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Theory and Practice of Capital Estimation Methods: An Application in Bank Management

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Abstract:

The mechanism of the banking institution's capital management is a complex array of effective management's actions and activities aimed at maximization of profit. Banking institutions should carry out theoretical and practical analysis of existing methods of capital estimation in order to develop appropriate management decisions.

Nowadays, every banking institution should accentuate the key points and properly define priorities in the bank management system, as it directly influences the main goal of the bank's activity, i.e., profit-making.

Special attention should be paid to bank capital estimation, as the correct capital estimation influences the bank's activity; the capital plays a dominant role and is considered to be a base value for planning, forecasting and implementing banking transactions.

Taking into consideration the existing legislative framework and the experience of various countries in bank capital estimation, it is proposed to identify strengths and weaknesses of the existing methods of bank capital estimation to determine proposals for appropriate estimation.

Keywords: *Bank, capital, estimation, mechanism, management, bank resources, legislative framework.*

JEL Classification Codes: *F60, F63, O35, O44.*

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1. Introduction

One of the key aspects in the mechanism of bank capital management is the choice of the capital estimation method. The competent, qualified, reasonable capital estimation influences the volume of banking transactions, new customer acquisition, and extension of possibilities. Moreover, correct estimation helps to prevent the process of bankruptcy of a bank, because it timely identifies weaknesses in the capital policy and reserves which could offset the negative situation. Bank management represents a complex, multiple-element, interdependent, interrelated, and inter-subordinated process. It is offered to focus on bank capital estimation in the system of management, as a simple estimation indicates the facts of presence of a certain bank capital, whereas management information is aimed at efficient and long-range banking institution management, which allows to implement forward-looking financial policy necessary at the given moment in a flexible way.

Thus, bank capital estimation in the system of management is a notion broader than routine evaluation of the bank capital. The given research focuses on afore said issues in more detail. The volume of the banking institution's capital influences reliability and the degree of confidence in the institution. This is the reason why the task of estimation of bank capital adequacy and the choice of estimation methods are so important in theory and practice of banking. A commercial bank's owned capital is regarded as a long-term resource and as a reserve in case of cash shortage; it also defines the volumes of banking institutions' transactions. In this regard, the key characteristics of a bank's owned capital is the degree and level of its adequacy for implementation of the program of development, performance, and long-term growth of a financial system. Today, a highly relevant and important feature of research is the choice of capital estimation method for efficient banking institution management (Stroeva *et al.*, 2015).

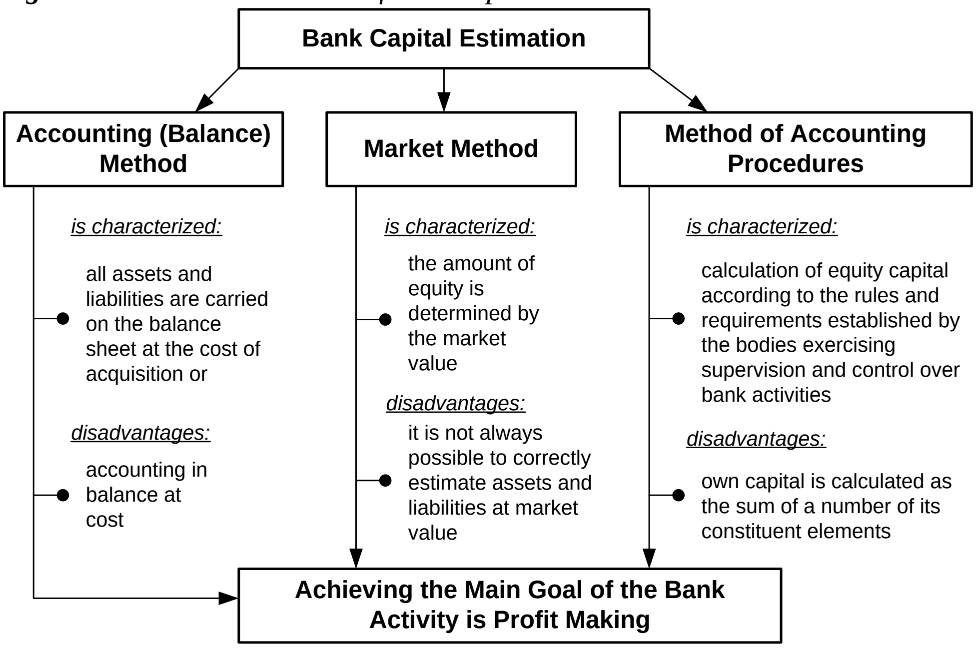
Bank capital adequacy estimation, the choice of capital estimation methods, as well as identification of characteristics of each method are the main areas of the given research (Mahboud, 2017).

The aim of the research is to analyze the theory and practice of capital estimation methods, to determine the advantages and disadvantages of estimation with the use of each method considering the specific character of the bank's activity, its location, the country's macroeconomic situation and external factors. In analyzing the theory and practice, it is necessary to identify which of the existing bank capital estimation methods gives the most precise results, which factors influence it, and what should be taken into account for a more precise and relevant bank capital estimation. In bank capital management, the prerogative place is given to the capital amount estimation method (Zolotarev *et al.*, 2015).

2. Theoretical, Empirical and Methodological Grounds of the Research

The advantages and disadvantages of traditional bank capital estimation methods are presented in Figure 1.

Figure 1. *Traditional methods of bank capital estimation*



The role of owned capital estimation in banking is essential, as owned capital represents (Posnaya *et al*., 2018):

– a condition for the positive execution of the banking institution's functions;
– a measurement mark for loans and investments;
– a determinant of the country's banking system development;
– a lever for banking institutions' capitalization increase;
– a determinant in bank regulation and supervision;
– a level of reliability and banking risk level;
– an indicator of management quality and responsibility level of all parties in banking business.

Along with the main qualities, which include protection, timeliness, regulation, bank capital performs the function of potential bank customer acquisition. Thus, owned capital protects the bank form possible risks of loss. Bank capital management forecasts its volume considering increase in all transactions, total banking risks, as well as legally regulated ratios for different components of the capital with the aim of achieving the main goal of banking activity, i.e. profit-making (Japparova *et al.*, 2017).

The main components of bank capital management are: absolute amount of capital, ratio of Tier 1 capital to Tier 2 capital, the origin of capital of each individual bank, fulfilment of the bank's program, which is reflected in its rate of return with the aim of the banking institution's stable performance (Posnaya *et al*., 2017).

Currently, world banking practices demonstrate the fact of necessity to expand the amount of bank capital, which leads to increase in assets and decrease in risks (Posnaya *et al*., 2018).

Banks' emerging demand for owned capital is due to many factors, including legislative requirements of the Central Bank of Russia concerning the safety of banking activity, competition, macroeconomic situation (Bortnikov, 2007).

The principal macroeconomic index influencing the level of bank capital is inflation, which can result in asset or liability growth, owned capital decrease. The cyclical nature of the economic system can affect owned capital as well, which could lead to risks and instability (Posnaya *et al*., 2017).

The owned capital structure is usually defined as a ratio of all financing components of an organization in their total amounts. When sources of financing are identified, it is necessary to determine which source structure can be evaluated as minimum whereas its return level is maximum.

The main components determining the structural composition of a banking institution's owned capital are as follows: predetermined on the basis of projected values growth of assets and all banking transactions, profitability level, dividend policy, risks, expenses, volumes of capital surplus. An optimal composition of capital structure is an important task for capital management. The main optimization methods are:

– an optimal capital structure condition under the principle of the maximum level of the owned capital's forecasted rate of return;
– an optimal capital structure condition under the principle of the minimum capital price.

The process of owned capital planning for a banking institution should be prepared and implemented in accordance with the general financial plan of the bank. Superconcentration of the bank capital is a process that cannot be escaped. Since both external and internal sources of bank capital expansion are limited, novelties in legislation can lead to reduction in the rate of credit issuing and an even lower position of Russian banks in competition for clients. Regional banks with modest capitalization will suffer hardships as well. A banking institution should be declared instable, when it is well-balanced with regard to the structure of assets and liabilities on the balance sheet, terms and interests, timely settles all its obligations with counterparts and has no overdue payments to bank creditors. This banking institution will be popular among its depositors, because they will trust it. The obvious success is attributed to the reasonable bank development strategy and to the proper amount of capital. Nowadays, world banking institutions are striving to increase their capital amounts in order to raise their assets and reduce risks. Bank management usually plan the scope of activities regarding acquisition, performance, maintenance of bank capitals at the statutory level. The procedure of capital forecasting and planning includes important issues:

- development of the main financial forecast and banking institution performance plan with the formulation and specification of the main goal of establishing the policy of owned capital management for the banking institution;
- calculation of capital amount necessary to increase active bank transactions, risk level (under aggressive policy), total observance of legal requirements of bank supervising authorities. Considering maintenance of its financial viability and reliability, the banking institution, while implementing the policy of owned capital management, guarantees a certain level of bank capital adequacy and the rate of return required for its performance;
- confirmation of methods and methodology of capital management to comply with all legal acts (settlement of accounts) of the regulatory institution and to approve internal banking methodology;
- legislative establishment and regulation of the main methods of bank capital replenishment with the use of all sources;
- establishment of the procedure of continuous monitoring in bank capital management;
- necessity to sanction the powers and responsibilities of the managing bodies and departments of the banking institution for bank capital management.

Initially, it is necessary to determine the fundamental objective of bank capital management policy. As a rule, this objective characterizes and represents the amount and structure of the required capital. This objective performs the following functions: motivational, organizational, mobilizing.

The amount and level of bank owned capital adequacy are influenced by the number, structure, and quality of the banking institution’s active transactions. The banking institution’s focus on conducting transactions connected with a higher risk level suggests a higher level of owned capital, and, on the contrary, a loan portfolio dominated by the least risky loans means a gradual decline in the amount of the bank’s owned capital. The level of the necessary banking institution’s owned capital directly depends on the bank clientele. If the clientele is prevailed by major companies with a high borrowing power, it demands the highest level of the owned capital at the same level of active transactions as compared to the bank focusing on working with numerous small borrowers, because, originally, the banking institution will face higher risks per each borrower. When calculating the demanded level of bank capital, at first it is necessary to take into account the minimum level of the bank capital and statutory ratios. The leading statutory ratio represents a ratio of the banking institution capital to the total sum of its risky assets. This ratio is the basic ratio for capital adequacy not only in the Russian Federation, but in the world banking practices as well.

Another issue to consider is establishment of capital management methods. The unstable and precarious position in financial system, low profitability of investments in banks, passing of dividends are the reasons why major corporate investment in the bank's charter capital is weak and unlikely. Most investors prefer to place their capital in businesses more profitable than banking.

The insufficient amount of money resources for implementation of payment processes for current operations of banking institutions and investments is the dominant factor in the decline in investment activity. The existing algorithm of bank owners' replacement is accompanied by huge expenses, which in their turn heavily depend on the bank policy measures, professional banking expertise, and growing risk of takeover under the new owners' policy. That is why the bank owners' replacement procedure involves huge costs, since the new owners change banking policy and team of experts completely, and adaptive measures need to be taken. At the regional level, the procedure of experts' replacement is especially significant, as it is problematic to recruit highly qualified professionals both as senior and middle managers. There are situations in which some owners are planning high profit margins in advance, but do not understand that they are using external resources to reach their goals. Extremely low level of bank capital in regions enables major banks to strengthen their influence in the corresponding regions. Thus, banks in regions weaken their competitive positions and can lose borrowing customers; they have to transfer to granting loans to middle or small businesses. This practice for subsidiaries of different levels is regulated by legislative procedures as applied to clients regarding the requirements for transfer of some parts or a big amount of resources to the place of loan issuing, i.e. resource base of regional banks decreases. Regional banks also experience significant influence from a big number of operating costs, which could lead to profitability drop in case of decline in margins and in interest rate policy competition.

3. Results

Negative trends have been identified in the process of bank capitalization in the form of moratorium on owned capital formation of banking institutions founded as limited liability companies, as Tier 2 capital cannot be greater than existing Tier 1 capital. When calculating the amount of a bank's owned capital, this fact serves as a regulating and stimulating measure in carrying out transactions of additional investment.

The factor restraining banking institutions' owned capital growth is the necessity to form reserves for active transactions. In this situation, banking institutions carry out the biggest share of reserve operations at the expense of current assets, namely by means of reserves creation and simultaneous placement of all available funds in assets, restoring reserves for income and returning these funds to the banking institutions. The main objective of creating reserves for this purpose is financial condition of companies which are considered as potential borrowers. Regional banks can compete with major banking institutions, as they have already found their market niche. This fact is supported by regional small banks' specialization regarding transactions with small or middle businesses, local authorities, local industrial agents, whereas large capital banks work with potentially profitable clients with a lower risk level.

In banking sphere, middle and small banks show positive dynamics. In this case, the increase in leading ratios is higher than the ones for major banks. Additionally, the main financial function of middle and small banks is growing too, as their activity is already focused on the main sector – the real sector. Due to the insufficient level of capital in regional banks, an important part of their activity is loan granting to small businesses, even though it is considered to be rather risky, assessed by basic parameters. In this regard, the problem of increasing capital in regional banks together with growing competition is a predominant condition for banks' functioning.

The banks without their own market share are in constant need of survival by means of forming a liquidity level and resources; these banks can face a difficult choice: transformation into non-bank financial institutions, takeover by major banking institutions, or complete liquidation. These problems are the driving force and essential condition for development of the Russian IPO market. Its successful growth and development require an excellent investment climate, investment security, legislative regulation of accounting and other transactions in stock market.

4. Conclusions and recommendations

Thus, the analysis of theory and practice of the existing capital estimation methods leads to the following conclusion:

- when estimating capital by method of expansion with funds raised from internal sources, it is important to identify the level of the capital, which the bank can involve at the expense of retained profit;
- it is reasonable to carry out estimation and selection of a better external source of capital expansion taking into consideration analysis of the main market conditions, responsibilities, rights, owners' interests, forecasts on the banking institution's future rate of return;
- when estimating capital the bank's management should consider the relative value and risk related to each source, methods of regulation by the governmental bodies, assess both short-term and long-term perspectives and consequences;
- due to optimization of the process of capital replenishment and gaining bigger sums of money, banking institutions can carry out such transactions as sale of

assets (buildings, constructions, offices in ownership of the banking institution, including a long-term lease from the new owners); such transactions are successful only if, despite inflation, the market value of property is rising, and legislation allows the process of real property accelerated amortization;

– it is necessary to create full-fledged reserves of fixed capital reassessment with the aim to make up the difference between their market and balance sheet value; the full sum gained from reassessment can be spent on issuing of shares, which are distributed among the bank's shareholders for free, thus adding up their share of ownership.

The fact of constantly growing attention to banking institutions' capital increase encourages to carry out forecasting and planning in commercial banks more precisely. The process of forecasting and planning in banking institutions of the Russian Federation should be carried out in accordance with development strategy.

Thus, it is planned to conduct further research in the sphere of the identified features of capital estimation methods with regard to the following:

→ development of mathematical tools for bank capital estimation;
→ use of various techniques and methods of financial analysis;
→ consideration of the macroeconomic situation in capital estimation by bank management.

It is also necessary to identify and rationalize the main trends in the rates of increase of various banking transactions, analyze the sources of their funding, forecast the structure and composition of assets with regard to risk level.

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