

PROBLEMS OF THE EVALUATION OF CREDIT RISK IN COMMERCIAL BANKS**Natalia Konovalova***Riga International School of Economics and Business Administration (RISEBA)**E-mail: natalia@rsebaa.lv*

The introduction of the requirements of the Basel 2 agreements for Latvian commercial banks to estimate their capital adequacy has changed the approaches to credit risk evaluation. On the one hand, it enabled commercial banks to apply different economic models and methods of credit risk evaluation. On the other hand, it has created new problems connected with the formation of the banks credit portfolio.

The aim of the research is to analyze the methods of credit risk assessment according to the requirements of the Basel Committee and to develop recommendations on introducing these methods in the practice of Latvian commercial banks and their customers.

Tasks of the research:

- to investigate the essence of the standardized approach to credit risk assessment;
- to compare Basel 1 and Basel 2 approaches to credit risk evaluation;
- to investigate the essence of the credit risk assessment approach based on internal ratings;
- to identify the advantages and disadvantages of the approaches of credit risk assessment;
- to analyze the process of introducing the new approaches to credit risk assessment in the practice of Latvian banks.

The Basel 2 agreement gives the banks the possibility to use two approaches of the evaluation of credit risk in commercial banks:

- 1) standardized approach
- 2) internal ratings based approach/IRB/ [1].

The standardized approach suggests determining the credit risk based on the external evaluations (external ratings), which are assigned by the international rating agencies. The Financial Commission of Latvia (FCMC) has officially acknowledged the right to use such international rating agencies as *Fitch Ratings, Standart & Poor's Rating Service, Moosy's Investor Service* [5; 7].

In accordance with the determined rating a corresponding level of credit quality is set (from 1 to 6) both for long-term and short-term ratings (table 1).

In accordance with the standardized method the credit risk level is set from 0% to 150% depending on the category of borrowers and on the quality of bank assets and off-balance liabilities [3].

In the process of the research it was established that the following categories of deals in Latvian commercial banks are most liable to credit risk [8]:

- claims to Central governments and Central banks;
- claims to Credit institutions;
- claims to Corporations;
- retail portfolio;
- claims secured by real estate mortgage;
- overdue claims.

Table 1: Accordance of the external rating to the credit quality

Accordance of the rating to the credit quality	Credit risk level	Moody's Investor Service	Standard & Poor's Ratings Services	Fitch Ratings
Long-term rating	1	From Aaa to Aa3	From AAA to AA-	From AAA to AA-
	2	From A1 to A3	From A+ to A-	From A+ to A-
	3	From Baa1 to Baa3	From BBB+ to BBB-	From BBB+ to BBB-
	4	From Ba1 to Ba3	From BB+ to BB-	From BB+ to BB-
	5	From B1 to B3	From B+ to B-	From B+ to B-
	6	Caa1 and below	CC+ and below	F-1+ , F-1
Short-term rating	1	P-1	A-1+ , A-1	F-2
	2	P-2	A-2	F-3
	3	P-3	A-3	F-3 and below
	4	NP	B-1, B-2, B-3, C	
	5			
	6			

The evaluations of credit risk level for the claims to Central governments and Central banks

Firstly, credit risk level is set depending on the external ratings assigned to Central governments (table 2).

Secondly, for the EU member-states Central banks and Central governments credit risk level in their national currency is set at 0 %.

Thirdly, the claims to the European Central Bank are evaluated at 0 % risk level.

Fourthly, the claims to Central governments and Central banks of the countries with no external rating, the credit risk level are set at 100%.

What are the differences between the requirements of Basel 1 and Basel 2 in the assessment and measurement of credit risk level for Central governments and Central banks?

- 1) In accordance with the Basel 1 agreement all claims to Central governments and Central banks of zone ‘A’ countries, regardless of the currency, were evaluated at 0% risk level. Basel 2 suggests a differentiated approach depending both on the assigned rating and the kind of currency.
- 2) In accordance with the Basel 1 agreement all claims to Central governments and Central banks of zone ‘B’ countries (with the exception of those denominated in national currency) were evaluated at 100% risk level. Basel 2 suggests a differentiated approach depending on the assigned rating to a country. However, it does not consider the differences in the kinds of currency.
- 3) Basel 2 does not consider differences in the kinds of currency in reference to such countries as the USA, Australia, Japan, Canada, Switzerland as these countries legal documents contain equal to Basel commission requirements. Risk level in the claims to Central governments and Central banks of these countries only depends on the rating assigned to the country (see table 3).

Table 2: Risk level for claims to Central government and Central banks depending on the external ratings

Fitch Ratings	AAA to AA-	A+ to A-	BBB+ to BBB-	BB+ to BB-	B+ to B-	CCC+ and below
Standard & Poor's Ratings Services	AAA to AA-	A+ to A-	BBB+ to BBB-	BB+ to BB-	B+ to B-	CCC+ and below
Moody's Investor Service	Aaa to Aa3	A1 to A3	Baa1 to Baa3	Ba1 to Ba3	B1 to B3	Caa and below
Credit quality degree	1	2	3	4	5	6
Risk level	0%	20%	50%	100%	100%	150%
Minimal coverage of credit risk by a bank capital	0%	1,6%	4%	8%	8%	12%

Table 3: The differences between the requirements of Basel 1 and Basel 2 in the evaluation of credit risk level for Central government and Central banks

Countries	Basel 1		Basel 2		
	Zone	Level of risk	External rating	Risk level for claims to EU-members-states in national currency	Risk level for claims in other currency
Poland	A	0%	A-	0%	20%
Hungary	A	0%	BBB+	0%	50%
Estonia	A	0%	A	0%	20%
Austria	A	0%	AAA	0%	0%
Australia	A	0%	AAA	-	0%
Turkey	A	0%	BB-	-	100%
USA	A	0%	AAA	-	0%
Russia	B	100% (in national currency – 50%)	BBB+	-	50%
Ukraine	B	100% (in national currency – 50%)	BB-	-	100%
Singapore	B	100% (in national currency – 50%)	AAA	-	0%

Credit risk level evaluation for claims to Credit Institutions

All deals with Credit Institutions are divided into three groups:

- 1) short-term deals with primary term up to 3 months;
- 2) long-term deals with primary term more than 3 months;

3) short-term deals (up to 1 year) with the remaining term up to 3 months which are denominated in the currency of the EU member-states.

Short-term deals with primary term up to 3 months, which are evaluated at 20% risk [3].

For long-term and short-term deals with primary term more than 3 months risk level one grade higher than the risk level assigned to Central government of the corresponding bank is applied (table 4).

Table 4: Evaluation of credit risk for claims to Credit Institutions

Fitch Ratings	AAA to AA-	A+ to A-	BBB+ to BBB-	BB+ to BB-	B+ to B-	CCC+ and below
Standard & Poor's Ratings Services	AAA to AA-	A+ to A-	BBB+ to BBB-	BB+ to BB-	B+ to B-	CCC+ and below
Moody's Investor Service	Aaa to Aa3	A1 to A3	Baa1 to Baa3	Ba1 to Ba3	B1 to B3	Caa and below
Credit quality degree	1	2	3	4	5	6
Risk level of Central government	0%	20%	50%	100%	100%	150%
Risk level of Credit Institutions	20%	50%	100%	100%	100%	150%
Minimal coverage of credit risk by a bank capital	1,6%	4%	8%	8%	8%	12%

For short-term deals (up to 1 year) with remaining term up to 3 months which are denominated in the currency of the EU member-states risk level one grade higher than that assigned to the governments of these states is determined [3;5].

100% risk level is assigned to unrated credit institutions.

The table 5 shows credit rating assigned to credit institutions (banks) depending on the term and the kind of currency.

Credit risk level evaluation for claims to Corporations

The risk level is established depending on the external ratings assigned to a corporation (enterprise) and the degree of the credit quality. For corporations (enterprises) credit risk level could be established afrom 20% to 150%.

The table 6 shows the process of how the risk level of corporations is assigned and also how minimal requirements of capital for credit risk coverage are established.

Table 5: Credit risk assignment to Credit Institutions depending on term and currency [9]

Countries	Rating assigned to country	Credit Institutions (Commercial banks)	Risk level assigned for claims to Credit Institutions (banks)		
			Primary term < = 3 months	Primary term > 3 months	Remaining term 3 month and less (for claims to EU-members-states in national currency)
Hungary	BBB+	Magyar Cetelem Bank	20%	100%	20%
Estonia	A	Hansapank	20%	50%	20%
Latvia	BBB+	SEB bank	20%	100%	20%
Austria	AAA	Oberbank AG	20%	20%	20%
Australia	AAA	AMP Bank	20%	20%	-
USA	AAA	Bank of New York	20%	20%	-
Russia	BBB+	Alfa Bank	20%	100%	-
Ukraine	BB-	FINEKSIM	20%	100%	-
Argentina	B+	Banko de Cuidaci	20%	100%	-

Table 6: Evaluation of credit risk for claims to Corporations

Fitch Ratings	AAA to AA-	A+ to A-	BBB+ to BBB-	BB+ to BB-	B+ to B-	CCC+ and below
Standard & Poor's Ratings Services	AAA to AA-	A+ to A-	BBB+ to BBB-	BB+ to BB-	B+ to B-	CCC+ and below
Moody's Investor Service	Aaa to Aa3	A1 to A3	Baa1 to Baa3	Ba1 to Ba3	B1 to B3	Caa and below
Credit quality degree	1	2	3	4	5	6
Risk level	20%	50%	100%	100%	150%	150%
Minimal coverage of credit risk by a bank capital	1,6%	4%	8%	8%	12%	12%

If the risk level assigned to corporations (enterprises) is 50%, the minimal requirement of capital for the credit risk coverage will be 4%.

If the risk level assigned to corporations is 100%, the minimal requirement of capital for the credit risk coverage will be 8%.

If the risk level assigned to corporations is 150%, the minimal requirement of capital for the credit risk coverage will be 12%.

The risk level of enterprises-borrowers with no external rating is set at 100%. However, if an enterprise is unrated, but the rating of the country, that it belongs to, is CCC+ and lower

(or Caa and lower) which means the country risk level at 150%, then the risk level of the given enterprise will also be 150%.

The difference between the agreements of Basel 1 and Basel 2 in the evaluation of credit risk level of corporations (enterprises) is shown in the table 7.

Table 7: The differences between the requirements of Basel 1 and Basel 2 in the evaluation of credit risk level for Corporations [9]

Name of Corporations	Basel 1	Basel 2	
	Level of risk	External rating	Level of risk
Esti energia	100%	A-	50%
Ericson	100%	BBB-	100%
Electrolux	100%	BBB+	100%
Basf AG	100%	AA-	20%
“BezRt” Ltd (registered in Latvia)	100%	Unrated	100%
“BezR” Ltd (registered in Ecuador, rating of country CCC+)	100%	Unrated	150%

Thus, if according to Basel 1 all corporations regardless of their rating were assigned 100% risk level, according to Basel 2 the risk level is established depending on the rating assigned to the corresponding corporation (enterprise). For example, “Esti Energia” enterprise has the external rating “A”. That means that the risk level of this enterprise will be 50% (earlier it was 100%) “BASF AG” enterprise has the rating “AA”. That means that its risk level is evaluated at 20% (earlier it was evaluated at 100%).

Credit risk level evaluation for retail portfolio

Retail portfolio makes up a special category of bank assets. Physical entities and the majority of small and middle-sized businesses belong to this group. In accordance with Basel 2 agreement the risk level of retail clients is set at 75%.

Credit risk level evaluation for claims secured by real estate

For this category of deals in accordance with Basel 2 the risk level at 35% is set. According to Basel 1 it was 50% [1; 10].

Credit risk level evaluation for overdue claims

To assess the risk level of overdue claims (deals) the amount of created provisions and real estate mortgage is taken into consideration.

Thus, for an unsecured overdue deal with a 90 and more defaulted days and the amount of created provisions less than 20%, the risk level will be set at 150%. In case there are more than 20% of created provisions, the risk level will be 100%.

In case an overdue deal with more than 90 defaulted days is secured by real estate mortgage and more than 20% of created provisions, the risk level will be evaluated at 50% [10, 133].

The dependence of the risk level on the amount of created provisions and security in the form of real estate for overdue deals is shown in the table 8.

The results of the research have shown that along with positive features (characteristics) the standardized approach based on the external ratings also has some shortcomings.

Firstly, in cases of crediting unrated borrowers the credit risk level for a bank gets automatically raised (up to 100%).

Table 8: The dependence of the credit level on the amount of created provisions

Kind of overdue claims	Overdue payments terms	Amount of provisions	Level of risk	Minimal coverage of credit risk by a bank capital
Unsecured part of an overdue claim	More than 90 days	Less than 20%	150%	12%
Unsecured part of an overdue claim	More than 90 days	20% and more	100%	8%
Overdue claims secured by real estate mortgage	More than 90 days	20% and more	50%	4%
Overdue claims secured by real estate mortgage	More than 90 days	Less than 20%	100%	8%

Secondly, the process of obtaining of credits for small and middle-sized businesses becomes more difficult as they do not have external ratings;

Thirdly, the problem of concentration of credit transactions in separate segments of the credit market – mainly around banks and corporations with high rating.

Fourthly, a borrower’s credit history and its historical relationships with the bank are not taken into consideration.

Fifthly, the mechanism for the decrease of credit risk by means of different kinds of securities (such as vehicles, material assets, securities, etc.) is not provided.

The internal rating based approach enables to remove the shortcomings of the standardized approach.

Internal rating based approach allows a bank to use its own internal ratings system of credit risk assessment, based on historical experience of a bank and client’s credit history. But this internal ratings system should be accepted by Supervisory body.

According to the data given by the experts and the survey of the commercial banks of Latvia the introduction of Basel 2 requirements to assess the risk level of Latvian commercial banks will be implemented stage-by-stage. Along with this the proportion of banks applying the standardized approach and the internal rating based approach will be changing (table 9). At the end of 2008 the standardized approach was applied by 16 banks while only 5 banks had worked out the method of credit risk evaluation, based on the internal rating approach. It is expected, however, that in 2012 only 8 banks will apply the external ratings while 13 banks will be able to switch over to the credit risk evaluation based on internal ratings.

In order to use the internal ratings based approach, banks have to take the following measures:

- to develop the internal system of credit ratings, based on reliable information;
- to collect and accumulate credit history about their borrowers;
- to calculate the internal credit ratings;
- to identify the difference between the requirements of the standardized approach and the requirements of the internal ratings based approach.

Table 9: The proportion of banks applying the standardized approach and the internal rating based approach

Period of introduction of Basel 2 requirements to credit risk evaluations	Standardized approach (based on external rating)	Internal rating based approach
2007	3 banks	0 banks
2008	16 banks	5 banks
2009	15 banks	6 banks
2010	13 banks	8 banks
2011	12 banks	9 banks
2012	8 banks	13 banks

In their turn, bank's clients (businesses) – potential borrowers willing to obtain bank loans in the future – are recommended to take the following steps:

- to analyze and assess their capabilities in strategy development, marketing, management and financial planning;
- to identify their own weaknesses and to find ways to eliminate the existing shortcomings;
- to use high liquidity collateral to reduce credit risk.

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