd edition – M.: SP Kosmopolis. 1991.

4.3. CONCEPTUAL AND METHODOLOGICAL APPROACHES TO IMPROVING THE ASSESSMENT OF FINANCIAL STABILITY OF BANKS UNDER ECONOMIC INSTABILITY

In current complex economic conditions of special importance is the financial stability of banks, which is a prerequisite for efficient redistribution of temporarily available funds in the economy in favor of financing investment projects, expansion and intensification of production, the solution of important social problems, which are extremely important for Ukraine, whose economy and financial sector are extremely weak. During the period 2014-2016, a total of 85 banks went bankrupt or were withdrawn from the market for other reasons. As at 01.01.2017, 81 banks were being liquidated and 4 banks were run by the IDAF Interim administration [1]. This affects the level of trust of economic agents in banks and is one of the most important factors in reducing the growth rate of their resource base and the ability to carry out credit and investment support for the development of the national economy. So, the problem of impartial assessment of financial stability of banks in Ukraine is particularly urgent.

The issue of the financial stability of banks has been covered in the publications of many leading foreign and domestic scientists. Among them noteworthy are the findings by O. Baranovskyi, who defines the essence and economic importance of banking system stability [2]. Other scholars, such as O. Zaruba, R. Shyller and N. Sheludko, treat the methods of determining the financial stability of commercial banks [3, 4], V. Kovalenko substantiates the methodology and practice of strategic management of the banking system financial stability [5], O. Krukhmal defines theoretical approaches to the definition of the concept of bank's stability and its financial component [6], R. Mykhailiuk suggests a tool for managing financial stability of commercial banks [7] etc.

However, despite the depth of the conducted research, the terminology of financial stability of banks remains controversial: the existing techniques for assessing the financial stability of banks remain imperfect and do not give proper weight to the impact the transparency in the disclosure of information about the state of affairs in the bank has

on it. Nevertheless, there is a need to study conceptual and methodological approaches to assessing the financial stability of a bank in order to strengthen its market positions in a volatile economic environment.

The study proved that unlike the problem of stability of other economic entities, the issue of stability of banks has its own peculiarities, namely in terms of the sources of formation of financial resources, assets structure, performance assessment and their importance for the economy. All these factors determined the logic in defining the concept of "financial stability of a bank". Of paramount importance in interpreting the concept is the indication that financial stability, as a kind of the general concept of stability, should display the bank's ability to solve the tasks arising from its mission, to fully carry out its functions, to ensure its financial stability under manifold socio-economic conditions. Financial stability is the result of a successful countermeasure, taken by a bank against the negative factors of the internal and external environment, and is assessed by a set of indicators, some of which characterizing the bank as financially stable and others – as financially unstable, which makes it impossible to integrally measure the financial stability.

According to these methodological approaches, financial stability of a bank is a qualitative dynamic integral characteristic of bank's ability to solve the tasks arising from its mission, to perform its functions efficiently, to ensure purposeful development through resource transformation and risks minimization.

So, the results of the analysis showed that among the main problems of banks in Ukraine in 2014-2016 was a significant outflow of resources from the banking system, and their increase in 2014 was stipulated by a significant devaluation of the hryvnia rather than an increase in the inflow of resources. In addition, in recent years, the quality of credit portfolios of banks has declined. There was a decrease in the clientele, which negatively affected the liquidity and solvency of the country's banks.

An important component among the multitude of indicators of systems of monitoring the stability of the financial sector on the whole and its separate segments in particular is the Financial Stability Indicators (FSIs), developed by the IMF. This methodology is used by the NBU to regularly develop and distribute the 12 major and the 10 recommended financial stability indicators (FSIs). The basic groups of FSIs are presented in Fig. 1.

Indices of financial stability are indicators of the current financial state and stability of financial institutions of the country and of counterparties in the non-financial corporations and households [8]. The core indicators for capital adequacy decreased in 2015 compared to 2014, notably, the ratio of regulatory capital to risk-weighted assets decreased by 3.29 percentage points, and as at the end of the year it was 12.31%; as at 01.10.2016 it was 14.22%, which is a positive change of 2.19% compared to the beginning of 2016 (Fig. 1).

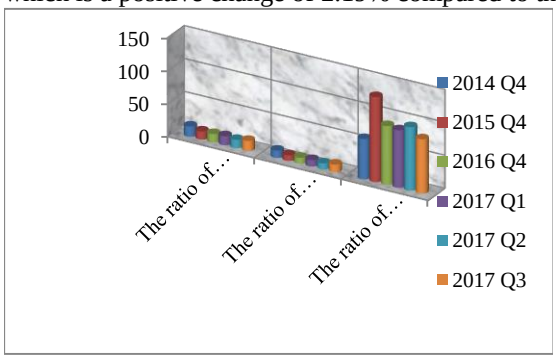

Fig. 1. Dynamics of the indicator of Ukraine's banking system financial stability by the capital index (2014-2016)

Indicators of financial stability of Ukrainian banks by the index of liquidity in 2014-2016 were constantly changing without a clear tendency. Among the indicators of financial stability of a bank by the profitability indexes informatively important are the norm of return on capital and the norm of return on assets. As it can be seen, these banking system indices in 2014 - 2016 had a negative value, which indicates the financial instability of Ukrainian banks. Having analyzed the core FCI indicators, a conclusion was made that the banking system of Ukraine in 2014 and as at 01.01.2015 is financially unstable. Within 2015, the banking system losses reached a record low of UAH 66.6 bln [9]. It was caused by the devaluation of the national currency when in 2014 the exchange rate of the hryvnia to the US dollar halved. The outflow of deposits from banks, a decrease in capitalization of banks and an increase in the norms of obligatory reserve of the NBU are the reasons for the unprofitability of the banking system. In the analyzed period of 2015-2016 the aggregate indicator decreased but the situation improved in 2017 when the aggregate indicator of current financial sustainability increased from 11.98 to 12.12, which means an increase in financial stability of banks.

So, the assertion can be made from the analysis gives that the problem of financial stability of banks is extremely relevant to the banking system of Ukraine. The World Economic Forum in Davos, which took place in January 2016, acknowledged the reliability of Ukrainian banks ranking them 140th out of 144 countries [10]. The financial stability is largely determined by the reliability of information about the actual state of affairs in each individual bank. However, the banks operate in a market, the characteristic feature of which is information asymmetry.

To improve the bank's performance assessment mechanism, a concept was worked out aimed at increasing the market value of banks in order to ensure the stability of their functioning in the money market (Fig. 2).

To achieve the objective of the paper the following tasks were set:

- to research the major problems of assessing bank performance at the current stage of banking system development;
- to consider and analyze the methodology used to assess bank efficiency;
- to improve the mechanism for bank efficiency.

In order to realize the concept, banks must observe the following set of principles: complexity, systemacy, scientific substantiation, adaptability, dynamism, concreteness, optimality, efficiency and transparency. The principle

of complexity implies that the assessment of the financial stability of banks should be complex due to the need for combining the planning process and its implementation to achieve the ultimate goal; systemacy involves the use of the system of indicators providing a comprehensive assessment of the financial status of banks in dynamics; scientific justification implies the use of only scientifically verified models and approaches to the assessment of financial sustainability; adaptability means the existence of minor reforms in assessing the financial stability of banks that do not change its essence but facilitate its use in all conditions of bank performance within the existing legal framework; dynamism refers to the assessment of the financial stability of banks under the influence of factors of the internal, micro- and macro-environments, which dynamically change over time; the principle of specificity confirms the reliability of the provided information; optimality involves a combination of optimal conditions and a list of financial indicators, which will provide an increase in the financial stability of banks; the principle of efficiency means the use of operational measures to ensure the stabilization of the banking system, especially in terms of monetary policy; transparency implies free access to comprehensive information on financial indicators of banks.

The tools for achieving the goal are as follows:

- research into the system of indicators for assessing bank efficiency;
- developing a model for assessing bank efficiency as part of the model of financial stability of banks.

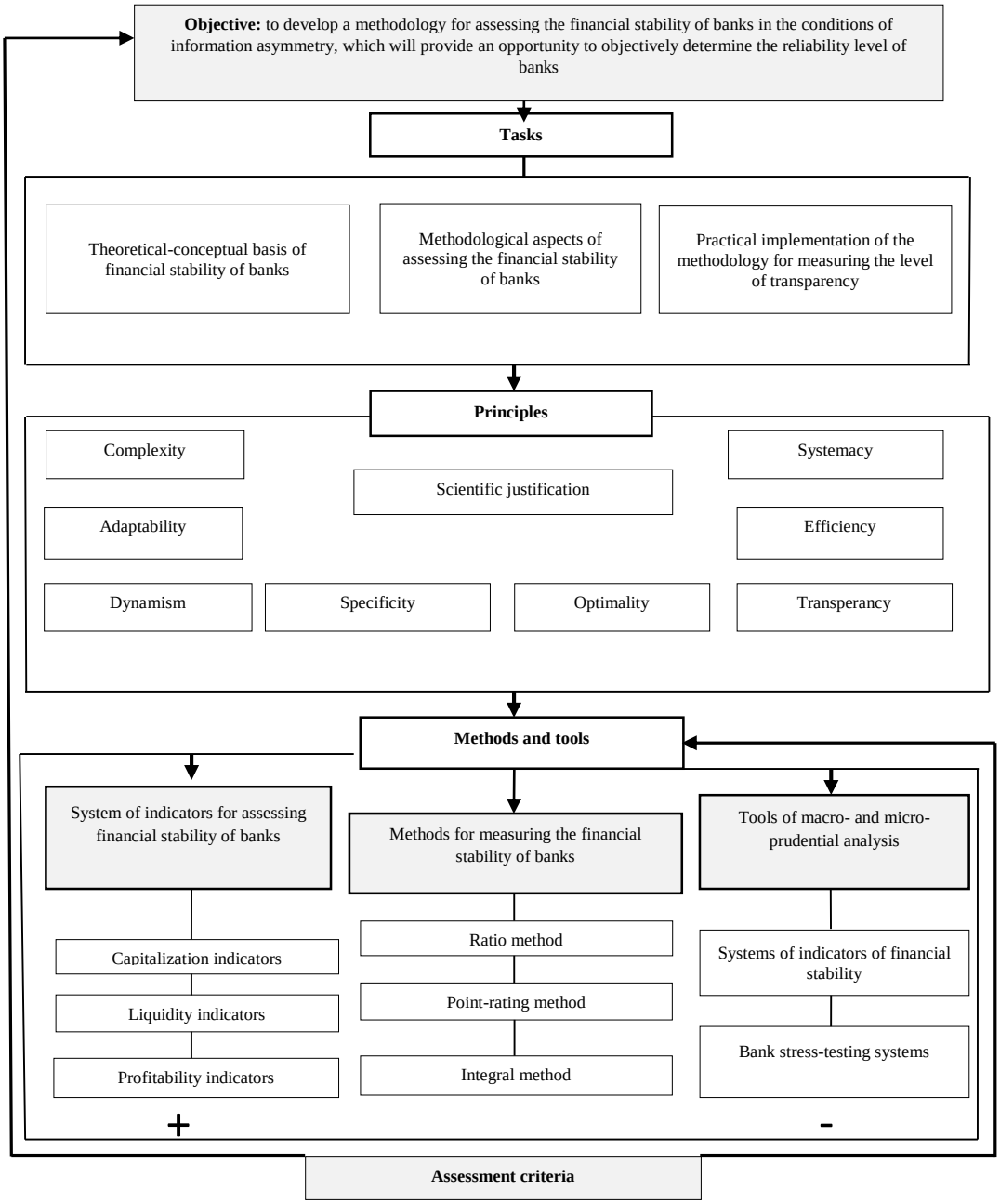

Fig. 2. The concept of improving the methodology for assessing the financial stability of banks in the conditions of information asymmetry

Summarizing the results of the conducted research, it was established that in current banking practice in Ukraine, the three most common methods of determining the financial stability of banks are used, namely:

1) ratio analysis;
2) point-rating method;
3) integral analysis.

The study of banking analysis methods has shown that the coefficient method is used most commonly, which involves calculating the system of financial ratios. In this method, various ratios are used, the indicators of assessing the financial stability of banks being of paramount importance. Remarkable is the fact that domestic scientists are unanimous in determining the majority of indicators for assessing the financial stability of banks, which are based on the structure and capital adequacy. However, the scholars disagree about the requirements for criteria values of the equity capital/assets ratio. Nevertheless, the assessment of the financial stability of banks only in terms of capital appears to be insufficient, since it depends on the quality of assets, on the structure of borrowed and debt funds, and on their dynamics as well. The ratio method is quite simple, understandable and easy to implement in practice, but, at the same time, has its disadvantages. Credible conclusions about the financial stability of banks can only be made after processing the comprehensive information about the bank, which is often confidential. The existing asymmetry of information may cause the inadequate assessment of financial stability of banks. Moreover, this method also does not include a generalized assessment of financial stability, so the conclusion on the level of financial stability of banks is made by an analyst based on his own experience and qualifications, which makes the results subjective. In addition, an ample quantity of financial ratios makes it difficult to adequately compare a large number of banks [6].

The point-rating method involves analyzing specific areas of bank activity, including capital, asset quality, management quality, profitability, management and risk-taking. A classic example of the point method is the CAMELS rating system, developed by a group of US experts. This technique is widely used in the world practice and in Ukraine in particular. The implementation of the CAMELS rating system assumes that each bank will be assessed for capital adequacy, assets, management, earnings, liquidity and sensitivity to market risk in points based on documents submitted to the banking supervision agency. The overall rating is calculated as the arithmetic mean of each assessed component [5].

Although the CAMELS state ratings is quite efficient, it is imperfect, primarily due to the lack of analysis of the individual components changes over time as well as the trends and tendencies of such a change in the current period. The NBU has developed its own approach to the application of the CAMELS rating to assess the bank activity, guided by the provisions of the developed "Early Reaction Systems" (ERS). However, the methodology for rating the financial stability of banks used by the NBU is top secret: a set of economic indicators of banks, which determines their rating, is never published and is confidential, is calculated by the regulator for internal use. The calculations are done for all financial institutions at least twice a month to identify hidden issues. The NBU claims that the methodology must be kept in secret to avoid fabrication in financial statements. At the same time, the system indicators is, actually, are similar to the mandatory economic standards, which banks must calculate and comply with according the Instruction "On the Procedure for Regulating Banking Activity in Ukraine" [11]. Unlike official standards, which are partially published by banks, the algorithms for calculating in the ERS are much more rigid and objectively better reflect the state of affairs in a financial institution. That is why the NBU keeps the calculated results in secret. The main characteristics estimated by the ERS are capital adequacy, liquidity, level of problem and insider loans, the gap between capital formation and asset placement (so-called gaps), return on assets and other indicators [12].

Among the banking analysts of the CIS countries, well-known is the rating methodology, developed by a group of Russian economists under the supervision of V. Kromonov. The calculation of the rating involves three stages. At the first stage, the balanced-based absolute characteristics are identified, at the second stage the parametric ratios are calculated, and at the last stage the current reliability index is calculated. The parametric ratios include overall reliability coefficient, instantaneous liquidity ratio, cross-correlation coefficient, overall liquidity ratio, capital security coefficient, fund capitalization of earnings coefficient. This technique, like many others, is used to assign a rating by individual indicators without taking into account the overall bank's status within the system.

Another example of the commercial banks rating is the modified Euromoney method. This method was developed by the Association of Latvian Commercial Banks based on the methodology for assessing the efficiency rating of Euromoney banks where qualitative factors are replaced with capital adequacy indicators, equity capital and assets. Both methods are unsuitable for a comprehensive analysis of the banking institution's activities. Each of these techniques focuses on a certain aspect of the bank's activities. In particular, the Kromonov's methodology determines the stability of the banking institution, and the Euromoney method allows ranking banks, depending on their size. It should be noted that one of the problems of rating techniques is the inability of rating analysis to determine the absolute reliability or efficiency of the banking institution. The reason for this is the inability of all methods to provide a comprehensive assessment of the commercial bank activity.

In determining the potential of the financial stability of a bank it is common to use the method of determining its integral indicator, which enables to obtain a generalized dynamic assessment of financial stability of a bank including the aggregate impact of individual factors. The advantages of using an integral indicator are as follows:

- Firstly, it synthesizes the overall impact of all the indicators covered in the study;
- Secondly, reduces the problem of assessing financial stability to one quantitative value
- Thirdly, it enables to detect changes in the financial stability of a bank in dynamics.