Performance in banking: theory and practice peculiarities

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2014

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Summary. The research is devoted to the development of scientific and methodological basis and practical recommendations for banking performance evaluation and management. Summary of the chronology of the banking in Ukraine allowed distinguishing three phases of its development, necessity of bank performance management is proved. The author specifically mentioned four conceptual approaches to the content of banking - "functional", "portfolio", "production" and "institutional". Scientific and methodological approaches for banking performance's assessment are systematized.

Key-words: banking, performance, evaluation, methods, stakeholders.

I. Introduction

Banking study has considerable interest at the macroeconomic and microeconomic levels. From the macroeconomic point of view banking – one of the financial intermediation types – plays special role in the movement and distribution of country financial resources in market conditions. Hence banking inefficiency leads to borrowers' financial resources shortage when population's financial resources excess and, consequently, low rates of economic growth and the common weal deterioration, for services consumers it means overpriced banking services and their unavailability. From the microeconomic point of view banking means business and making profit ability for bank shareholders.

The processes of liberalization, financial markets deregulation, globalization and technological progress have significantly changed the bank operating environment – enhanced market competition and created the necessary prerequisites for performance evaluation and management on the market. Recently bank activity has sustained significant changes. The global financial crisis consequences the bank capital standards revision (Basel III), the increasing requirements for banks, the credit markets crisis, profit earning pressure, mergers and acquisitions expansion to be exact - all of this leads to the view change on the further banking development in whole. Performance management is becoming the urgent issue and priority direction of modern banking development. In foreign and domestic scientific thought substantial attention is devoted to financial institutions (including banks) performance evaluation issues. The general theoretical and methodological frameworks of bank performance analysis are reflected in the works of Joseph F. Sinkey, Eugene F. Brigham, Peter S. Rose, Allen N. Berger, O. I. Lavrushin, S. R. Moiseev, G. T. Karcheva, A. A Mescheryakov, O. Prymostka and others. Summarizing and analysis of research results obtained by the above-mentioned and other scientists allowed us to determine the need for further studies of bank performance evaluation.

II. Problem Statement

Post-crisis Ukrainian banking development modern trends – reduction of profitability, increased bank regulatory requirements by the central bank, changes in bank consumers' priorities towards to the requests of transparency and reliability of banks in particular are causing the aggravation of the bank performance ensuring problem.

The topicality of the bank performance management problem in Ukraine is caused by reasons of microeconomic nature – associated with the peculiarities of domestic banking – and macroeconomic nature – including volatility and uncertainty of general economic and socio-political conditions country development. According to our point of view the peculiarities of domestic banking, which lead to the performance control necessity, include:

– the fact of Ukrainian banking formation where banks are not only financial intermediaries which provide appropriate banking services but also are objects for long-term capital investment in order to generate appropriate returns in the future. This, in it's turn, makes demands on management nature – the necessity to take into account a long-term time horizon when dealing with banking;

– the domestic banking targets change, corporate governance foundations implementation, bank's influence strengthening on social processes in the country, and in accordance with this the need of considering the interests of the major stakeholder groups;

– the poor management in domestic banking and the poor financial banks condition.

One of the main features of the domestic banking – as one of the economic activity type in market conditions – should be considered its "young age".

During the administrative-command economy (before 1991) banks' activity associated with the fulfillment of the planned targets for public resources distribution to certain areas. Dynamic processes accompanied the Ukrainian transition from planned to a market economy, the two-tier banking system creation, the private property formation led to banks as business units operating on the principles of economic and operational independence, self-sufficiency and self-financing, interested motives and responsibility. Summary of the Ukrainian banking development chronology makes it possible to distinguish three phases (Table 1), noted for external (macroeconomic) conditions of its development and internal features.

Table 1 – Ukrainian banking development chronology

The phase	External (macroeconomic) development conditions	Internal features	The development character
I (1991-2000 years)	- market economy basic foundations implementation; - weak market discipline; - undeveloped monetary	Fast-growing and highly profitable (due to "inflation"), unstable, aimed at maximizing short-term results	extensive

	policy; - macroeconomic instability		
II (2001-2007 years)	– positive macroeconomic dynamics; - financial sector active development; - foreign capital increase in the banking sector; - banking capital concentration and market competition increase	High-profitable (due to cheap available external financial resources) and high-risky, aimed at profit maximizing and business expansion. There is an increased focus on the development of intangible assets and the innovative technologies implementation	
III (2008 year-nowadays)	- international capital markets activity downturn; - financial and economic crisis; - banking sector confidence reduction	Unprofitable (due to the traditional banking income reduction and increased bad debts) and one that requires the performance management	intensive

The focus on quantitative development parameters and use of profitability indicators as the main performance criteria was featured for the first phase (1991-2000 years) of the domestic banking formation. It was historically conditioned since quantitative characteristics banks development stimulation had been one of the top-priority tasks at the beginning of the Ukrainian banking system creation. Addressing this issue was encouraged by the National Bank of Ukraine through the statutory bank capital increase measures application.

In addition Ukrainian banks opportunities to collect significant revenue through inflation (it was 240% in 1991; 2100% in 1992 and 10,256% in 1993 [1]) and high leverage (profitable growth ensuring with a slight bank capital increase) in the conditions of the proper regulation from the National Bank of Ukraine absence ensured the existence of the banking which satisfied the shareholders' interests concerning getting short-term results (profit).

As a result such banks' business strategy has led to a wave of bankruptcies and banks liquidation in the late 1990, the deterioration of their financial state. Particularly unprofitable bank activity was caused by the country inflation rate stabilization and a corresponding investments profitability decrease in the key banking directions due to rise in bank funding. Thus, the major problems faced by Ukrainian banks in the late 90, were low capitalization rate, poor quality of the loan portfolio and the significant banking risks. For the first time the problem of the cost structure and performance quality had become the primary bank management system task, which at that time only began to emerge in the Ukrainian banking system.

The second phase (2001-2007) of the banking formation was the stage of technological, human and managerial innovations. This is due primarily to the fact that the macroeconomic dynamics of these years had a positive impact on the financial sector development and banking in particular. The dynamic growth of the key bank functioning indicators' is the progressive structural changes evidence.

During the second phase the bank's role in providing socio-economic development of Ukraine has increased. In particular there was increasing bank participation in country trade turnover from 23% in 2000 to 86% in 2007, strengthening of such bank functions as transformation savings into the capital and loan-and-investments supply (Table 2).

Table 2 – Key indicators of Ukrainian banks during 2000-2007 (calculated basing on [2])

Indicator, %	Year								average annual rate of increase, %
	2000	2001	2002	2003	2004	2005	2006	2007	
Assets/GDP	23,44	24,87	30,01	39,48	41,00	50,52	64,89	85,89	20,38
Capital/GDP	3,83	3,88	4,42	4,82	5,34	5,77	7,82	9,65	14,14
Individual deposits/GDP	3,91	5,47	8,45	12,01	11,94	16,43	19,49	22,68	28,55

Institution credits/GDP	10,71	13,01	16,91	21,68	21,12	24,70	30,81	38,32	19,97
Individual credits/GDP	0,55	0,67	1,44	3,32	4,23	7,51	14,29	21,32	68,48
Long-term credits/ GDP	1,95	2,78	4,73	10,52	13,19	19,53	28,89	40,51	54,30

It should also be noted that at that time Ukrainian banks' financial condition and profitability improvement could be observed, one of the reasons of which was high credit activity ("credit boom"). Thus, bank profit increased by 12.44 times in 2000-2007, return on assets – from -0.09% in 2000 to 1.50% in 2007, return on equity – from -0.45% in 2000 to 12.67% in 2007 [2].

Besides the characteristic feature of Ukrainian banking at the second phase was increased competition caused by the rapid increase of foreign capital in Ukrainian banking sector which was a result of globalization processes intensification in the world financial sector. Domestic banks became appealing for foreign (generally West European) investments – for example Raiffeisen International Bank-Holding AG bought 99,98% shares of "Aval bank", OTP Group – 100% shares of "Raiffeisen bank Ukraine", Credit Agricole S.A. – 98% shares of "Index bank", BNP Paribas Group – 51% shares of "Ukrsibbank", UniCredit Group – 95% shares of "Ukrcocbank". Among the main reasons for foreign capital entry into Ukrainian banking system we can distinguish:

– firstly, market reasons associated with the market expansion of the market for banking products and the potential development existence in Ukrainian banking sector (along with high competition from non-bank financial institutions and thus low margin for traditional banking in Europe);

– secondly, regulatory reasons resulting from favorable (liberal) monetary policy in the "young" market economy countries with the initial phase of international standards for banking regulation implementation;

– thirdly, image reasons associated with the presence expansion and diversification of activities in order to avoid the impact of cyclical fluctuations in the economy.

It should be noted that just during the second stage of Ukrainian banking formation and development a shift of emphasis in the banking area can be noticed. This is due to increased competition on the banking market, the growing role of banking service (innovative banking technologies and products introduction, the traditional distribution channels expansion) in the struggle for individual market segments and consequently intangible assets' increasing role in providing financial outcome of banking revision.

But as the member of the National Academy of Science in Ukraine V. M. Heyets noted improvements during 2000-2007 were not caused by stable long-term factors but were the result of favorable short-term nature factors of the internal and external origin. Starting from 2008 together with the disappearance of these factors caused by the global financial crisis there was a drop in Ukrainian economy with simultaneous financial sector deterioration.

The third phase started in 2008 and continuing till the nowadays Ukrainian banking development is connected with the external conditions complication due to increased financial crisis effects.

One of the Ukrainian banks' activity problems at this stage are limited abilities for obtaining and allocation financial funds. From the obtaining fund point of view there is complicated state connected with the low activity on the international capital markets and lack of "long" cheap financial resources, lack of entities resources (due to their focus on their own business financing goals in the conditions of credit resources lack), limited individual funds through existing public distrust in Ukrainian banking system. The problem of bank resources allocation is caused first of all the poor financial condition of potential borrowers - businesses and individuals.

The study of the banks with foreign capital business strategies features is showing the foreign investors enter from Ukrainian banking market (Table 3).

According to experts this situation is primarily due to the West European financial groups' unproductive assets (including with the Ukrainian concentration) reduction. Besides unprofitable banks' activity, the high bad debts' rate, unfavorable macroeconomic and unstable political situation are evidence of worsening conditions for Ukrainian banking.

Despite these trends most of the banks with foreign capital still remain on the Ukrainian market because of the high market share and huge volume of invested capital. Since that the priority bank development direction is recognized as performance management based on current business processes optimization.

Table 3 – Foreign banks on the Ukrainian banking market

Foreign bank / financial group	Market entry	Market enter
ING Bank	1997 – «ING bank Ukraine» registration	2009 – retail banking closed
Societe Generale	2006 – «Ikar bank» bought for 25-35 mln USD	2012 – retail banking sold for 700 mln USD to «Alfa bank»
SEB Group	2005 – «Agio» bought for 27,5 mln USD; 2007 – «Faktorial-Bank» bought for 120 mln USD	2012 – sold for 20-30 mln USD
Renaissaance Capital	2005 – «Leader» bought	2011 – sold to SCM Group
Home Credit Group	2006 – «Agrobank» bought for 40-65 mln USD	2009 – sold for 43 mln USD
Credit Europe Bank	2007 – «Credit Europe Bank» registration	2012 – retail banking closed
Commerzbank	2007 – 60% shares of «Forum Bank» bought for 600 mln USD, later increased shares to 100% for 1 bln USD	2012 – sold for 450-745 mln USD
Bank of Georgia	2007 – «UBRP» bought for 81,7 mln USD	2011 – sold for 9,6 mln USD
Volksbank International	2007 – «Elektron Bank» bought for 57 mln euro	2012 – transfer to «Sberbank of Russia»
Swedbank	2007 – «TAC-KomerzBank»	2011 – retail banking closed

	and «TAC-InvestBank» bought for 735 mln USD	

Nowadays the gradual change of Ukrainian banking development targets towards taking into account the interests of the major stakeholder groups became one of its specific features. It's connected with corporate governance formation in Ukrainian banks. Despite the high concentration of ownership and control in Ukrainian banking, prevalent practice of owners and insiders interests serving, corporate structures' opacity the issue of banking management practices compliance with international standards mainly developed by the OECD and the Basel Committee on Banking Supervision is becoming increasingly important. It must be noticed that the National bank of Ukraine has made great steps towards to solving this problems. Namely Methodological guidelines on corporate governance in Ukrainian banks development and Basel-II standards implementation are directed to market discipline increasing and Ukrainian banks' transparency.

Considering the corporate governance as system of relations between not only among owners, managers, but also a wide range of other stakeholders - government, regulators, customers, partners and others aimed at harmonizing their interests during banking the increasing role of indirect stakeholders interests and maximizing the interests of business owners as a strategic objective of banking critics can be observed. The course of crisis events in the financial and economic sector at the global and country level during 2007-2010 showed both the importance and vulnerability of the banking. The problem of the largest country banks bankruptcy during the crisis (on the global level they are "Merrill Lynch", "Lyerman Brothers", on the level of Ukraine – "Ukrprombank" recapitalization by public funds of "Rodovid Bank", "Ukrgasbank") raised the question of their social irresponsibility and led to the need for systemically important banks identification by following increased regulatory requirements and monitoring by the supervisory authorities. In other words social requirements for performance and quality of the banking strengthening can be observed now. Banking must balance the interests of ensuring profitability and riskiness of the its activities.

Besides, the problem of banking reliability is one of the crucial in the post-crisis conditions of the slow recovery of national banking system confidence. Moral connected with the bank rating and information transparency not financial aspects became more relevant during its choosing by consumers of banking services. Thus the gradual change of Ukrainian banking development targets from maximizing short-term results and meet the interests of a limited number of stakeholders towards to maximizing long-term results with the provision of the principle of harmonizing the major stakeholder groups is becoming the objective reality nowadays and in turn requires banking performance management.

Banking performance management in Ukraine is really of current importance taking into account the present banks' financial condition. According to the national rating agencies the rate of post-crisis banking sector recovery is slow, and financial capacity of Ukrainian banks remains limited. Despite the strengthening of the banking system's capitalization (1.01.2014 the capital share in liabilities was 15.1%), and consequently its financial stability, there is significant pressure on Ukrainian banking by the trends on the global financial markets caused by the significant share of foreign capital in the banking system of Ukraine (1.01.2014 it was almost 34%). Without regard to positive profitability of bank assets and capital last years limited opportunities for increasing revenue base and more expensive resources, a high proportion of bad loans and a significant investment in provision for credit operations of banks can be observed. On the one hand there is increased competition on the resources market, as evidenced by the rise in interest rates on deposits and increase of the interbank resources cost, on the other - the low level of solvent demand for bank lending, as evidenced by a gradual decrease in the proportion of the loan portfolio of assets and its growth rate reducing compared to the growth rate of assets. Thus the high cost of banks' resources and poor quality of earning assets in general are weakening the potential of profitable banking. In addition representatives of rating agency "Credit Rating" emphasize Ukrainian banking potential and investment attractiveness high dependence on the economic recovery pace, the monetary policy of the National Bank of Ukraine, legislative changes, the confidence level of the major groups of bank stakeholders. Banking supervision on the consolidated basis strengthening, new Tax Code implementation limitating the attribution ability of banks in risk provisions for lending operations in deductible expenses, ban foreign currency lending to households - all of these are evidence of external conditions complication for Ukrainian banking.

III. Results

Banking activity dual nature determines the existence of different approaches to content and purpose of banking. At the same time dynamic processes and changes in the financial and credit sector is accompanied by a change in the appearance of old and new fields of banking as financial intermediaries of the market. Review of views on the nature of the bank makes it possible to distinguish the four basic approaches to understanding the meaning of banking.

According to the first approach called "functional" the most reliable way to determine the nature of the bank is through the list of its services. In this way the bank is identified as a company that offers a specific list of financial services promoting professional management of society financial resources or credit institution which carries out banking activity on the commercial basis. Within the "functional" approach the most comprehensive definition should be considered that emphasizes macroeconomic purpose of the bank - "universal financial enterprise undertaking professional society resource management in their monetary value and performs the appropriate specific function in the economy within the law and under the jurisdiction of state authorities to ensure the regulation and control. By "functional" approach should also be included the legal interpretation of the essence of the bank introduced for the possibility of distinguishing bank regulation by public authorities. Thus in accordance with Article 2 of the Law of Ukraine "On Banks and Banking" bank is interpreted as legal entity that under a banking license has the exclusive right to provide banking services, details of which are included in the State Register of Banks. Besides Article 47 of this Law distinguishes among banking services such as:

– attracting deposit funds and bank metals from an unlimited number of entities and individuals;

– opening and maintenance of current (correspondent) customer accounts, including in bank metals;

– deposits including current accounts funds and bank metals allocation on its behalf, on own terms and at their own risk.

Thus the "functional" approach for disclosure of banking essence focuses on operations and services provided by banks during its functions performing. Hence the usage of "functional" approach is appropriate for banking study at the macro level.

Development of the researches devoted to the portfolio theory and neoclassical firm theory application to banking could be noticed during the second half of the XX century. In the case of portfolio theory bank is considered from the investor position aimed at a combination of assets providing the best return in conditions of acceptable risk and liquidity requirements. The issue of optimal profit-risk-liquidity ratio achievement is caused by intermediary on the financial market bank nature and consequently the structure of its balance sheet when the bank's assets mainly financial in nature equal debt and own equity. Besides it should be noted the presence of double debt amount (as self-released by the bank as accepted) and a small share of equity compared to other types of economic activity which in turn causes difficulties in maintaining quantitative and qualitative value of active and passive side of the bank balance.

The first attempts to resolve this problem were limited and focused on the bank assets management from the point of yield and risk. Since the monetary market liberalization and market competition increasing across the world economy both the problem of debt capital management and coordinated bank assets and liabilities management could be noticed. Based on the above it should be noted that the "portfolio" approach for disclosure of banking essence banking is interpreted as dynamic process of cash flow management which allows to identify and explore the patterns of decision-making regarding the bank resources involvement allocation. The application of this approach is reasonable from the point of bank management as a complex dynamic system.

According to the "production" approach (the theory of the banking firm) banking activity should be seen as a production process associated with the transformation of banking resources into earning assets. In other words the bank is a specific company (firm) for the production of banking productswhich aimed at maximizing the profit from effective actions. The concept of "banking company" was studied in the 1970s by M. Klein [3] and M. Monti [4] based on the usage of the classical theory of the firm in the study of the bank's monopoly behavior on the market. The "production" approach enables the combination of the classical theory of firm with theory of banking to explore the technology of financial resources intermediary operations carrying out.

Among the main possibilities of "production" approach during the study of banking activity are:

– firstly, allows to consider the banking as a process where the bank is a "black box" and transforms resources into products;

– secondly, takes into account the nature of multiproduct banking;

– thirdly, usage of the production function allows to identify the relationship between the cost of inputs and results during banking activity in other words to investigate the banking from the position of performance.

Among the shortcomings of "production" approach should be noted the presence of external constraints. The approach of the banking firm based on neoclassical economic theory assuming equilibrium in the economy, market resources availability and market transparency and thus complete informed economic agents about market situation. Such conditions rarely represent the facts. Accordingly the problem of considering the external factors affecting the banking activity and allowing the adequate to external conditions banking performance evaluation can be exist.

Besides there are internal constraints of "production" approach. The concept of bank as a "black box" does not allow to figure out the decision-making regarding the election of inputs and outputs process by management in particular. Provided the usage of "production" approach among key assumptions concerning the bank's activity is banking risks abstraction, information management during borrowers monitoring – that is essential for banking process.

The “intermediation/institutional" approach allows to take into account the specific characteristics of the bank activity as financial intermediaries. This approach based on the institutionalism as economic theory branch aimed to study the role of institutions in economic life. Within the "intermediation" approach there are three main concepts concerning application of the financial intermediation theory to the banking – transactional, information and risk management concepts.

For the first time the need to minimize transaction costs was disrupted by R. Coase, who said "entrepreneur should provide his functions at the lowest cost because he can get production factors at a lower price than the market. In the case he does not succeed it is always possible to use the open market services.

Transactional approach interprets the bank from the position of financial intermediary aimed at reducing transaction costs consumers through the production of specific financial products. So there is the macroeconomic effect of the financial intermediaries activity – minimizing transaction costs consumers and microeconomic effect – getting profit by bank owing to economies of scale during the financial products production.

Information approach aimed at solving the problem of asymmetric information in market conditions discloses the content of banking from bank's position as:

– information owner (theory of "information owners coalition”) combining the collection and sale of information about potential lenders and investors with independent assets acquisition and allocation. In this case the bank asset quality serves as an indicator of the performing information bank function on the market;

– institute of delegated monitoring ("theory of delegated monitoring") to whom investors delegate the authority to monitor the conditions of investments allocation by analyzing the creditworthiness of borrowers;

– institute of liquidity ensuring which using specific banking products provides the demand for liquid assets by investors (in the form of demand deposits) and borrowers (in the form of overdraft account) during the investment period.

The risk management concept occurs in response to financial innovation and integration of banking with other activities - insurance, investment, consulting and more. The authors of this concept emphasize the financial products (like derivatives) usage by modern banks to manage risk and the need to incorporate risk in the bank capital valuation and thus the value of the bank. Based on the analysis of the "intermediation/institutional" approach concepts expanding the banks functions in financial intermediation can be concluded. In modern conditions banking should be considered from the standpoint of reducing transaction costs of economic agents institute, the asymmetric information on the market issue and risk management.

Above theoretical approaches detailed review allows us to determine the need to distinguish between two levels to understand the content of banking - macro and micro. At the macroeconomic level the result (effect) of the banking activity has social nature and associated primarily with public purpose of banking reflected in their functions. According to the microeconomic level the main effect of banking is profit as an expression of the final result of the bank activity as a business entity on the marketplace. Thus identified levels of banking allow talking about the social aspect of macroeconomic approach and economic aspect of micro level.

Considering the banking activity we should keep in mind that:

– bank is a dynamic open system functioning of which caused bank functions in the economy and characterizing by the corresponding results on the macro- and microeconomic levels;

– intermediary nature of banking activity associated with the process of accumulation of financial resources and their efficient allocation allows to distinguish input and output financial flows and the influence factors during banking;

– banking activity target focuses on minimizing costs and consequently profit obtaining as a prerequisite for maximizing the income of shareholders for the purpose of performance banking management.

Estimation nature can be noticed as one of the inherent features of the performance concept requiring the usage of performance indicator (-s) and appropriate methodological evaluation tools application. Summary of scientific and methodological principles allows to distinguish five main approaches for performance evaluation: coefficient, analytical, frontier analysis, rating analysis and value-based.

The coefficient analysis is regarded as the most common method for bank performance evaluation tool in the Ukrainian banking practice. It considers performance determining through the usage of relative yield and profitability and cost indicators (ratios). Among the most widespread ratios are:

– Return on equity (ROE) determines the level of invested by shareholders capital return;

– Return on assets (ROA) reflecting the effectiveness of the internal bank management policy in terms of revenues and costs;

– Net spread (NS) determining the consistency level of of bank's interest rate policy on credit and deposit operations and calculated as the minimum difference between rates on active and passive bank operations;

– Net interest margin (NIM) indicating the effective structure of assets and their ability to generate income;

– Capacity ratio (CIR - cost to income ratio) serving as an cost indicator of the bank's activity and determines the necessary to generate the one unit of income amount of money.

Despite the coefficient analysis universality feature harmonization of different individual bank activity aspects evaluation and bringing them to the composite indicator which will provide an integrated performance evaluation remains a problem. In addition the coefficient analysis usage is limited to determining the complexity of factors influencing the performance bank functioning, retrospective nature of the evaluation, a focus on short-term business results reducing its value for further analysis and strategic decision making.

The next method of bank performance evaluation is analytical one focuses on the study of the relationships and dependencies between the various bank activity aspects. The most common tool includes multifactor model of capital profitability analysis (also known as the DuPont equation, DuPont Model or the DuPont method). According to this model ROE can be expressed by next factors (parts):

– profit margin calculated by finding the net profit as a percentage of the balance sheet profit and allows to determine the tax policy bank management;

– operating margin calculated by finding the net profit as a percentage of the revenue and describes the operating performance of the bank;

– assets yield calculated by finding the revenue as a percentage of the total fixed assets and determines the profitability of the assets;

– equity multiplier (bank assets as a percentage of the equity) allows to evaluate the bank's policy in the field of banking funding sources including financial leverage.

Summing up the coefficient and analytical methods usage for bank performance evaluation it should be noted the existence of a number of their restrictions. In general the methods are non-structural in nature – do not reveal the content of a comprehensive banking business and are unable to detect and evaluate potential of performance growth and accordingly may only be used as an additional instrument for analyzing the banking performance from a position of decision-making on its further development especially for long-term period.

Recently the method for bank performance evaluation based on the X-inefficiency concept proposed by Harvey Leibenstein in 1966 [5] has been extended in the economic literature. The concept describes the economic situation when firm results do not correspond to the maximum extent possible (potential). This situation is prevalent during analyzing the monopolies when last due to the monopoly power in the market are losing incentives to saving costs at a competitive level. Harvey Leibenstein in his work based on empirical data shows that in case of conditions of equivalence feasibility and capital equipment level firms' results vary greatly due to the existence of so-called "x-factors" that have destimulating effect on potential achieving. According to scientist the main causes of inefficiency are motivational factors including poor remuneration system, incomplete contracts, conflict of interest between the owners and bank's management - "For various reasons people and firms usually do not work diligently and efficiently as they could be''. Based on the above frontier analysis focuses on determining the degree of deviation of the actual level of banking activity performance and identifying potential causes (factors) of this deviation. The production function is usually regarded as the banking activity formalization tool. For banks as business the cost function (cost efficiency (1)) and profit function (profit efficiency (2)) have special interest:

$$C = C\ (w, y, z, u, \varepsilon), \quad (1)$$

$$P = P\ (p, y, z, u, \varepsilon), \quad (2)$$

where C – bank costs, P – bank profit, w – price input vector, y – output vector, z – netput (specific factors) (like equity structure, risk rate), p – price output vector, u – unefficiency parameter (X-unefficiency), ε – statistical error.

Namely one of the parameter function - unefficiency parameter - determines the deviation of the actual level from efficiency potential. The main problem of cost and profit function evaluation is the X-inefficiency parameter separation from random error – therefore parametric and non-parametric estimation methods are distinguished (comparative analysis is presented in table 4).

Table 4 – The comparative analysis of frontier analysis methods

Methods	Parametric	Non-parametric
Essence	evaluation of the bank efficiency level (relative to their potential) in the range [0, 1] based on given functional form depending on the result of the vector characteristics. Bank-standard is hypothetical formed on the basis of characteristics of the vectors set	evaluation of bank efficiency level (in relation to each other) in the range [0, 1] by constructing a piecewise linear plane consisting of points - the best banks in the market. Bank-standard is chosen among existing on the basis of characteristics of the vectors set
Evaluation object	technical and allocative	technical
Tool	econometric analysis	matematical programming

<table>
<tr><td rowspan="3">Methods and their peculiarities</td><td>SFA – Stochastic Frontier Analysis</td><td>separate evaluation of the inefficiency parameter and random error</td><td>DEA – Data Envelopment Analysis</td><td>provides banking resources interchangeability opportunity</td></tr>
<tr><td>DFA – Distribution Free Approach</td><td>provides constant efficiency level of individual banks over time, thereby ignoring the impact of external and internal factors</td><td rowspan="2">FDH – Free Disposal Hull</td><td rowspan="2">excludes banking resources interchangeability opportunity</td></tr>
<tr><td>TFA – Think Frontier Analysis</td><td>used for bank efficiency average level estimation for the sample banks</td></tr>
<tr><td>Advantages</td><td colspan="2">- consideration of banking probabilistic nature;
- taking into account the statistical errors</td><td colspan="2">no need for the functional form specification of production function</td></tr>
<tr><td>Disadvantages</td><td colspan="2">complexity of the production function functional form specification corresponded to reality</td><td colspan="2">- the probability of false estimation (ignoring statistical error)
- technical efficiency evaluation eliminating the possibility of identifying areas for improving with 100% level bank efficiency</td></tr>
</table>

According to A. Berger and D. Humphry [6] there is no unity in researches concerning parametric or nonparametric methods advantages.

Bank performance evaluation by different methods must meet the following conditions:

– providing approximately the same banks ranking in terms of performance;

– ensuring the identity of the banks belonging to the group of "best practices" (100% efficiency) and ‘’worst practice’’ (0% efficiency);

– the stability of the bank performance value during the research period (without sharp fluctuations).

Based on the table 4 data it should be noted that the nonparametric methods usage based on the market prices impact ignoring and therefore value indicators evaluates only technical bank efficiency compared with each other disregarding potential. Finding the frontier bank efficiency level of nonparametric methods is made by repeated solution of mathematical programming problems in order to bind the coordinate location of the bank with the maximum value of characteristics vector. The usage of nonparametric methods is appropriated for bank structural units performance evaluation when comparing them to each other is important for the branch network management and inefficient points of sale closure.

The rating analysis based on a generalization and aggregation performance bank characteristics to the unique characteristic also occurs in the economic literature for bank performance evaluation. The method has a special interest for external banking stakeholders like monetary market regulator evaluating bank capital adequacy, asset quality, management level, earnings, liquidity and sensitivity to risk), rating agencies and clients.

It should be emphasized that all the above listed bank performance evaluation methods are based on accounting data what is criticized in the economic literature. Critics concerns mainly retrospective nature of these indicators and inadequate estimation results for making strategic decisions. According to K. Merchant [7] focus on achieving and maintaining short-term financial results is threatened by overinvestments to solve short-term problems and lack of attention for creating long-term business value. First performance evaluation methods were based on the financial ratios method while in the 1970-1990 new performance evaluation concepts – value-based – appeared to neutralize disadvantages of accounting based methods (table 5).

Table 5 – The evolution of performance evaluation methods [7]

<table>
<tr><th colspan="4">Years</th></tr>
<tr><th>1920s</th><th>1970s</th><th>1980s</th><th>1990s</th></tr>
<tr><td rowspan="2">Du
Pont Model</td><td rowspan="2">Earnings per share
(EPS)</td><td>Market/book ratio (M/B)</td><td>Economic Value Added (EVA)</td></tr>
<tr><td rowspan="2">Return on equity (ROE)</td><td>Market Value Added (MVA)</td></tr>
<tr><td rowspan="3">Return on investments
(ROI)</td><td rowspan="3">Earnings multiple (P/E) defined as market price per share divided by annual earnings per share</td><td>Total Shareholder Return (TSR)</td></tr>
<tr><td rowspan="2">Return on net assets (RONA)</td><td>Cash flow return on investment (CFROI)</td></tr>
<tr><td>Balanced Scorecard - BSC</td></tr>
</table>

Traditional performance indicators are loosing their property of investment efficiency evaluation in context of the variabile business environment and strategic management concept development. In particular the profit usage as the main criterion for the performance of invested capital does not allow for the banking specific risks consideration and alternative business development comparing.

The value-based methods widespreading is caused also by expansion of banking evaluation targets in the market conditions. The value-based methods usage for invested capital efficiency evaluation is possible with the help of stock market indices or specific (analytical) methods for banking assessing. Stock market indices usage is prevalent for countries with developed market economies and a fully functioning stock market where bank value is determined by the market in terms of the share price (market capitalization of shares). In the absence of such conditions it becomes necessary to use special methods of business evaluation – the revenue, cost, comparative methods or their modifications. According to experts in Ukrainian conditions of underdeveloped stock market (low rate of liquidity and prevalence of transactions in the OTC market), special evaluation methods serve as a basic tool of business evaluation. It should be emphasized that the main drawback of value-based methods for bank performance evaluation is focus on the shareholders' interests which does not meet the current performance management system. Summary of existing scientific and methodological approaches to the bank performance evaluation allows to conclude that present bank performance evaluation methodology is characterized is diversified which leads to the problem of the origin of significant differences and sometimes contradictory of obtained results. In our opinion it is caused not by methodical limitations but comparison of the evaluation results for the methods that are intended for usage by different evaluation individual.

IV. Conclusion

Current trends of post-crisis banking development in Ukraine, including reduced profitability, increased regulatory requirements by the central bank, changed banking consumer priorities requests to transparency and reliability of banks, are causing acute problem of banking performance. Summary of the chronology of the banking in Ukraine allows to distinguish three phases, differing external (macroeconomic) conditions of its development and internal features. The gradual domestic banking targets transformation from maximizing short-term results and meet the interests of a limited number of people in the direction of maximizing long-term results with ensuring the principle of harmonizing the major stakeholder groups is an objective reality and requires, in turn, banking performance management.

It was found that banking specific features in the context of performance evaluation and management are caused by banking differences from other forms of economic activity. For clarifying these differences five scientific and methodological approaches to the disclosure of the bank activity contents were found out: functional (the content is determined by a list of banks basic functions and operations as financial intermediaries), intermediation/institutional (reveals the nature of the bank's positions to minimize transaction costs, eliminate information asymmetry in the market and risk management), portfolio (banking is viewed from the issue of optimal profit-risk-liquidity ratio achievement), production (banking is defined as the production process associated with the transformation of resources into earning assets). Summary of existing scientific and methodological approaches to the bank performance evaluation (coefficient, analytical, frontier, rating, value-based) allowed to arrange them according to subject (owner, the management, the regulator and other stakeholders).

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