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## METHODOLOGICAL PRINCIPLES OF BANKING BUSINESS COST ASSESSMENT BASED ON THE METHOD OF MARKET ECONOMIC ADDED VALUE

**Krasiuk Inna Vitaliyivna**

*Deputy Head of Department of PJSC CB PrivatBank, Ukraine*

*In the article considered basic scientific and methodological approaches to determining the value of the banking business. Systematized basic ideas of native and foreign researchers concerning the problem of determining the market cost of bank. Established that income approach most consistent with the meet evaluation of the banking business. Within the limits of income approach has been elaborated the method of market economic added value which is based on the principles of economic added value method with transferring into real indexes and taking into account peculiarities of banking business.*

**Keywords:** *cost, banking business, evaluation methods, approaches, influence factors, economic model.*

**Introduction.** The banking system of Ukraine is in its formation stage and it does not meet the level of a developed market economy yet. The real development of the system with taking market into account began after Ukraine gained its independence. More than a hundred of commercial banks compose the basis of the banking system in Ukraine. Some banks are successful, some satisfactory, others are on the verge of bankruptcy. The integration of Ukrainian banking system to global economic processes is an actual problem today and thus native banks meet the problem of capitalization and efficiency improvement of banking. In these conditions an issue of banking business cost assessment appears to be highly topical.

The cost of banking business is an economic category which incorporates all economic aspects of banking activity related to the formation of bank resource base, its effective placing and evaluation of risks connected with these operations. The problem of business cost determines the financial aspect of banking activity so its solution is a priority of financial management and it is traditionally solved by financial methods. Successful solution of the problem of banking business evaluation

has a positive effect on its prestige and attractiveness. It is an important precondition for capitalization level rising of banking system of the country, its competitiveness, stable functioning and further growth. All this contributes to economic development of Ukraine and well-being of society.

**Analysis of recent researches and publications.** The theoretical fundamentals and practical mechanisms of business cost evaluation and determination of cost characteristics of banking activity are researched by both world and native scientists. Some aspects of the problem are presented in the works of many foreign scientists. Among them are: N. Antill, O. Budytsky, A. Damodoran [1], K. Lee, T. Koller, T. Copeland [2], John. Murin, P. Rose, W. Ruthaizer, M. Fedotova, R. Shamhunov, W. Sharpe and others. Modern ideas of solving this problem are presented in the works of Ukrainian researchers as G. Azarenkova, M. Alekseyenko, Z. Vasylchenko, A. Epiphanov, I. Ivasiv, K. Ryreeva, O. Mendrul, T. Momot, M. Savluk, N. Shevchuk, N. Shulga, R. Tyrkalo and others.

**Previously unsettled problem constituent.** However, in spite of the great number of scientific works in this sphere the problem of banking business cost assessment has not been solved completely.

**Main purpose of the article** is development of scientific and methodological principles of banking business cost assessment based on the method of market economic added value.

**Result and discussions.** Despite the fact that the problem of determining the value of business was started to research relatively recently a sufficient methodical apparatus has already been formed. It allows to set different types of value based on a definite combination of factors. We are going to consider main existing scientific and methodological approaches to determining the value of business in terms of their possible use for evaluation of banking business and systematize the basic ideas of native and foreign researchers concerning the problem of determining the market cost of bank.

Traditionally, all existing methods of determining the value of business are concentrated in three main groups of approaches: income; expenditure; comparative.

The methods grouped within a certain approach meet definite principles and characterize the object of assessment from a particular side. Thus, the income approach characterizes ability of business to generate income in the future and determines the present cost of an object based on the expected future revenues. The expenditure approach unlike the income one considers the current (present day) cost of assessing object on the basis of its creation expenditures in the past. The basis of comparative approach is founded on the idea that there is no absolutely individual object of assessment and it is always possible to find analog for each of them.

The possibility of using certain approach and method for assessment is determined by the assumptions laid into their base. The income approach is based on

the assumption that a potential investor will not pay for this business an amount greater than the present value of future income of the business [6]. It is believed that the owner will not sell his business at a price lower than the present value of projected future income and that is why the parties will come to agreement about the market value equal to the present value of future activity results.

Income approach can be applied to assessment of any existing business but it gives the best result for the exact determination of market value of companies with a long history of profitable economic activity, that is, the companies which are in the stage of sustainable economic development. However the value of new business which is functioning during pretty short period of time can also be determined with the help of this approach.

Advantages of income approach for bank are: it has real opportunity to calculate the value of its business based on the quality of current financial indexes, opportunity of getting future income, an implicit comparison of results with average banks results. At the same time there is a set of factors which complicate application of this approach including the problem of medium or long term prediction (5-6 years), the problem of calculating the rate of capital return and especially the problem of determining alternative cost of capital.

In general the use of income approach is traditionally critical when evaluating any business as functioning. This approach is most relevant to such principles of evaluation as the principle of expectancy and usefulness. The success of commercial bank assessment by methods of income approach depends mainly on the correct selection and determination of the size of financial basis and the accuracy of effective discount rate calculation.

Within the limits of income approach the following methods are grouped: method of money flow discount (indirect capitalization); capitalization method (direct capitalization method); method of economic added value.

Concerning the methods of direct and indirect capitalization their content consists in prediction of what we conventionally call "future financial results of business" and bringing them to the current value index. The main difference between these methods is in the following. Within the limits of direct capitalization method discounting base is constant during a certain period (usually - a year) and the problem is only in determining these periods (while valuing business they make assumption about endless activity and then calculation is simplified to a simple ratio of annual financial results to discount rate). Within the limits of indirect capitalization method the situation though being similar but somewhat more complicated - the discounting base is regarded as predictive magnitude that changes over time for which is made a forecast of future money flows for several periods which then are separately transferred to the current value of compound per cent formula. It gives more substantiated cost of business. When applying the income approach the most

important thing is to bring future financial results to today's value, that is, the application of aggregate techniques and methods which will allow to assess the value of an object on the basis of its potential ability to generate income.

According to ideas of American scientists T. Copeland, T. Koller and J. Murin method of money flow discounting can be used for evaluation of any existing company [2]. This method is considered to be especially appropriate for determining the value of those companies which have successfully been operating in the market for quite a long period of time, have been receiving income and have been developing steadily. Method of money flow discounting allows consider time and risk factors and market conditions. The use of appropriate techniques for calculating income and discount rates and comparison of forecasts allows taking into consideration peculiarities of banking business.

However this method has several disadvantages the main of which are: the labour-intensiveness of calculations, the need for information about the activities of assessing object, approximate character of forecasts, the complexity of discount rate calculation and so on.

According to the method of money flow discounting business value is based on the future but not past money flows. Therefore the problem of determining money flow forecasts for a definite period of time in a future starting since current year makes particular interest. As the forecast period can be considered the one during which the growth rate of the company is not stabilized (it is assumed that during the forecast period stable long-term growth and endless money flow will take place).

Determining the appropriate length of the forecast period composes separate scientific task. On the one hand the longer forecast period the greater should be the number of observations and the more justified looks the ultimate size of current value of the firm. On the other hand the longer forecast period, the more difficult to predict definite size of income, expenses, inflation rate and money flow. In the countries with developed economies forecast period of business assessing traditionally takes from 5 to 10 years depending on the goals and specific situation. In the countries with economies in transition in terms of instability where adequate long-term forecasts are especially difficult to be done, in some cases, the forecast period should be reduced twice. There is a point of view according to which the accuracy of the result increases when dividing the forecast period into smaller time intervals: half-years or quarters. This method is appropriate in cases when the limits of reduced forecast period totally include the final productive and financial cycle of the firm being assessed. Otherwise comparing separate forecast money flows will be incorrect.

The basis of capitalization method is formed by the assumption that a company will obtain the same value of profits during quite long periods of time. In practice it takes place quite seldom especially under conditions of changable transitive economy. Income capitalization method comes out from the precondition that income

generated by business is stable or is steadily changing (increasing or decreasing proportionally) during a long period of time.

Somewhat different scheme of business value determining offers the model of economic added value (economic profit) according to which the value of a company is equal to the size of investment capital increased by bonus which consists of present cost created in every following year. According to A. Marshall: "all the revenue left from his (owner or manager) profit after subtracting a percentage on capital at the current rate may be called entrepreneurial or managerial profit" [3, p. 196]. It is noticed in the work [1] that when determining the value which is created by a company in any period of time (that is its economic profit) not only expenditures fixed in accounting records must be taken into account but also alternative expenditures of drawing capital engaged in business.

According to the model of economic income the value of a company is equal to invested capital not adjusted for bonus or discount that is equal to the value of forecasted economic profit. If during any period of time a company earns as much as its average expenditures on capital the discounting value of its money flow has to be equal to the size of its invested capital. The company costs more or less than invested capital only in case this company earns more or less than its average expenditures on capital. So bonus or discount to investing capital has to be equal to future economic value of the company. Economic income (economic added value) is calculated with the help of the following formula:

$$EVA = I_0 \cdot (ROIC - WACC), \quad (1)$$

where  $EVA$  – economic added value (economic profit);

$I_0$  – invested capital;

$ROIC$  – profitability of invested capital;

$WACC$  – average cost of capital.

Economic profit converts factor of cost (that is – profitability of investments and rate growing) into unitary monetary index. In other words economic income is defined as a profit after taxation reduced by fees for capital used by a company:

$$EVA = NOPLAT - I_0 \cdot WACC, \quad (2)$$

where  $NOPLAT$  – clear economic income after taxation.

Advantage of economic income model in comparance with the model of money flow discounting is in the fact that economic profit is very comfortable indicator for determining investment efficiency in either particular year while money flow has no such properties.

Grounding on all above mentioned for determination of banking business value we propose **method of market economic added value** according to which the cost of banking business is calculated as following:

$$MEVA = I_0 \cdot (1 + \sum_{i=1}^n (r - i))^n, \quad (3)$$

where *MEVA* – market economic added value or cost of banking business;  
*I*<sub>0</sub> – value of initial investments or own capital at the moment of evaluation;  
*r* – market value of bank's own capital;  
*i* – annual rate of inflation;  
*n* – number of years.

This method is based on the principles of *EVA* method in which exceeding of investment efficiency over total capital efficiency of the company and accordingly conclusion about the value is made proceeding from the comparison of invested capital profitableness and average cost of capital. Our method is also based on the comparison of two relative indicators: market value of own capital and annual inflation rate. Market value of own capital is determined through analysis of activity implantation success of the bank on the market of banking services and thus giving a substantiated idea about bank's own capital value and can be determined by the method described in the works [4, 5]. Divergence of market value of bank's own capital from inflation rate gives an idea about growing of own capital which, as it has already been mentioned, according to ideas of many scientists may be considered as equivalent of bank value.

**Conclusions and further researches directions.** Fulfilled above analysis allows to make a conclusion that existing methods of businesses cost assessment do not always consider peculiarities of banking. It causes necessity of methodical apparatus adjusting because in spite of considerable variety of methods availability only a limited number of them meet the purpose of our research. Conformity of income assessing approach as the one which meets best the purpose of banking business evaluation has been proved. Within the limits of income approach has been elaborated the method of market economic added value which is based on the principles of economic added value method but with transferring into real indexes and taking into account peculiarities of banking business.

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## **МЕТОДИЧНІ ЗАСАДИ ОЦІНКИ ВАРТОСТІ БАНКІВСЬКОГО БІЗНЕСУ НА ОСНОВІ МЕТОДУ РИНКОВОЇ ЕКОНОМІЧНОЇ ДОДАНОЇ ВАРТОСТІ**

**Красюк Інна Віталіївна**

*Заступник керівника відділення ПАТ КБ ПриватБанк, Україна*

*В статті розглянуто основні науково-методичні підходи до визначення вартості банківського бізнесу. Систематизовано основні погляди вітчизняних та закордонних дослідників на проблему визначення ринкової вартості банку. Встановлено, що дохідний підхід найбільше відповідає меті оцінювання банківського бізнесу. В межах доходного підходу розроблено метод ринкової економічної вартості, що базується на принципах методу економічної доданої вартості з переведенням у реальний показник і врахуванням специфіки банківського бізнесу.*

**Ключові слова:** *вартість, банківський бізнес, методи оцінювання, підходи, фактори впливу, економічна модель.*

## **МЕТОДИЧЕСКИЕ ОСНОВЫ ОЦЕНКИ СТОИМОСТИ БАНКОВСКОГО БИЗНЕСА НА ОСНОВЕ МЕТОДА РЫНОЧНОЙ ЭКОНОМИЧЕСКОЙ ДОБАВЛЕННОЙ СТОИМОСТИ**

**Красюк Инна Витальевна**

*Заместитель руководителя отделения ПАО КБ ПриватБанк, Украина*

*В статье рассмотрены основные научно-методические подходы к определению стоимости банковского бизнеса. Систематизированы основные взгляды отечественных и зарубежных исследователей на проблему определения рыночной стоимости банка. Установлено, что доходный подход наиболее соответствует цели оценки банковского бизнеса. В рамках доходного подхода разработан метод рыночной экономической стоимости, основанный на принципах метода экономической добавленной стоимости с переводом в реальный показатель и учетом специфики банковского бизнеса.*

**Ключевые слова:** *стоимость, банковский бизнес, методы оценки, подходы, факторы воздействия, экономическая модель.*