ANALYSIS MODEL OF CREDIT RISK

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Abstract

Credit risk can be defined as the risk that arises when the bank customer does not fulfill its obligations in accordance with the terms and provisions of the contract by losses holder of assets. Credit risk represents the most dangerous category of banking risks, as it permeates to the level of a wider range of services and exposures.

In the following we present the stages of bank risk taking, credit risk analysis rate in the period 2007-2015 and a financial analysis of the business relationship with the bank.

Key words: *model, analysis, client, liabilities, credit risk, bank, SWOT analysis*.

Credit risk is defined as when the business partner is not able to accomplish it's partially or totally debt at the date set in the contract.

In Romania, banks regulated provision calculation through methodological norms, which lists the weights applicable to loans considering their security and liquidation value of the properties resulting from their evaluation.

Provisions' classification applies to loans with and without guarantees with different percentages, depending on the guarantee type, in the case of a credit with guarantee land we will have a higher coefficient than a credit with a building constuction guarantee.

Banks apply the following provisioning coefficients :

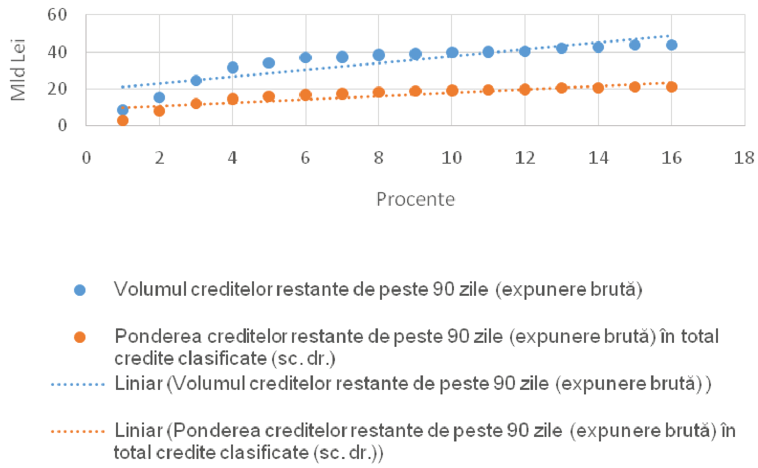
Provisioning coefficients

Standard	In remark	Substandard	Bias	Loss
0	0,05	0,2	0,5	1

Source: National Bank of Romania

Prediction coefficients are applied to create the neccessary fund to cover the risk in the context of bank lending activity. This risk is analyzed and determined by underperforming loans that have been investigated on time interval. In the chart below we find the underperforming credits made over a period of five years (2008-2013), which corresponded to the financial crisis.

Underperforming credits at the aggregate level during 2008 –2013



In assuming the risk, the bank takes the following steps:

• **Accepting credit demand**

When accepting credit application, prohibitions and restrictions should be checked, a transaction code is given to a client and also client connection with customers group is verified.

During the evaluation the following customers should be check: the client (the borrower); participants in the transaction required: co-applicant, mortgage borrower, the person who guarantees with collateral deposit; parties in relation to the principal debtor: shareholders holding a stake of at least 50% or not holding 50% of voting rights, the legal representative of the entity.

Customers are subjected to prefiltered verifications such as: Bank's internal black list; participants are not in the CIP list; participants are not in the CRC list; participants will be registered in RECOM; participants do not have active garnishment; participants do not have debts to the state budget.

• **Credit evaluation**

Customer evaluation (rating) as well as transaction evaluation from the business point of view and risk are achieved in the process of the credit assessment, together with guarantees and securities evaluation, under which we will make a proposal regarding the following: transaction risk conditions including the mix of guarantees; maximum credit risk that can be assumed for a specific customer, the credit limit; monitoring conditions for customer segments other than those of individual persons,

• **The decision on risk-taking will be made depending on the credit limit granted under the Competency approval of each bank.**

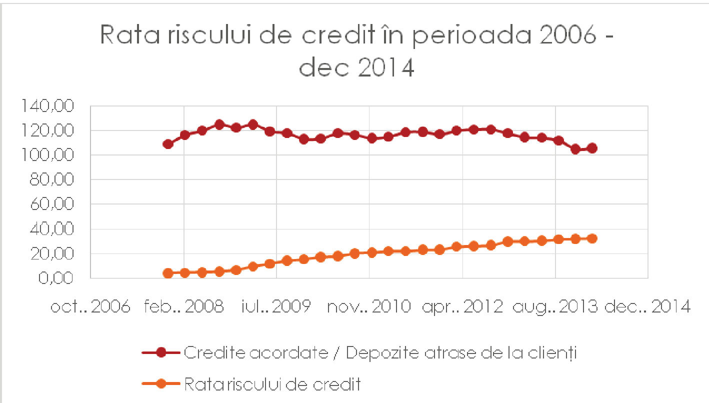
• **Closing the credit agreement**

After the decision, the Bank credit manager verifies the conditions fulfillment for closing contracts in accordance with the instructions and internal regulations and resolution of approval. Drawdown can be achieved only when the conditions required under the contract have been met. Monitoring will be done after risk taking and until the expiry / termination of the credit agreement.

In Romania, the report on loans versus credit risk rate is found in the table below:

Credit risk rate

Date	Loans/ Deposits from customers (%) IAICT_CC_DC	Credit risk rate (%) IAICT_RRC
Mar 2015	93,68	-
Dec 2014	91,33	-
Sep 2014	99,65	-
Jun 2014	103,56	-
Mar 2014	105,36	32,60
Dec 2013	104,59	32,14
Sep 2013	111,50	31,77
Jun 2013	113,71	30,49
Mar 2013	114,30	29,98
Dec 2012	117,37	29,91
Sep 2012	120,69	26,78
Jun 2012	120,65	26,06
Mar 2012	119,61	25,56
Dec 2011	116,65	23,28
Sep 2011	118,63	23,03
Jun 2011	118,42	21,89
Mar 2011	114,78	22,00
Dec 2010	113,46	20,82
Sep 2010	116,26	20,24
Jun 2010	117,46	17,81
Mar 2010	113,24	17,17
Dec 2009	112,80	15,29
Sep 2009	117,55	14,18
Jun 2009	119,23	11,76
Mar 2009	124,69	9,40
Dec 2008	122,03	6,52
Sep2008	124,71	5,28
Jun 2008	119,64	4,71
Mar 2008	116,10	4,42
Dec 2007	108,72	4,00



In 2009-2014, the banking system recorded a consolidated net loss of 1.6 billion Euro. Additional capital contributions amounted to 1.8 billion Euro in the same period.

Liquidity is the ability of assets items to be converted into cash. The more liquid an asset is, the more easily to be converted into cash. The most liquid asset items from the balance sheet are even the available money, and the less liquid are the immobilizations. For this, floating capital is calculated using the formula:

Fr = Rs - Ai, where:

Fr = floating capital; Rs = resources ;

Ai = asset.

In case of Fr>0, the company will be able to withstand the risks

If FR<0, the company will make short-term loans;

Long-term equilibrium can be identified by permanent floating capital, defined by:

FRP = CPT + IDF - TAI, where:

FRP = permanent floating capital; TAI = total assets

IDF = Loans and financial debts between 1 and 5 years and over;

The existence of a permanent positive floating capital certifies a balance state for long-term finance. To not departing from a performant management, permanent positive floating capital dimensions must not be exaggerated since purchased long-term capital costs are higher than the short-term ones.

A negative floating capital will highlight the company's inability to provide a surplus of financial resources in the long term that can cover the short-term financing needs.

To characterize the balance state achieved on long-term at the expense of own resources, the indicator used to analyze the floating capital takes the form:

FRp = CpT - TAI, where:

FRp = own floating capital; CpT = total equity;

TAI = total current assets.

The existance of a positive Fr certifies the fact that the company is in a state of long-term financial equilibrium based on the equity.

Financial analysis of the company in relationship with the bank

The analysis of company's solvency is very important. We analyze the company's net assets, using the relationship

Net asset = Total Asset - Total Debt

• Customer set limit

In assessing credit, the calculated limit is determined based on the customer's operations and financial data (final financial statements for the last year closed). It is an objective indicator that provides information on customer solvency.

It is the sum of the existing value of the assumptions on credit risk approved and credit risk value assumptions that are pending. In approving the credit limit banks do not consider funding planned. In case of revolving, the line credit granted will be considered as total risk-taking existing. The credit limit can be on rational or individual limit.

• Methods for calculating the credit limit

Depending on the financial statements used, calculated limit can be determined based on the following methods: customers with bookkeeping; customers with simple bookkeeping; customers with other types of accounting; other corporate customers.

• The limit calculated for customers with double-entry bookkeeping is determined based on financial data planned, estimated

Calculated limit = Operational gain planned for the next year/ credit cost – Existing exposure to other financial institutions.

Calculated limit can be determined based on historical data, if: the customer has no business plan, the limit is established for the purpose of acquisition; the business plan presented is considered by the Bank too optimistic;

The Bank uses SWOT analysis, determining both the benefits that lead to goals' achieving (internal sources) and elements that endanger goals' achieving (outsourcing).

SWOT Model

	Beneficial objectives	Threatening goals
Internal source (organization)	STRENGTHS (we use them)	WEAKNESSES (we eliminate them)
External source (external environment)	OPPORTUNITIES (we capitalize them)	THREATS (we avoid them)

Conclusions

Prediction coefficients are applied to create the neccessary fund to cover the risk in the context of bank lending activity. This risk is analyzed and determined by underperforming loans that have been investigated on time interval.

In the chart below we find the underperforming credits made over a period of five years (2008-2013), which corresponded to the financial crisis.

In 2009-2014, the banking system recorded a consolidated net loss of 1.6 billion Euro. Additional capital contributions amounted to 1.8 billion Euro in the same period.

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