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BASIC REQUIREMENTS OF THE BASEL COMMITTEE ON REGULATING CAPITAL ADEQUACY AND LIQUIDITY OF COMMERCIAL BANKS

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ABSTRACT

The current paper highlights the Basel I, Basel II & Basel III requirements on capital adequacy and liquidity of commercial banks. In the paper, Basel II structure, methods of loan risk assessment, coefficients of loan risk assessment, credit risk measurement for counterparty banks are discussed. Moreover, assessments of Basel III on bank chances against crisis driven from financial and economic crunches, risk management, performance quality and bank transparency improvement measures are presented. At the end, the author gives his conclusions on the essence and necessity of new regulatory standards of the Basel Committee on bank's supervision in the structure of the supervision of credit institutions.

JEL CLASSIFICATION & KEYWORDS

■ G28 ■ Basel ■ Risk ■ Rating ■ Weighing ratio ■ Supervision ■ Overdue loans ■ Leverage ratio ■ Conservation buffer

INTRODUCTION

The issue on implementing the requirements of the Basel Committee on bank's supervision in the structure of the supervision of credit institutions is perhaps one of the most talked about in the banking community.

Such interest is well founded since transition to the Basel II principles could drive in changes of calculation rules of the credit risk and the level of the capital adequacy.

The main idea of the Basel II is to apply more differentiated way in comparison with current recommendations of Basel I and, accordingly, the requirements of the regulations of oversight bodies, assessing the creditworthiness of the counterparty in order to reduce the capital requirements of credit institutions.

The new agreement on capital adequacy eliminates elements of formalism, a kind of "commonality" in assessing the level of capital requirements, typical of the Agreement on the capital adequacy ratio of 1988 (Basel I). For example, under Basel I credit requirements for businesses (corporations) a risk factor is fixed as 100%. On the other hand, there is a privilege for transactions of the banks included in the group of "developed countries" (OECD), which has the right to use reduced rates of weighing.

In other words, the capital requirements of Basel I do not always take into account the significant difference between borrowers with different financial status.

To keep this aim in mind, in the document preparation phase this shortcoming, and as well as the transition to the assessment of credit risk using external and internal ratings that stipulating the usage of such estimation indicators as default risk and the level of losses upon that default were eliminated.

Basel II structure

Basel II is structurally divided into three parts, that is, three components [1].

The first component, which is the largest part of the document, is specifically devoted to the methods of calculating credit risk and suggests two approaches in calculating credit risk.

The standardized approach is based on weighing the value of credit requirements by ratios given to a particular borrower, depending on external credit rating - the rating which is determined by any international rating agency (Standard & Poor's, Fitch Ratings, etc.). This method does not contain any fundamentally new points in terms of risk calculation technique as compared with Basel I but focus on external ratings is considered as one of the unbiased indicators of a bank (company). And this is certainly an innovation.

The so called “mitigation technique” of credit risk assumes not only assessing the quality of support, as do the requirements of Basel I, but also the possibility of adjusting the credit requirements depending on the financial condition of the person that provides the appropriate support.

The second approach which is tremendously changed as compared with Basel I accepts only the internal ratings to determine the creditworthiness of borrowers (the approach - Internal Rated Based Approach - IRB Approach). In terms of measuring the credit risk, the IRB approach represents a mathematical model that takes into account four factors. They are: the probability of default of the counterparty (PD); loss share driven from the default of the counterparty (LGD); absolute value of loss at default (EAD) and the remaining term of the loan or circulation of outstanding bonds (M). By using the above mentioned indicators so called expected (E) and unexpected (UE) losses are determined. Their values are taken into account while calculating the capital adequacy.

The second component of Basel II defines the basic principles and recommendations on the organization of risk management at credit institutions and the requirements for the supervisory process. It examines the issues of transparency and accountability before the banks' supervision, including proposals for treatment of interest rate risk in the bank portfolio, credit risk (stress testing, definition of default, residual risk and credit concentration risk), operational risk, and securitization.

The third component of Basel II is so-called market discipline. The third component complements the previous two, in formulating a set of requirements to the information disclosure that allow market participants to evaluate data on the main areas of activity, the amount of capital, risk exposures, processes of risk assessment and, in consequence, on the capital adequacy of the borrowing institution.

Loan risk assessment

Let's consider a standardized approach to assess the credit risk in details.

As it has been mentioned above, this method assumes the use of external credit ratings assigned to counterparties-borrowers by credit rating agencies. In doing so, the most important condition of Basel II is not only a need to comply with the ratings of the supervising body of the rating agency, of which the credit institution intends to use them in the process, but also the requirement that they [credit institutions] use those ratings on a regular basis. With the current scale of external ratings stretched from AAA to C, Basel II considers the ratings that are not lower than B-. Legal entities with lower ratings (no matter what industry they belong to) are assigned a higher weighting ratio (equal to 150%).

Basel II distinguishes the ratings assigned to the governments and central banks (so called rating of sovereign), individual credit ratings of any company or credit institution and the export credit ratings.

The degree of counterparty risk is defined as following:

- In respect of sovereigns it depends on the external credit rating of the state,
- in respect of local authorities and as well as banks there are two ways. The first one is based on external credit rating of the state, residents of which are particular banks or local authorities. The second one is based on the rating of the bank or local authority,
- in respect of legal entities (except banks) it depends on the rating of the given legal entities,
- in respect of companies that are engaged in transactions with securities (professional participants of securities market) weighing system is chosen depending on regulatory principles and methods regulating their activities. If the regulation of activities of professional securities market participants is carried out in full compliance with the Basel II requirements, then a similar approach can also be applied for banks. Because current supervising rules participants of the stock market do not fully comply with the standards of the Basel Committee, weighing coefficients fixed for legal entities must be applied for them.

An overall view of the new system of weighing by using the rating of Standard & Poor's Agency looks like following given in the table below:

Table 1: An overall view of the new system of weighing

Rating	Weighing ratios (%)			
S & P	Governments and central banks	Credit institutions (Variant 1)	Credit institutions (Variant 2) (short term obligations)*	Legal entities
AAA – AA	0	20	20 (20)	20
A+ –A-	20	50	50 (20)	50
BBB+ – BBB-	50	100	50 (20)	100
BB+ – BB-	100	100	100 (50)	100
B+ – B-	100	100	100 (50)	150
Lower B-	150	150	150 (150)	150
No rating	100	100	50 (20)	100

* Short term obligations with the maturity in 90 days

Source: Author

Weighing ratios for the sovereigns. As it can be seen from the table, the sovereigns, the only category of borrowers can be considered as a risk-free category. Simultaneously, the Basel II provides the same option, i.e. exemption from capital covering requirements for the national states that do not fall into the area AAA – AA, nominated and funded in local currency. The condition of the funding requirements of the national currency is regarded as a fundamental element, eliminates the possible impact of currency risk on the value of funds raised to cover the debt.

Besides, the coefficient of 0% has the requirements for the Bank for International Settlements, International Monetary Fund, the European Central Bank and the European Union. Subject to continuous control by the Basel Committee on Banking Supervision in the zero category may also include the following most significant international development banks: the World Bank Group, consisting of the International Bank for Reconstruction and Development and the International Finance Corporation, Asian Development Bank, African Development Bank, European Bank for Reconstruction and Development, the Inter-American Development Bank, European Investment Bank, European Investment Fund, the North Investment Bank, Islamic Development Bank and the European Union Development Bank. [2].

Requirements for banks

Basel II offers two options that lending institutions can use while evaluating credit risk for counterparty banks. In this regard, one of the functions of supervisory authority is to keep the credit institutions informed of and conduct performance monitoring of the credit risk measurement by only one of the following calculation methods. However, whichever option is used, a lending institution must comply with the fundamental principle - the weighting ratio for banks should be one level lower or equal to the risk ratio of the state.

The first option for borrowers with weighing ratio fixed for the states, in fact, is shifted by one category of the scale of the risk ratio of sovereigns with a minimum ratio of 20%.

In the second option, the bank-counterparty is assessed according to its own ranking and corresponding weighing ratio. In addition, it presumes such an option as a special procedure of weighing short-term credit requirements (Maturity in 90 days) with lowered ratios.

Requirements for other legal entities and professional participants of the stock market

As the practice of the banking services market shows that our companies due to underdevelopment of the institution of rating in the country is likely to be classified to the group "No Rating" with 100% of weighing ratio. As far as the professional participants of the stock market is concerned, it should be mentioned here again that the supervisory methods that do not meet the requirements of Basel II, do not allow evaluating them better than other legal entities.

At the same time, supervising bodies may allow lending institutions to use for all legal entities a weighing ratio of 100% no matter the recent external rating exists or not.

One of the advantages of Basel II is it offers companies that are different in size, financial capacity, types of activities and state of origin a chance to use a wide range of options.

Table 2

Types of risk	0-1	2	3	4-6	7
Weighing ratio for sovereigns[1]	0%	20%	50%	100%	150%
Weighing ratio for banks and other legal entities[2]	20%	50%	100%	100%	150%

[1]International Convergence of Capital Measurement and Capital Standarts, Part 2: The first Pillar-Minimum Capital Requirements, II. Credit risk, 53-Claims on sovereigns
[2]International Convergence of Capital Measurement and Capital Standarts, Part 2: The first Pillar-Minimum Capital Requirements, II. Credit risk, 53-Claims on banks and corporate.

Source: Author

In the framework of the standardized approach there is also a simplified standardized approach based on the use of export credit ratings. Its main difference from the above-mentioned method is that only export credit ratings are applied to both sovereigns and other borrowers. These ratings are fixed by the expert credit agencies which are participants of "Agreement on the official confirmation of export credits." Export credit ratings are determined depending on the degree of country risk. [2].

The application methodology of the export credit ratings use presumes the establishment of 7 risk categories, each of which corresponds to one of the previously described weighing ratios (0, 20, 50, 100, and 150 %).

Like in the standardized approach, a simplified method offers the option to reduce the weighing ratio for the requirements of the sovereign, denominated and funded in the national currency.

For banks and other entities there exists a general principle of standardized approach – weighing ratio can not be higher than the corresponding to the rating of the sovereign.

Basel II provides separate options for assessing specific types of requirements.

New requirements for the assets included in the retail portfolio have been introduced. The essence of innovation is that the credit requirements can be incorporated into the group to which the weighting ratio of 75% is applied (except deferred loans).

In order to be included in the retail portfolio the following requirements must be met: [3]

- Loans are issued to individuals, group of individuals or small businesses,
- requirements should be represented in one of the following forms: revolving loans and credit lines (including credit cards and overdrafts), term loans to individuals and rent (car loans, car rent, loans to students on educational needs, personal loans), loans and credit lines to small businesses,
- fragmentation requirement must be met in order to manage risk per borrower. The limit of the consolidated risk per counterparty must not exceed 0.2% of the total retail portfolio.

Consolidated risk is calculated as the gross amount of all credit requirements that is without guarantee. In addition, the consolidated risk can be calculated not only by one entity but by several legal entities if they are affiliated in order to comply with the requirements of the absolute size of the consolidated risk. This is one of the most difficult conditions of Basel II to implement in our practice due to high differentiation in, including regional, income and in consequence, the amount of loans issued.

Basel II has also defined an independent weighing ratio for loans secured by mortgage (real estate), where a borrower lives or intends to live or which is rented in size of 35%.

A special attention is given by Basel II to overdue loans. Overdue loans are recognized when the term of the obligations on them exceeds more than 90 days. In this case, the following ratios are set:

- Weight coefficient is 150% if the reserves formed under the loan is less than 20% of the outstanding loan,
- weight coefficient is 100% if the reserves are not less than 20% of the outstanding loan,
- weight coefficient is 100% if the reserves are not less than 50% of the outstanding loan.

It is worth to stress out that Basel II has a rather strict approach of the requirements for a higher risk. In addition to the above mentioned requirements with a rating below B + (for legal entities) and B (for lending institutions) for bad loans in relation to the securitized assets with external ratings lower than BB + and BB- weighting coefficient of 150% is used.

In their activities banks use a wide range of methods to reduce the credit risk, by doing so they attract different kinds of security. Therefore, in the standardized approach, a high attention is paid to the technique that lowers the credit risk. [4].

In assessing the security used a bank can use two approaches: simple and complex. Using any of these approaches implies the observance of the two main criteria.

The first, a security must be acknowledged by the supervising body as a tool that reduces the credit risk and registered authentically. In doing so Basel II imposes special requirements for such a popular form of security as a guarantee, which must be irrevocable and unconditional (must not contain items that cast doubt on the guarantor's obligation), and the guarantor must have a lower risk ratio than the borrower. It is necessary for warranty to cover the full amount of the loan requirements, including interest. If the warranty does not cover the interest, then they are treated as unsecured. At the same time a great importance is paid to a circle of recognized guarantors. Such guarantees are sovereigns, banks, finance companies - professional participants of the stock market, and as well as other legal entities with an external rating of A-or above.

The second - the credit quality of counterparty and security value should not have a significant positive correlation. For example, securities issued by the counterparty or any affiliate of, will not provide adequate protection.

A simple approach estimates security and, accordingly, the credit risk of assets depending on the "quality" of the counterparty that provided it. To ensure recognition of security as a factor in reducing credit risk, there shall be a condition that it pledged for the life of the loan and, moreover it is revalued at current market price at least once in 6 months. That part of the requirements, which is secured to the market price of security, will receive risk weight applicable to the security instrument. The remaining part of the requirements will receive a risk weight applicable to the counterparty.

Table 3

Issuance rating of the debt securities	Maturity	State issuers (%)	Other issuers (%)
AAA – AA-	Less than one year	0,5	1
	From one to five years	2	4
	More than five years	4	8
A+ – BB- and bank securities	Less than one year	1	2
	From one to five years	3	6
	More than five years	6	12
BB+ – BB-	All	15	15
Stocks included in the main indices (including convertible bonds) and gold		15	
Other stocks (including convertible bonds), listed in the leading stock exchanges		25	
Share and mutual funds		The highest discount is used to any security in which the funds invest	
Monetary funds in the same currency		0	

Source: Author

The complex method is more complicated on the weighing technique because of which the credit requirements and security received by the bank are adjusted. Thus, the amount of risk, with respect to the counterparty and the amount of security on the basis of changes in future value driven from market fluctuations can be figured out (e.g. deposits in the form of securities). These future fluctuations of value are determined by the discount.

Besides of general cases, discount is used if requirement and security are denominated in different currencies. In these cases, an additional reducing coefficient to security in the amount of 8 % is used.

Calculation of the requirement in the framework of the complex approach and calculation of cost under the risk (by the Basel II terminology) is carried out according to the following equation:

$$E^* = max \{0, [E \times (1 + He) – C \times (1 – Hc \quad Hfx)]\},$$

where

E* – value at risk with the account of factors of its reduction,

E – present value of the credit requirement,

He – discount applied to the credit requirement,

C – present value of the security provided,

Hc – discount applied to the security,

Hfx – discount taking into the non-compliance of currencies of the security and credit requirements.

To calculate the capital adequacy, the indicator E* should be excluded from the value of the loan requirements. Further, the loan requirement that adjusted with the account of risk reducing factors is multiplied by the weighing ratio set by Basel II with respect to given category of the counterparty-borrower.

New basel requirements

The Basel Committee on Banking Supervision published the Basel III stipulating new standards for regulation of capital adequacy and liquidity. Basel III stipulates increased quality requirements and capital adequacy, increased demands for risk coverage, the introduction of so called a simple indicator of leverage (which should correlate with the volume of capital assets, not weighed for risks and contractual obligations, and to complement so called risk-oriented capital adequacy ratio), the introduction of "buffer" capital (additional capital requirements, not taken into account when determining minimum value of prudential regulations) in order to absorb losses in times of stress, the introduction of two standards of liquidity.

Committee stipulates a step-by-step transition to new regulatory standards. During the transition period, the Committee plans to assess the adequacy of the elaborated procedure of calculation and value of leverage in the application of this indicator for a complete credit cycle and for different business models. Possible changes of the order of calculation and value of the indicator of leverage should be implemented in the first half-year of 2017. On January 1, 2018 the indicator of leverage is planned to be included in Component I of the Basel II. With regard to short-term liquidity indicator (LCR) and net stable funding (NSFR) provided the observation period and the subsequent specification of the parameters of these indicators.

The Committee has published the results of the analysis of the quantitative impact of new regulatory standards on the performance of the lending institutions, published in July and December 2009. The analysis was conducted on two groups of banks (large internationally active banks and banks that do not belong to large banks[3]) without regard to transitional period (about a stage-by-stage writing-off and applying "grandfather" clause), assuming the implementation of Basel III in full scale by the end of 2009. The results showed that the average capital adequacy ratio of banks of the first and second groups is 5.7% and 7.8% respectively (with a minimum requirement of Basel III of 4.5%). In order to meet new requirements for capital adequacy base of these groups will require banks to increase capital by 165 billion euros and 8 billion euros respectively. Assessment of compliance with the requirements of Basel III on the base capital adequacy with the account of the conservation buffer at a rate of 7% (basic capital - 4.5%, conservation buffer - 2.5%) showed that the banks of the first and second groups lack of capital value in the amount of $577 billion euros (with an after tax profit of $ 209 billion euros) and $25 billion euros (with an after tax profit of $ 209 billion euros) respectively. Thus, to meet the requirements of Basel III banks will need to increase capital by issuing shares and or decision of retained earnings. The average value of short-term liquidity indicator (LCR) of the banks of the first and second groups amounted to 83% and 98% respectively; the average value of net stable funding (NSFR) was 93% and 103% accordingly.

New requirements of strengthening regulation of capital and liquidity will improve the quality of capital of the banking system, increase the supply of liquidity, as well as reduce the amount of unstable funding resources. A rather long transitive period will allow banks to gradually implement new regulatory standards as the economy recovers.

Conclusion

In general, the core essence of the initiations on the Bank Supervision brought by the Basel Committee is to strengthening the regulation of capital adequacy and liquidity of the lending institutions. In particular, new regulatory standards on bank capital will include such major directions as restructuring the bank capital, tightening the requirements on capital adequacy by enforcing the new additional regulatory standards on capital adequacy and forming the special reserve fund.

In the bottom line, further improvement of the quality of banks' capital base, formation of the optimal capital structure and increase of the amount of liquid assets will secure the financial stability in banking sector and guard against a potential banking crisis in the perspective.

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[3]In the current research 263 banks participated from 23 member countries of the Committee (among them 94 banks are the banks with the basic capital of more than 3 billion Euro are included in the first group, the other 169 banks belong to the second group.