

CAPITAL REGULATION OF COMMERCIAL BANKS AT INTERNATIONAL AND NATIONAL LEVELS

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The article considers the ways of regulating bank capital on national and international levels taking into account modern tendencies. Their comparative analysis is made, advantages and disadvantages are revealed. The capital of regional bank sector is evaluated. As a result, the author proves the necessity of the qualitative growth of the capital of the region's bank sector and meeting the international standards.

In order to provide the adequate bank capitalization and strengthen their competitive positions in financial markets, it is necessary to regulate the capital, firstly aimed at meeting the demands and recommendations of Basel's Agreement on bank supervision, as well as the perspectives of their changes and development. The content of such regulation is reflected in the concept of capital that influences the importance of their studying.

Concept (Lat. conception) - the system of views on the processes and phenomena in nature and society [9].

In modern conditions the concept of regulatory capital is dominating on the international level (though the concept of economic capital is increasing) as there are unified methods of its calculating and they suit any bank no matter what branch, organizational, legal and competitive peculiarities are.

Besides, banks are the only institutions that have short-term liabilities. Only some banks have the possibility immediately to liquidate its credit portfolio if there is a threat of mass withdrawal of deposits. At the same time banks do not take into consideration the possible influence of its risks on the clients of other banks. That is why the size of capital has been strictly regulated. The regulation of capital is implemented mainly by establishing standards [13].

Thus, in order to regulate the sufficiency of capital on the international level in 1988 Basel's committee on bank supervision introduced the index that sets the uniformity in determining its sufficiency. This is a general approach, but Central Banks of each country have certain freedom in establishing the economic standards that take into account the demands of the Committee and with the evolution of bank system change them.

Due to the document "International approachment of measurement methods and capital standards" (Basel's Agreement I) capital is defined as the sum of the capitals of the first and second levels. Capital sufficiency has two aspects: institutional (static) and dynamic. The idea of the institutional one is in meeting the minimum standards of the capital of the absolute size, at present it is more than 5 million Euros, and dynamic - in implementing the standards of its sufficiency that should not be less than 8%, and the share of the capital of the first level to assets - not less than 4%, besides the capital of the first level should be not less than 50% from the capital of the second level. The elements of the capital of the second level are regulated by the countries independently, and it should be not more than 100% of the capital of the first level. The calculations are done with the help of the formula:

$$\text{Coefficient of } K_{uk} = K_m / (K_{p,m} + 12,5 PP_m) \quad (1)$$
where K_m - aggregate bank capital; $K_{p,m}$ - credit risk, excluding the assets due to which per cent and fund risks are calculated; PP_m - market risk.

$$\text{Coefficient of capital sufficiency} =$$
$$= KI_m / (K_{p,m} + 12,5 PP_m) \quad (2)$$
where KI_m - the capital of the 1st level; 12,5 (1/0,08) - the coefficient of the quantitative link between the calculation of the demand in capital on credit and market risks [11].

Market risk is included into calculating the capital beginning from 1996, according to the Amendment to Basel's Agreement I [11], while calculating it the banks can choose between the standardized method and internal models of evaluating the index of potential losses of Value-at-Risk (VAR) portfolio, that are used with the permission of national supervisory bodies.

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From 1997, in accordance with the document "Basic principals of the effective supervision of banking activity" the evaluation of capital sufficiency is supplemented by the supervisory component (the 6th principal: supervisory bodies should determine the demands to capital in accordance with the level of bank risks and include the elements taking into account their ability to cover the losses, stimulate the capital to exceed the minimum) [10].

Weighted coefficient of risk is considered by the Committee as the preferable method of evaluating capital sufficiency, and other methods are defined as supplementary. In comparison to the principal of simple leverage the coefficient of risk has the following advantages:

- ◆ creates a more fair basis for the international comparison of bank systems with different structures;
- ◆ makes it possible to include the evaluation of off-balance risks;
- ◆ does not prohibit the banks to have liquid assets or other low-risk assets [11]. Such evaluation of capital is called regulatory.

R.G. Olkhova writes about the advantages of the international methods of evaluating capital sufficiency and distinguishes the following components:

- ◆ characterizes "real" bank capital;
- ◆ contributes to the reconsideration of bank strategy and the refusal from the excessive growth of credits on the basis of minimum capital, preferring the size of credit portfolio, but not its quality;
- ◆ contributes to increasing the non-risk bank activity;
- ◆ stimulates the government to decrease the regulation of bank activity as more elements of self-governing are appearing in it;
- ◆ makes it possible to take into account the risks on off-balance liabilities;
- ◆ makes it possible to compare the banks of different countries.

At the same time it points out the following disadvantages:

- ◆ does not evaluate the level of credit risk against the categories of clients and the types of bank operations, as to most extent its evaluation is based on the type of borrower;
- ◆ there is no accuracy in determining the components of capital of different levels [14].

V.M. Usoskin and the authors think that this approach:

- ◆ is targeted at club approach while defining the level of credit risk that not always reflects the economic situation;
- ◆ does not stimulate the usage of defense technologies by banks and by this dissimulates their usage, as it decreases the profitability of the deal without decreasing the demand in capital [14].

G.S. Panova have the same point of view and mention that this approach:

- ◆ does not evaluate the real level of credit risk as the credits submitted to the company that has high international rating of creditability have the same risk as the credits to the company with the very low risk. Agreement I imposes additional economic load on the banks that worsen their chances in the competitive struggle with financial intermediaries;
- ◆ does not take into account operative risk [8, 18].

Basel's Committee on bank supervision disagrees with the methods of evaluating the sufficiency of capital in modern conditions "...such weighting of assets provides rough evaluation of economic risk as the level of credit risk is not calculated exactly and does not reflect the possibility of default of different borrowers as well as does not take into account the influence of many financial risks" [16, 17].

Basel's Committee on bank supervision published the document "International convergence of measuring the capital and capital standards: new approaches" (Basel's Agreement II) in 26.06.2004. This document contains the new regulation rules. The regulations consist of three operational components: minimum demands to the capital, supervisory process, market discipline [7].

Due to these methods the capital is correlated to risks appearing in the activity of the bank, the changes in calculating the capital are not anticipated, the main difference is in the mechanism of calculating risks. The value of operational risk is introduced in the formula (1):

$$\begin{aligned} \text{Coefficient of Macdonou} &= \\ &= K_m / K_{p,m} + 12,5 (PP_m + OP), \end{aligned} \quad (3)$$

where OP - operational bank risk; 12,5 (1/0,08) - the coefficient of quantitative relation between calculating the demand in capital on credit, market and operational risks. The index of capital sufficiency should be more or equal to 8% [6].

Table 1

The concepts of regulating the capital of commercial bank

| The concept of regulatory capital | The concept of economic capital |
|---|---|
| The main requirement - meeting the norms of regulatory bodies | The main requirement - it should be enough for covering the risks accepted by the bank |
| The subjects of evaluation - commercial banks and Bank of Russia, evaluating the activity of bank from the point of view of the established standards | The subjects of evaluation - commercial banks determining the influence of risks taken by bank on the capital |
| Acts on national and international levels | Acts on international level, some elements are used by the leading credit organizations of the country |

As opposed to the 6th principal of the effective bank supervision in the sphere of evaluating the sufficiency of capital, Basel's Agreement II shows the necessity to enlarge the list of considerable risks of separate banks. As opposed to Basel's Agreement I, Basel Agreement II is targeted, firstly, at the improvement of bank supervision and increasing the efficiency of the control system bank risks management.

Thus, the ways of improving the evaluation of regulatory capital are reflected and the evaluation of economic capital is introduced, so it includes two concepts of capital (table 1).

In Russia there is the concept of regulatory capital. In order to determine the requirements of the minimum size of own assets (capital) of a bank, necessary for covering credit and market risks and minimizing the risk of insolvency, the Instruction of the Central Bank of Russian Federation from 16.01.2004 № 110-И "About the obligatory bank regulations" sets the regulations of their sufficiency. Banks should follow this regulation daily and if necessary inform the territorial institutions about the facts of violation. Thus, the control of Central Bank is getting stronger, and, consequently, the efficiency of the activity of the service of internal control should increase.

It is necessary to emphasize that with introducing the Instruction № 110-И, the Bank of Russia took certain actions targeted at making the methods of evaluating the sufficiency of own assets (capital) of Russian banks meet the requirements of Basel's Committee about bank supervision.

According to Article 2.1. of the Instructions of the Central Bank of Russian Federation from 6.01.2004 № 110-И the regulation of the sufficiency of own assets (capital) is calculated with the help of the formula:

$$H1 = K / \sum K_{pi}(A_i - P_{ki}) + code\ 8930 + code\ 8957 + KPB + KPC\ code\ 8992 + PP, \quad (4)$$

where K - own assets (capital) of the bank calculated due to the Regulations of the Bank of Russia from 10.02.2003 № 215-П; K_{pi} - the coefficient of risk of i -asset; A_i - i -asset of the bank; P_{ki} - the value of the reserve for possible losses and the losses on loans; *code 8930* - the requirements of the bank to the counteragent on the urgent part of deals that appear as a result of acquiring financial assets with the simultaneous acceptance of the liabilities on their reverse alienation, account (part of account) № 937A (excluding the calculated reserve), weighted due to the risk level; *code 8957* - the requirements to the individuals (excluding the calculated reserve), weighted due to the risk level, multiplied on the coefficient 1,3; *KPB* - the value of credit risk on certain liabilities of credit character; *KPC* - the value of credit risk on urgent deals; *code 8992* - the reserve on urgent deals created in accordance with the demands of Chapter 4, the Regulations of the Bank of Russia № 232-П from 09.07.2003 "About the order of forming the reserves for possible losses by credit companies"; *PP* - the value of market risk [2].

It is necessary to point out that there are more strict standards of sufficiency for Russian Banks, it can be explained by the non-stable economic situation in the country, and its minimum possible value is set depending on the amount of own assets (capital). Thus, it will be 10% for banks with the own assets (capital) equal 5 million Euro and more, and 11% - if less than 5 million Euro [2]. According to the Regulations of Central Bank of Russian Federation № 215 from 10 February 2003 "About the methods of defining the assets (capital) of credit companies" the amount of own assets (capital) is represented as the sum of main capital and additional one. Additional capital should be not more than 100% of the main one, if the value of the main capital is zero or negative than the

sources of additional capital are not included in the calculation of own assets (capital) [4].

The Bank of Russia was just increasing the requirements to the sufficiency of capital not creating any economic conditions that provide the qualitative growth, this breaks the principals of efficient bank supervision in the sphere of evaluating the sufficiency of own assets (capital).

The comparison of the concepts of regulatory capital on international and national levels shows that due to the methods of Basel's Committee on bank supervision and the Bank of Russia the numerator of sufficiency coefficient - the aggregated capital is divided into the capital of the 1st level (main) and the capital of the 2nd level (additional). The capital of the 1st level includes the paid share capital, bonus stock profit, general bank reserves that according to Russian legislation are also created from net profit, and according to the method of the Bank of Russia - authorized capital stock, issue profit, bank funds formed from the profit of previous years and the year of the report, in other words there are differences in the used terminology. According to the methods of the Committee the profit of the current year is not included in the main capital, and that is right as it is a less stable element, and according to the Russian method - the profit of previous years refers to the main one that also can be explained. Basel's Committee on bank supervision rejects the regulation about the possibility of including latent reserves in the definition of the 2nd capital; as for the method of the Bank of Russia, it includes the property cost after revaluation in additional capital [11, 2, 4].

Besides, in contrast to the method of Basel's Committee Russian approach corrects the main assets (capital) on a greater number of articles [4].

In order to increase bank capitalization, meet the international standards of financial reporting, achieve the transparency of the membership of shareholders and defining the reality of own assets (capital), the part formed at the cost of improper assets is excluded from the source of capital formation, minus the calculated reserve for possible losses on the corresponding assets submitted to the investors by the bank [4]. Thus, the Central Bank of Russian Federation strengthens the quality control of own assets (capital).

Both the Russian method and the method of Basel's Agreement I separate the assets weighted due to the level of credit risk into five groups. However there are some differences caused by the differences on the level of the development of financial markets and the peculiarities of the functioning of Russian bank system. Thus, cash balance is defined as a non-risk asset by Basel's Committee on bank supervision, and in Russia it is considered as the asset with a 2%-risk [2].

According to the method of the Bank of Russia the investments in securities (shares and bonds) of commercial portfolio referring to the 4th risk group have a lower risk of 50% than the similar assets classified by Basel's Agreement I as 100%. We strongly disagree with this. As there are no either safe formalized procedures of risk management or enough possibilities for credit support in Russian banks, the Central Bank of Russian Federation sets a higher risk of 50% for the 4th group - assets placed on the accounts of the resident bank of Russian Federation as opposed to 20% set by Basel's Agreement I for the same assets. The Bank of Russia defines the assets on the accounts of resident banks as a high-risk asset, and the assets on correspondent accounts in non-resident banks from the group of developed countries as a minimum risk of 20%; on one hand, such approach protects banking system from risks, and on the other hand indirectly stimulates the monopoly for accomplishing chargeable operations on interbank calculations.

Though the recommendations of Basel's Agreement I are reflected in the concept of capital management on national level, they differ a lot, and the integration of Russian bank system in world community creates the necessity to bring national regulation closer the international one.

The methods have disadvantages: both Bank of Russia and Basel's Committee on bank supervision set only the level of own assets (capital) targeted at limiting the portfolio of risk assets that are the main source of bank profit, there are no regulations for the possibility and necessity to expand business and this also breaks the principals of bank supervision. These methods do not differentiate credit conditions depending on various client categories (legal entities and physical bodies, as well as into groups inside certain categories).

It is possible to evaluate the regulation of capital according to Russian and International approaches and bring Russian approach to the conformity with the requirements of Basel's Committee on bank supervision only in practice [12, 13].

For Russia to become the full member of international business community there should be the correspondence of the amount of own assets (capital) of Russian commercial banks to the requirements of Basel's Committee on bank supervision.

It is necessary to point out that in the Government Statement of Russian Federation and the Central Bank of Russian Federation from 05.04.2005 № 983п-П13 "About the strategy of developing the banking sector of Russian Federation for the period before the year 2008" the necessity to develop the banking system that meet the international requirements of the sufficiency of own assets (capital) is shown. Since 2007 the minimum amount of own assets (capital) of the banks should be 5 million Euros, com-

mercial banks having their own assets (capital) less than 5 million Euros on 01.01.2007 can continue their activity only if they do not decrease below the achieved level for the moment of introducing the mentioned requirements [1].

Let's evaluate the institutional sufficiency of the capital of commercial banks of Stavropol region (Table 2).

So only one bank in the region has own assets (capital) more than 5 million Euros. The aggregated own assets (capital) of the other eight banks make 8,8 million Euros. In 2006 only in one bank "Gris-bank" Llc the amount of capital decreased [15].

Below we will evaluate the dynamic sufficiency of the capital (Table 3).

The standard of capital sufficiency is very important for the banking system of the country, as it reflects the adequacy of bank's own resources to the risk level. This index is the guiding line for shareholders, investors; it is the index that reflects all most important aspects of bank activity.

Table 2

Institutional sufficiency of the capital of regional banks

| The names of credit companies | Absolute value | | | | Structure, % | |
|-------------------------------|----------------|------------|------------|------------|--------------|------------|
| | thous. rub. | | mln. euros | | 01.01.2006 | 01.01.2007 |
| | 01.01.2006 | 01.01.2007 | 01.01.2006 | 01.01.2007 | | |
| 1. OLC Stavropolpromstroybank | 292046 | 464282 | 8,9 | 13,3 | 53,3 | 60,3 |
| 2. Eurocitybank"Llc | 134298 | 152600 | 3,9 | 4,4 | 24,6 | 19,8 |
| 3. "Zheleznovodsk" Ltd | 47143 | 48681 | 1,4 | 1,4 | 8,6 | 6,3 |
| 4. "Paytigorsk" Ltd | 19872 | 28754 | 0,6 | 0,8 | 3,6 | 3,7 |
| 5. "Predgorie"Llc | 17570 | 44896 | 0,6 | 1,3 | 3,2 | 5,8 |
| 6. "Gris-bank"Llc | 10886 | 10433 | 0,3 | 0,3 | 2,0 | 1,4 |
| 7. "Mineralovodskiy" Llc | 9818 | 10092 | 0,3 | 0,3 | 1,8 | 1,3 |
| 8. "Zelenokumskiy" Llc | 5963 | 6155 | 0,2 | 0,2 | 1,1 | 0,8 |
| 9. "Ipatovskiy" Llc | 3549 | 3810 | 0,1 | 0,1 | 0,6 | 0,5 |
| 10. "RFO Bank" Llc | 5599 | - | 0,2 | - | 1,0 | - |
| Total | 546744 | 769703 | 16,5 | 22,1 | 100 | 100 |

Table 3

Dynamic sufficiency of the capital of regional banks, %

| The names of credit companies | Regulatory value H1 | Factual value H1 | Factual value H1 | Regulatory value H1 |
|-------------------------------|---------------------|------------------|------------------|---------------------|
| | 01.01.2006 | 01.01.2007 | 01.01.2006 | 01.01.2007 |
| 1. OLC Stavropolpromstroybank | 10 | 10 | 13,5 | 13,4 |
| 2. "Eurocitybank"Llc | 11 | 11 | 21,4 | 21,3 |
| 3. "Zheleznovodsk" Ltd | 11 | 11 | No data | No data |
| 4. "Paytigorsk" Ltd | 11 | 11 | 20,1 | 20 |
| 5. "Predgorie"Llc | 11 | 11 | No data | No data |
| 6. "Gris-bank"Llc | 11 | 11 | 85,8 | 78,8 |
| 7. "Mineralovodskiy" Llc | 11 | 11 | - | No data |
| 8. "Zelenokumskiy" Llc | 11 | 11 | 40,9 | 41,0 |
| 9. "Ipatovskiy" Llc | 11 | 11 | 37,1 | 244,0 |
| 10. "RFO Bank" Llc | 11 | 11 | - | - |

The calculations make it possible to conclude that regional banks meet the requirements of the demands of the dynamic sufficiency of capital. Two regional banks (“Gris-bank” Llc, “Ipatovskiy” Llc) satisfy the requirements and shows that the banks are cutting risk assets reducing by this the possible profit. There is the tendency of the inverse dependence of the absolute value of own assets (capital) from the norm, the higher is its value, the lower is the sufficiency index and visa versa. In other words the sufficiency of big banks is getting closer to the norm, and small banks have the safety factor. However, it does not mean that big banks do not have adequate capitalization, and small ones have excessive own assets (capital), the closeness of the norm to minimum value proves not the formal insufficiency of own assets (capital), but their more effective placement.

It should be mentioned that banks will probably always follow the norms of the sufficiency of own assets (capital), as due to the Instruction of the Central Bank of RF from 31.03.1997 № 59 in case it is violated there is a fine - 0,1% from the minimum authorized capital [3]. Besides, the decrease of the values of own assets (capital) below the estab-

lished value leads to cutting-down the volume of operations that has a negative influence on profitability and the possibility to accumulate own assets (capital).

We see that the banks of the region satisfy the requirements of the dynamic sufficiency of the capital, but as for the institutional one, 90% of them do not meet the international standards.

While evaluating the possibilities to use the concepts of economic capital it is necessary to take into consideration the following things.

The authors together with Professor A. M. Tavasiev think that banks can regulate their economic capital themselves if their risks will be described on the basis of statistical models and they have:

- 1) safe management systems as well as the systems of risk management;
- 2) objective possibilities to get reliable information about the financial performance of their clients, as well as about the perspectives its change [8].

A.Y. Simanovskiy thinks that the alternative to rating evaluation for common banks will be the following scheme: the advanced use the internal ratings of risk evaluation, all the rest are guided by the regulatory requirements that

Table 4

The characteristics of the systems of risk management in credit companies of the region

| The names of the banks | Characteristics |
|-------------------------------|---|
| 1. OLC Stavropolpromstroybank | The multilevel system of managing financial risks is active, it consists of the interrelated elements, and provides for: developing the new methods and improving the present ones, the procedures of revealing the risks, their evaluation, taking measures on their restriction, the control of their implementation. In order to decrease the risk of liquidity the policy of supporting its sufficient level is carried out, the system of its operative analysis is active. The bank organizes the work on minimizing the influence of inflation risks on its economy. Managing credit risk is accomplished through the control of the quality of credit portfolio; establishing the standards and rules of submitting credits, there are certain demands on meeting the limits of credit portfolio concentration (the limits of the responsibilities of executive officers and committees, risk limits: on the operations of interbank crediting with the counteragent banks, the risks of acquiring market debt instruments for one borrower and the group of borrowers and others) |
| 2. "Eurocitybank" Llc | In order to minimize credit risks the credit policy is developed, credit monitoring is organized, the corresponding reserves are formed, the limits for one borrower or the group of borrowers are set. While managing the liquidity the possible negative scenarios of events developing are worked out depending on the nature of risks, net-liquid position is calculated daily in rubles and foreign currencies |
| 3. Other credit companies | In order to prevent high credit risk the service of internal control sets the limits for one borrower or the group of borrowers, as well as for the branch segments to the amount of own assets (capital). In order to minimize the risk of liquidity and establish the balance between liquid assets and demand deposits, as well as short-term, long-term assets and long-term liabilities, the expected coefficients of surplus (deficit) of liquidity are established |

are the improved variants of standard approach provided by the Agreement 1988 (rejecting club principal, a broader account of the technique of decreasing the credit risks). He mentions that the introduction of internal rating evaluation in practice for the aims of bank supervision needs longer preparation and more efforts both from banks and a regulator [17].

It should be emphasized that the method of the Central bank of Russian Federation already estimates the separate risks on the basis of the ratings established by the international rating agencies (Standard and Poor's, Fitch IBCA, Moody's Investors Service) [2].

The study of the systems of risk management shows that there is a lack of control in regional banks, firstly, from internal service. Such situation needs the increase of the efficiency of risk management (Table 4). From the point of view of the correspondence of risk management systems to the economic concept of capital the leading bank OLC Stavropolpromstroybank has the best situation.

Therefore, in the situation of Russia integrating into world community the main direction of developing the capital of regional banking sector should be the improvement of the process of regulating the regulatory capital and step-by-step transfer to evaluating the economic capital by establishing the complex systems of risk management. According to Basel's Agreement II the requirements to the capital should be objective and comparable for a greater number of credit institutes and not very restrictive.

Consequently, the results of the research are:

- ◆ the study of the concepts of regulating the capital in Russian and foreign bank practice, their comparison;
- ◆ the analysis of institutional and dynamic sufficiency of capital on macro level and comparing them in respect to international requirements;
- ◆ evaluating the possibility of the use of the concept of economic capital in regional banking sector.

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