The Need for Bank Capital Planning with Regard to Basel III Standards

La necesidad de planificación del capital bancario respecto a estándares de Basilea III

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ABSTRACT:
This article substantiates the process of capital planning of Kazakhstani second-tier banks based on the recommendations of the Basel Committee on Banking Supervision (BCBS), taking into account the peculiarities of the national banking system. The authors believe that as the banking legislation of Kazakhstan develops, regulatory restrictions on the use of certain funds as capital sources and numerical parameters of regulatory restrictions can be changed and refined. One should also expect an expansion of regulatory restrictions in terms of introducing requirements for the formation of a conservation buffer by Kazakhstani second-tier banks and the observance of the financial leverage index. Intra-bank restrictions on the use of certain funds as equity capital are established by each bank independently with regard to existing regulatory restrictions. Economic intra-bank restrictions have numerical parameters, e.g. the maximum share of base capital in the structure of aggregate capital, the share of subordinated debt in the capital portfolio. In order to improve corporate governance, the bank may introduce an internal bonus-
The purpose of this article is to justify the need for capital planning of Kazakhstani second-tier banks based on the application of the Basel II and Basel III recommendations, to analyze the banking system of the Republic of Kazakhstan as well as to identify the current problems of its sustainable development.

In substantiating and solving the methodological issues of the problem studied, the authors relied on the fundamental provisions of modern economic theory. The study was based on system analysis, and specific problems were solved with the help of comparative, statistical and graphical analysis, using grouping methods.

The authors have come to the conclusion that in modern conditions capital planning is an urgent problem in the process of ensuring the bank’s liquidity and sustainability. In this connection, it is necessary to theoretically justify the models of equity (capital) planning that meet the Basel II and Basel III requirements and regulatory restrictions as well as contribute to the implementation of the capital policy of a particular bank.

As known, banking theory and practice distinguishes several bank capital models, including those of regulatory, balance, economic and market capital. In different periods, capital regulation was based on a variety of models, but supervisory requirements for bank equity are changing in the course of time. In modern conditions, there is a tightening of regulatory requirements for bank capital. These processes are fully implemented in countries that have joined the BCBS recommendations, including Kazakhstan. In this connection, the theoretical substantiation of the model of equity (capital) planning, which meets the regulator’s requirements and restrictions and contributes to the implementation of the capital policy of a particular bank, becomes very relevant.

Planning is an element of the financial mechanism along with such elements as regulation and control. The planning of bank equity can be considered as an element of the mechanism for implementing its capital policy, defined as the bank's strategy and tactics with respect to equity and its adequacy (Barulin 2010).

There are certain opinions and statements regarding the characteristics of capital planning. The Russian researcher M.A. Pomorina characterizes the planning of the size of equity, capital and volumes of active transactions as one of the stages of financial planning that follows the
planning of necessary and sufficient profits. For forecasting the size of authorized capital (which is considered by the researcher as the determining source of equity), it is proposed to apply the least squares method of the regression equation within the framework of the econometric approach or to plan equity in the context of its elements (Pomorina 2002).

Another point of view is held by the Russian economists N.N. Kunitsyna, L.I. Ushvitsky and A.V. Maleeva, who study the aspect of determining the necessary amount of capital as part of drawing up a plan for attracting and allocating the bank's resources. They note that capital planning is directly affected by the requirements for its minimum size imposed by the regulatory bodies as well as the norms in which capital is applied, i.e. as the factors determining the planned need for capital. At the same time, the researchers highlight not only the planned transactions, but also the regulatory requirements, the risky aspect of banking activity, emphasizing the need to find a compromise between capital reliability and profitability when planning the growth of equity and its correlation with liabilities. At the same time, N.N. Kunitsyna, L.I. Ushvitsky and A.V. Maleeva (2002) do not specify the framework of the model being discussed, which makes it difficult to apply the formulated recommendations in practice.

P. Rose, an American economist, also pays special attention to the issues of capital planning, while emphasizing the role of the most important internal source – the banking profit.

As for Kazakh economists, they do not often give the exact definition of capital planning and discuss the need for this process.

5. Implications
The authors of this research article believe that the conclusions and proposals on the planning of bank capital taking into account the Basel III standards can be used as scientific abstracts, analytical notes for researchers, financial practitioners and university professors.

6. Conclusion
The study presents the author's position on the current state of the banking system of Kazakhstan and proves the need for capital planning taking into account the Basel III standards.

Based on the formulated author's view on the process of capital planning, the possibility of using the model of planning the bank's regulatory capital has been proved.

Three levels have been defined in the mechanism for implementing the bank’s capital policy in the model of equity (capital) planning.

The most important indicators characterizing the bank's activity are capital, the size of its capital and adequacy, which simultaneously act as tools for regulating banking activities. The current practice of banking regulation and supervision, which is based on the recommendations of the Basel Committee on Banking Supervision (BCBS), takes into account the national characteristics of the banking system. At the same time, considerable attention is paid to the size, structure and adequacy of bank equity.

To use net profit as a source of capital growth while maintaining its use at the same level in other areas (including the payment of dividends or revenues per shares of authorized capital, bonuses), it is necessary to increase the absolute amount of net profit and (or) the share of retaining profits. As known, the factors of net profit growth are:

- growth of profit margin (the ratio of profit to income);
- growth of the return on assets;
- growth of the capital multiplier.

The bank's ability to use profit as a source of growth of its equity is significantly influenced by the current norms of national legislation in the sphere of banking and finance and the capital culture of the bank.
Before discussing in detail the bank's capital planning process based on the modeling of regulatory capital, we will briefly present an analytical overview of the current state of the banking sector in Kazakhstan, with the help of which an option for proper capital planning of Kazakhstani second-tier banks can be proposed.

The banking sector of Kazakhstan in 2015 was represented by 35 second-tier banks, of which 16 were banks with foreign participation and 13 – subsidiary banks. In January 2016, the assets of second-tier banks of the Republic of Kazakhstan amounted to KZT 23,784.4 billion (at the beginning of 2015 – KZT 18,239.0 billion), which is 30.4% higher compared to the previous year. In the structure of assets, the loan portfolio constituted KZT 15,553.7 billion, which is the largest share of total assets – 60.6%, with an increase of 9.7% in 2015, whereas in 2014 this figure was KZT 14,184.4 billion.

Loans to legal entities in 2015 amounted to KZT 7,307.2 billion with a share of 47.0% of the loan portfolio, whereas in 2014 this type of loans constituted KZT 7,016.2 billion or 49.5% of the loan portfolio, with an increase of 4.1% in 2015. Loans to individuals amounted to KZT 3,872.9 billion in 2015 with a share of 24.9% of the loan portfolio.

Non-performing loans (NPLs) amounted to KZT 1,236.9 billion in 2015, or 8.0% of the loan portfolio.

The liabilities of Kazakhstani second-tier banks amounted to KZT 21,289.9 billion in 2015, and KZT 15,873.2 billion in 2014, showing a 34.1% increase. In the total liabilities of second-tier banks, the largest share was occupied by customer deposits – 73.3% and issued securities – 9.9%. The liabilities of Kazakhstani second-tier banks to non-residents of the Republic of Kazakhstan amounted to KZT 2,095.3 billion, or 9.8% of total liabilities.

Customer deposits amounted to KZT 15,605.1 billion, or 73.3% of total liabilities, in 2015, and KZT 11,351.0 billion, or 71.5% of total liabilities, in 2014, with an increase of 37.5% in 2015.

Legal entities’ deposits amounted to KZT 8,719.6 billion, or 55.9% of customer deposits, in 2015, and to KZT 6,908.6 billion, or 60.9% of customer deposits, in 2014, showing a 26.2% increase. The share of legal entities' deposits in foreign currency increased from 51.6% at the beginning of 2015 to 61.5%.

Individuals' deposits amounted to KZT 6,885.5 billion, or 44.1% of customer deposits, in 2015, and to KZT 4,442.5 billion, or 39.1% of customer deposits, in 2014, showing a 55.0% increase. The share of individuals' deposits in foreign currency increased from 67.4% at the beginning of 2015 to 79.1%.

In 2015, highly liquid assets amounted to KZT 5,043.6 billion, or 21.2% of assets, which is 50.0% higher compared to 2014.

The profitability of the banking sector is an important indicator in banking activities. For example, the net profit of the banking sector amounted to KZT 227.0 billion in 2015. The return on assets was 1.17% (1.67% for the same period last year). The return on equity was 9.55% (13.43% for the same period last year).

In 2016, the banking sector of the Republic of Kazakhstan was represented by 33 second-tier banks.

An analysis of the current state of the banking sector of the Republic of Kazakhstan at year-end 2016 showed the consolidation of liquid assets on the balance sheet of banks. Second-tier
banks with sufficient funds passively lent to the economy, preferring investments in more liquid assets. In 2016, the volume of loans issued decreased by 0.3%, amounting to KZT 15,111 billion. Along with the reluctance to lend to the real sector of the economy, the reason for the decrease in the loan portfolio of second-tier banks was the low quality of borrowers, their insolvency. The solvency of borrowers was adversely affected by the depreciation of the national currency and inflation. At the same time, it is now profitable for banks to place their free funds in the monetary market, where rates are more attractive compared to the basic lending rate.

The improvement in the quality of the loan portfolio of the banking sector is indicated by a decrease in the share of loans overdue. The share of loans overdue for more than 90 days decreased to 7.3%, whereas at the beginning of the year it was 8.0%. Such banks as ATF Bank, DB Sberbank and Bank CenterCredit have a high proportion of problem loans – 12.1%, 9.2% and 8.9%, respectively. Tsesnabank and Kazkommertsbank have the smallest proportion of problem loans – 4.2% and 6.3%, respectively.

Since the beginning of 2016, there has been a 10.7% increase in deposits, while the amount of the deposit portfolio of second-tier banks amounted to KZT 17,269 billion. Halyk Bank (+12.6%) and DB Sberbank (+7.5%) enjoy great confidence among investors, as these banks are the largest players in the deposit market. A significant decrease in the deposit portfolio is observed in Kazkommertsbank. The reason for this was the withdrawal of funds by the quasi-public sector (Report of the National Bank of the Republic of Kazakhstan for 2016).

With a decrease in the expectation of the tenge devaluation and inflation, it is planned to reduce the interest rate on deposits in the national currency from 14.0% to 13.5% (Report of the Agency of the Republic of Kazakhstan on Statistics for 2015). According to the National Bank of Kazakhstan, since the beginning of 2017, many banks have already offered deposit rates below 14%. These are BankCentreCredit, Tsesnabank, Fortebank, Halyk Bank, Kaspi Bank and Sberbank. By the end of 2016, the most profitable banks were Kazkommertsbank and Halyk Bank, whose return on capital was 24.1% and 22.7%, respectively.

Summarizing the above, one can draw the following conclusions about the current state of the banking sector in Kazakhstan:

- Kazakhstani second-tier banks with a view to avoiding credit risks to a greater extent have channeled their liquid assets into the monetary and stock markets since 2016;
- due to the growth of deposits, second-tier banks have increased liquid assets;
- an increase in deposits with high interest rates has adversely affected the revenue side of the balance of second-tier banks;
- the quality of the credit portfolio of second-tier banks has improved.

Of all the main indicators of the banking sector in Kazakhstan, we are more interested in capital adequacy. Regulatory capital has been formed in the amount of KZT 3,062.5 billion. Capital adequacy ratios were as follows: c1-1 – 12.5%; c1-2 – 13.1%; c2 – 15.9%, which is reflected in Table 1.
In the analyzed period, both the factors of capital growth and capital decrease in the bank’s own funds have been discussed. The importance of capital growth factors varies. There are structural changes in the direction of reducing the share of authorized capital and increasing the proportion of subordinated credits received. Profit is the most important factor in the growth of regulatory capital of Kazakhstani credit organizations.

In addition to the structure of equity, the most important characteristic of capital is its adequacy. In accordance with the regulatory capital model, the value of bank equity should be adequate to the amount of credit, market and operational risks.

Throughout the analyzed period, the largest share in the structure of risks, the coverage of which requires the adequacy of capital from Kazakhstani credit institutions within the regulatory model, is accounted for by credit risks. Since the value of operational risk has been included into the calculation of the adequacy of equity, its share has slightly increased, being stabilized at the level of about 7% in 2015-2016. The share of market risk in the analyzed period does not exceed 8% of the aggregate amount of risks of the banking sector of the Republic of Kazakhstan (Local crisis of small banks will change the entire financial sector 2017).

Currently, the modern bank is planning its own funds in accordance with different capital models simultaneously. The planning of regulatory and internal capital is conditioned by the requirements of the supervisory authority and should be implemented in accordance with the recommendations of the supervisory authority and the needs of the bank itself to improve the results of financial management using innovative management tools. Therefore, the planning of regulatory and internal capital should be carried out by all banks. The need for the planning of balance capital can be substantiated by the establishment of an obligatory or an estimated indicator of the bank’s activity, for the calculation of which the amount of balance capital (for example, the financial leverage indicator) is used. In the absence of compulsory calculation of the relevant indicator and observance of its established value, the bank does not need to plan its balance capital. The planning of market capital is not mandatory for the bank and is carried out only when implementing the corresponding corporate strategy (Olkhova 2011).

Simultaneous equity planning within the framework of different capital models should be aimed at maximizing the combination of planning procedures and minimizing costs. Since the planning of regulatory capital is mandatory for all banks, the procedures for equity planning using other capital models should be secondary to the procedures for planning regulatory capital.

The planning of regulatory and internal capital refers to the sphere of capital policy and is implemented on the basis of the incoming information flow directed to the sphere of capital policy from the sphere of risk management policy. The incoming information flow is the result of the quantitative and qualitative assessment of risks, which should be covered by capital within the regulatory model. The result of risk assessment of the regulatory capital model should include the assessment of current risks and possible risks, as well as their generalized assessment for the planned period. In the sphere of capital policy, the planning of regulatory capital is implemented by the basic method, i.e. based on the capital adequacy ratio, which can be supplemented by the method of professional judgment and the method of additional capital demand.
Internal capital is also planned in the sphere of capital policy on the basis of the incoming information flow directed from the sphere of risk management policy. The incoming information flow is represented by the result of assessment of aggregated risks, for the coverage of which internal capital should be adequate in accordance with the model of economic capital used by the bank. The aggregate size of economic capital must be divided into (1) economic capital, determined by the prevailing level of risk, and (2) economic capital, determined by risks, the adoption of which is determined by the strategy of the bank's development in the planning period (Lavrushin 2010).

The value of internal capital, which must be no less than the amount of economic capital, is determined by the method of professional judgment and the method of additional capital demand.

The planned values of regulatory and internal capital are determined by the value of the current and possible capital demand. The current capital demand is determined on the basis of unexpected losses in the context of two groups of risks. First, the risks in respect of which the capital demand will be determined (financial risks). Second, the risks in respect of which a portion of capital will be allocated to cover them (usually non-financial risks).

After determining the planned values of regulatory and internal capital on the basis of the incoming information flow from the sphere of risk management policy, both values are compared with each other. If the planned amount of regulatory capital exceeds the planned amount of internal capital, the future planning will focus on the planned amount of regulatory capital. Otherwise, capital planning will focus on the planned amount of regulatory capital and fulfilling the need for internal capital exceeding regulatory capital (Miroshnichenko 2015).

After determining the target level of capital, its structure is planned. Based on the results of capital structure planning, sources of capital formation are determined taking into account their availability, restrictions on use, as well as advantages and disadvantages.

The difference in the models of bank equity determines the difference in the models of capital planning. The model of regulatory capital and the model of economic capital can be rightfully considered the most important equity models, applied by modern banks in the process of financial management. These capital models are consistent with the model of regulatory capital planning and the model of available internal capital planning.

The model of regulatory capital planning was developed by the Russian researcher O.S. Miroshnichenko. It is presented as follows:

\[ C = F \{ \text{elements; restrictions} \} = F \{ FC; AC-CI-R \}, \]

where \( C \) is equity (capital);

\( FC \) – fixed capital;

\( AC \) – additional capital;

\( CI \) – capital immobilization;

\( R \) – restrictions.

Wherein

\[ FC = F \{ BCFC-ACFC \}, \]

where \( BCFC \) is the base capital of fixed capital;

\( ACFC \) is the added capital of fixed capital.

Taking into account the requirements of banking legislation and economic feasibility, the bank determines a number of restrictions on the use of various sources as equity (capital) sources. These restrictions can be regulatory and intra-bank (economic and administrative).

Regulatory restrictions should be divided into mandatory and conditionally mandatory. Their parameters are set by the banking supervisory authority in accordance with the recommendations of the Basel Committee (Table 2). Both mandatory and conditionally mandatory restrictions on the use of certain sources as equity sources should be taken into
account by the bank when planning capital and implementing capital policy. However, legal consequences for the bank come only when the parameters of mandatory restrictions are violated.

Table 2
Numerical parameters of regulatory restrictions on bank capital, %

<table>
<thead>
<tr>
<th>Restriction</th>
<th>Restriction designation in the proposed model</th>
<th>Numerical restriction parameter</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normative value of equity (capital) adequacy N1.0</td>
<td>c1</td>
<td>Recommendations of the Basel Committee on Banking Supervision, Requirements of the National Bank of the Republic of Kazakhstan</td>
</tr>
<tr>
<td>Normatively established limit for the amount of subordinated credits with additional conditions that can be included in the structure of fixed capital</td>
<td>c2</td>
<td>&lt; 15 FC (Basel I и Basel II)</td>
</tr>
<tr>
<td>Normatively established limit for the amount of subordinated credits that can be included in the structure of additional capital</td>
<td>c3</td>
<td>&lt; 50 FC (Basel I и Basel II)</td>
</tr>
<tr>
<td>Normative value of adequacy of the base capital of fixed capital N1.1</td>
<td>c4</td>
<td>&gt; 4,5 (Basel III)</td>
</tr>
<tr>
<td>Normative value of fixed capital adequacy N1.2</td>
<td>c5</td>
<td>&gt; 6 (Basel III), 1. 5,5</td>
</tr>
</tbody>
</table>

Regulatory restrictions of a mandatory nature on the use of certain sources as capital sources can be expressed as follows:

1) \( C \geq \) is the minimum amount of equity (capital);
2) \( C \geq R \cdot c1 \),
where \( R \) is the risks of the regulatory model, for the coverage of which capital must be adequate;
\( c1 \) is the normative value of capital adequacy.

3) \( \sum(SC_{AC}) \leq c2 \cdot FC \),
where \( SC_{AC} \) is subordinated credits (loans, deposits) with additional conditions without any limitation on the period of attraction;
\( c2 \) is the normatively established limit for the amount of subordinated credits with additional conditions that can be included in the composition of fixed capital, \( c2 \leq 15\% \) FC;
4) \( \sum(SC) \leq c2 \cdot FC \), where \( c3 \) is the normatively established limit for the amount of subordinated credits that can be included in additional capital, \( c3 \leq 50\% \) FC;
5) $AC \leq 100\% FC$ (Miroshnichenko 2015).

As the banking legislation of Kazakhstan develops, regulatory restrictions on the use of certain funds as capital sources and numerical parameters of regulatory restrictions can be changed and refined. One should also expect an expansion of regulatory restrictions in terms of introducing requirements for the formation of a conservation buffer by Kazakhstani second-tier banks and the observance of the financial leverage index.

Intra-bank restrictions on the use of certain funds as equity capital are established by each bank independently with regard to existing regulatory restrictions and have numerical parameters (e.g., the maximum share of base capital in the structure of aggregate capital, the share of subordinated debt in the capital portfolio). In order to improve corporate governance, the bank may introduce an internal bonus-appetite restriction, which is proposed to be understood as the maximum part of the profit used to pay out bonuses to the members of the board of directors and top executives. Administrative restrictions are associated with variables that are not economic. These include, for example, the bank’s definition of a list of counterparties (and/or requirements for them), the funds of which will form authorized capital, and of the time frame when a certain tool will be used for the capital portfolio.

The model of regulatory capital planning cannot be considered by the bank as a single option. As part of the agreements reached by the Basel III participants, national regulators recommend that banks use the model of economic capital to ensure the adequacy of their capital. Within the framework of this model, the model of available internal capital planning can be represented as follows:

$$
\begin{align*}
AIC & \geq Cec = R (CR; AR); \\
AIC & = R (AC; SP; RF; RP; SC; OSc)
\end{align*}
$$

where

- **AIC** is available internal capital;
- **Cec** is economic capital;
- **CR** is quantitative and qualitative assessment of the current level of significant risks taken by the bank;
- **AR** is quantitative and qualitative assessment of the additional level of significant risks that will be taken by the bank in accordance with the implementation of the development strategy;
- **AC** is authorized capital;
- **SP** is the share premium;
- **RF** is the reserve fund;
- **RP** is retained profit, adjusted for unrealized losses in terms of assets (liabilities) recorded in accounting records not at fair value;
- **SC** is subordinated credits (deposits, loans, bonded loans);
- **OSc** is other sources recognized by the banking model as internal capital sources (Miroshnichenko 2015).

Thus, the mechanism for implementing the bank’s capital policy in the model of planning its equity (capital) should provide for three levels, depending on the restrictions included in the model.

The first level is mandatory. It should take into account all regulatory restrictions on capital.

The second level is conditionally mandatory. It expands the mandatory level by including conditionally mandatory regulatory restrictions on capital in the planned indicators.

The third level is evaluative. It expands the conditionally mandatory level by including intra-bank restrictions in the planned indicators.
In accordance with the BCBS recommendations within the framework of the Basel II agreement, banks must develop a policy of rapid response to adverse or unexpected changes (New capital adequacy scheme 1999). In this regard, the National Bank of Kazakhstan provided for the need of credit organizations to develop a plan of actions aimed at ensuring the continuity of activities and (or) restoring activities in the event of unforeseen circumstances. In 2016, credit organizations were offered methodological recommendations for the development of plans to restore their financial sustainability (self-recovery plans), which are formed as part of the management and strategic planning processes as well as the planning of equity (capital) of the credit organization and its liquidity.

The results of planning the target level of capital and determining the sources of its formation are the basis for the development of tactical measures to implement the capital policy of the bank.

**Bibliographic references**


