

## SYSTEMATICS ASSESSMENT INDICATOR PROFITABILITY OF BANKS



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**Abstract.** The article is dedicated to improving the system of indicators for integrated assessment of bank profitability. Achieving a certain level of profit requires implementation in banks accurate and scientifically based system for assessing the profitability of the bank, which has the ability to adapt to the needs of individual subjects of analysis of each bank. To this end, the author proposes to organize indicators for assessing the profitability of the bank.

**Keywords:** bank profits, analysis of bank profits, bank profitability.

**Problem statement.** Effective financial management in the bank strongly depends on the realization of analytics function in planning and control. Analytics in planning activities of the bank includes the development of specific methods and models that allow a reasonable level of accuracy to plan the volume of transactions, income, expenses, the economic performance of the bank.

An important contribution to the study of the economic substance of the profits made by such scholars, economists as A. Baba, K. Marx and F. Knight, David Ricardo, P. Samuelson, Adam Smith, Schumpeter, E. Chamberlain, John Hicks and others. Nowadays, this questions is still under significant attention of domestic and foreign economists. In particular, among them are the IA Blanca, N. Bondar, A. A. Getman, SF Pokropyvnoho, AM Poddyerohina, VN Shapovalov, L. J. Schwab, etc.

**Remaining part of the problem.** As studies of profit analysis shows, a set of indicators used by banks when setting financial goals for the next period and enforcing these guidelines are quite narrow, which does not fully evaluate the effectiveness of the bank.

Therefore, in order to improve the current system of profit analysis we offer to expand the system of indicators that will enhance the objectivity of the analysis, will consider the opportunity cost, and the risk of running banking activities.

**The main results of the study.** This is a wide range of indicators used by researchers and practitioners to assess the profitability of banks, which we offer to group in the following way.

The first group of indicators are traditional ones: return on assets (ROA), return on interest-bearing assets (ROI<sub>BA</sub>), return on equity (ROE); return on registered capital (RORC), income-to-cost ratio (I/C), income share (IS), net spread (NS), net interest margin (NIM).

Traditional indicators of bank profitability are very similar to those that are employed in other sectors of economy. The most common ones are ROA, ROE, return on asset, return on equity (profit margin). Moreover, given the importance of the intermediary function of banks, analysis of net interest margin and net spread employed often.

ROA indicator is usually calculated relative to the average total assets of the bank, and can be used as a factor for evaluation of managers. But due to the fact that not all of the assets generate income, some banks in the analysis of the profitability of its operations employ another indicator - the return on operating assets.

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Banking institutions are always exposed to various risks that arise in the implementation of banking operations, while providing customers with a variety of financial services and conduct banking business in general, and that may lead to some money incurred losses for the bank. However, the presence of risk in the bank is not only due to its operation. Very often banks deliberately expose themselves to additional risks, in order to obtain greater benefits. However, traditional discussed above indicators of profitability are taking into account only the final financial results of the bank, without revealing current level of risk of the banking business [1]. This tool allows the use of economic indicators that take into account the creation of shareholder value and is mainly focused on assessing the economic impact and cost-effectiveness of the bank.

These indicators can be identified as a separate group, which in turn can provide two substantial blocks.

The first unit should include indicators that focus on market indicators: total share return (TSR), earnings per share (EPS), price-earnings ratio (P / E), the ratio of dividends and increase the value of its shares on the stock market, the ratio of financial result of the bank to price action, P / B (price-to-book value), credit default swap (CDS).

Thus, the first block - figures relating to the total return on investment based on the concept of opportunity cost, the most popular of which is Economic Value Added (EVA). Essence of this approach is to account the costs of both debt and equity. The difference between return on equity indicator and the cost of capital, which is called the yield spread, makes it possible to judge the relative efficiency of capital, that is, to determine how effectively the capital of the bank is used compared to alternative investment options. In result evaluation of the position of

the bank accounts for opportunity cost - benefits that are lost because of underinvestment in other projects. Correct model of bank profitability analysis should include lost profits as an implicit component of costs, which are not reflected in indicators of accounting profit. [2]

Evaluation of the economic effects of bank activity as a whole and its individual units which is based on the EVA has some undeniable advantages over traditional approaches, but at the same time has some significant flaws that are common to all indicators, based on the concept of economic profit [3 ]:

- the difficulty of determining economic profit by a separate unit for which it is difficult to objectively assess their contribution to the creation of profits and / or share in the share capital;

- the possibility of manipulating the measure of economic profit to increase fees in the short term;

- an indicator of economic profit is mainly used for the evaluation of existing companies and lines of business, prospects of which can be predicted with a high degree of reliability, and it is less useful for evaluation of new high-growth businesses, markets and industries;

- economic profit is an absolute monetary value, which makes it non-comparable in scale between companies and divisions;

- does not include the value of the cash flows generated by the investment.

There is no single approach to estimate EVA. In general, the calculation procedure can be represented Net Operating Profit After Tax reduced by Weighted Average Cost Capital, which multiplied by the difference between the amount of equity capital and debt.

From this formula, it is clear that there are three ways to maximize EVA: increase of net profit, reducing the size of capital, reducing the cost of capital.

However, we should bear in mind that the impact of one of the parameters of economic profit is likely to impact other variables. For example, profits can increase by expanding the scale of operations but it will inevitably require additional capital. Economic profit will rise only if the increase in the net income, achieved by the expanding scope of activities, exceeds the marginal cost of additional capital. On the other hand, the economic benefits can increase by increasing the proportion of debt and reducing the size of the capital involved. However, savings in capital means an increased risk of bankruptcy, which will sooner or later lead to an increase in the required return on equity. As a result, economic profit will grow only to the extent that the relative decrease in the size of capital exceeds the relative increase in its value.

The second block of non-traditional indicators to measure the profitability of the bank include indicators that take into account risk: EVA (Economic Value Added), RAROC (risk-adjusted return on capital), RORAC (return on risk-adjusted capital), RARORAC (risk-adjusted return on risk-adjusted capital), RORAA (return on risk -adjusted assets), RAROA (risk-adjusted return on assets).

Second set of economic indicators of the risk - direct indicators that take into account the level of inherited to the activity of the bank. The most common practical indicator of this group is the risk adjusted return on capital (RAROC -

risk-adjusted return on capital), ie the expected result of economic capital.

As in the case of EVA, a common methodology for the calculation of RAROC does not exist. In addition, there are many different versions of indicator RAROC, including return on risk-adjusted assets (RORAA), risk-adjusted return on assets (RAROA), return on risk adjusted capital (RORAC), risk-adjusted return on risk-adjusted capital (RARORAC). Profitability indicator of bank used in the last model was calculated as the ratio of the value of net income to shareholder equity, both the numerator and denominator of the formula should be adjusted to the appropriate level of risk [1].

The principle underlying RAROC and its modifications, is that the projects associated with a higher overall risk, and should generate more net revenue, compared with a low risk projects. Assessment of return business areas or divisions of the bank shall, as in the case of EVA, take into account not only explicit costs, implicit costs but also - cost that would cover unexpected losses due to all kinds of risk.

A common feature of EVA index RAROC is that it takes into account the cost of capital. But additionally adjust RAROC value added with respect to capital requirements. RAROC determines the expected profit as a percentage of economic capital. The wording of the two input variables is specific. The first variable is the expected profit, taking into account the expected loss. The second variable is the economic capital that reflects the risk tolerance level of bank owners or in other words, the probability of default, which is acceptable to them. In particular, economic capital is the best estimate of bank capital needed to absorb losses within acceptable PD [4 ].

Despite the availability of a wide range of benefits and revolutionary role in the RAROC method of financial risk management, his critics point to serious flaws:

- unsuitability to assess return on investment in risk-free assets;

- the complexity of the calculation for small units, individual products, which is problematic to determine the amount of capital involved, attributed income or expense ;

- inability to make calculations based only on public information.

It should be noted that different stakeholders (eg. owners of debt or equity managers ) take into account the various aspects of bank profitability, based on their specific interests:

- holders of debt securities of the Bank monitors the bank's ability to repay its debt obligations (segment 1 in the figure);

- shareholders are focused on profit, that is to ensure the future return on your current investments (segments 3, 6, 5, 7 in the figure);

- managers seeking to create profits, but in terms of principal-agent relationships and to meet the needs of workers ( segments 1, 4, 2 in the figure).

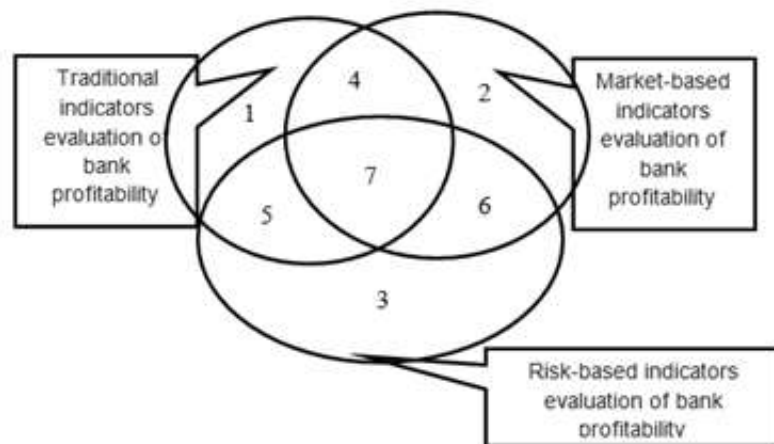


Figure 1. - formation of indicators to measure the profitability of the bank, as the subjects of evaluation

That is, the needs of these stakeholders will meet different sets of indicators included in the integrated model, because they consider the bank's profitability under different angles.

**Conclusions.** Thus, each of the above indicators of bank profitability on the one hand, has its limitations and shortcomings, and on the other - is characterized by strengths. Therefore, we believe that these figures should not be used alone. Thus, we can conclude that for efficiency and objectivity of the analysis of income in the bank it is advisable to form a set of indicators as decision-making processes that are based on several indicators are generally more reliable, as there is filtering noise from a combination of ratings of different variables.

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