QUICK DETERMINATION MODEL OF INSOLVENCY FOR A COMPANY

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Abstract:

Under conditions of crisis, suppliers are faced with situations where a decision must be taken quickly if they supply or provide services for a company which they don't know if it can honor invoices or not. In this research we propose a model for rapid determination of bankruptcy, which should lead the provider, in the short term, to the decision of cooperating or not with a company.

The model was tested on financial statements from Arabesque Company and is based on a function of "scoring". Period considered was 2004-2009, during this period were analyzed five indicators: gross result, the period of debt repayment, period of the receivable debts, degree of indebtedness and patrimonial liquidity. Outcome research for ARABESQUE Company was as follows:

YEAR	CATHEGORY	RISK TYPE
2004	*D*	*Low risk of bankruptcy*
2005	*D*	*Low risk of bankruptcy*
2006	*D*	*Low risk of bankruptcy*
2007	*D*	*Low risk of bankruptcy*
2008	*C*	*Moderate risk of bankruptcy*
2009	*B*	*Major risk of bankruptcy*

Especially during the financial crisis, economic agents have so much need of liquidity. Relaxation process of lending by the banking system becomes a necessity. To believe, however, that whatever the results that there are there banks which give loans under stress conditions, would be a mistake. For that, careful monitoring, continuous and perseverance of bankruptcy risk , could ensure liquidity needs and the survival of society in times of crisis.

Keywords: bankruptcy, liquidity, receivable debts , debts, scoring, insolvency.

JEL Classification: M21

INTRODUCTION

Evolution of any business takes place in conditions of technological change. Making technical progress implies a massive infusion of capital, next to management performance.
Risk is the possibility of a loss, of the emergence of disadvantages, of some disturbance or even of destruction of the organization.

Risk of bankruptcy has been watching closely by managers. They are interested in the smooth running of the production cycle, and the investors' interest is in credit recovery. Many researchers and financial institutions were concerned with developing methods for predicting the risk of bankruptcy. The method used is the statistical technique for analyzing the financial characteristics of companies with normal functioning and those with difficulties in economic and financial management. The main problem is, usually, represented by the risk anticipation, and, in case of it's appearance, by minimizing its occurrence and control.

1. BACKRUPTCY SITUATION IN ROMANIA

Our country does not succeed in absorbing European funds, which seem to be the only solution to the existing economic crisis, especially because in the direct foreign investments a half cut was noticed in 2009 compared to 2008 while the state drastically reduced the investments in infrastructure.

Unfortunately, Romania together with Greece did not know how to use this opportunity and it is among the last countries on the list as far as the absorbing of the EU funds is concerned regarding domains such as energy, infrastructure and human resources development. The explanations of the Romanian authorities concerning this aspect would be: the long period of time necessary for evaluation and selection, delays in launching the finance process, insufficiency of the financing sources in some fields and the lack of national strategies in some domains. In full economic crisis, European funds would be a real "gold mine" for the Romanian economy. However, Romania is, as we have already mentioned above, among the last countries to absorb EU funds, and for the last three and a half years it has selected projects which amount only to a percentage of 14% out of the total sum of 19.6 billion euros allocated.

The data presented by the Ministry of Public Finance, included in the balance regarding the absorbing rate of the EU funds, indicate that on March 31, 2010, this rate increased with 3%, the value of the sums received by the funds beneficiaries being of about 3 billion lei.

As a whole, from January 2007 to March 31, 2010, 16,000 projects were presented out of which 7,000 were rejected, over 4,000 were accepted while about 5,000 are still being evaluated.

As far as the effects of the economic crisis on the Romanian companies are concerned, it has become obvious that they have severely been affected by the measures imposed such as: the introduction of the "forfetar" tax, VTA increase, which meant that many firms suspended their activities while some others simply went bankrupt or faced the insolvency process and/or the reorganization procedures. Other effects were: the voluntary closing of the firms, high rate of unemployment, lower standard of living, decrease in supply and demand as well as in consumer market, low people's confidence in the anti-crisis measures proposed and approved by the government and lower economic productivity.

The global economic recession has affected all the Romanian companies, from the biggest to the smallest ones. Even more, the access to the financing which the banks might have offered to the Romanian businesses was blocked by the state. Practically, through the Ministry of Public Finance which borrowed from the private banks almost the entire monetary mass existing on the market in order to be able to pay the pensions and the budgetary salaries, the Government blocked indirectly the national economy.

Thousands of firms throughout the country have waited an exaggerated amount of time for VAT refunds to which they were entitled and which the fisc delayed to make, deadlines being exceeded many months. Instead, for every invoice issued, but not received, state required further requires for firms to pay VAT decapitalizing them and pushing them towards bankruptcy. Establish flat tax to be paid even by companies not registered corporation has determined that in 2009, 120,509 companies to suspend their work.

Therefore, Romania is under the impact of the international financial and economic crisis and we must resist with the weapons we have and to overcome a phenomenon which was triggered not by the less developed countries, but by developed ones. We fully feel the strategies adopted by the government to combat the current economic crisis, which seems to be not at all suitable in the current context, but fight for strategies to attract foreign investors, which means lower taxes and stifling taxes, and easing the financial year, we fight for the promotion of Romanian industry and SMEs supporting, which can create new jobs. This type of strategy can boost the economy, not on short-term methods, to collect money from the budget for urgent debt, while the future is obscure on the lack of long-term strategies, which should provide the country situation on a lighter background.

2.   FINANCIAL FORECAST OF THE MAIN INDICES OF PROFIT AND LOSS ACCOUNT - THE FORECAST OF TURNOVER

Correct prediction of turnover is a significant milestone in the evolution of the company's financial forecast.
- Factors to be considered in estimating sales volumes are:

- The economic crisis which will occur in Romania in the next three years, at least;
- The Romanian economy oriented on consumer is crossing the recession period in which is suffering strong contractions;
- It is expected that after the economic downturn (which will last at least three years), the Romanian economy will turn to the productive sector. Is expected a period of slow growth amid economic on the background of globalization process and economic recovery;
- Policy measures planned by the company for 2010 (including: the initiation and development of a guidelines for electronic commerce; opening new service centers and technical advice to customers – businesses; targeting towards the direct imports of China; Stopping for 2010, of related investments on horizontal development (enlargement) of the business and reduce direct and indirect costs to achieve a rate of return for 2010 of 11.23% and profit recovery of economic activity).

Is very important turnover's value rate to a sustainable growth rate. Predicting growth and performance of turnover superior to sustainable level will generate insufficiency of funds, so the company will rely on funding through loans, amendment of the indebtedness, which will generate increasing costs of higher interest.

Moreover, achieving a turnover below the sustainable level is a waste of available resources, creating an opportunity cost.

3. CASE STUDY

The purpose of this research is to analyze the impact of globalization on economic performance highlighted by financial indicators for SC ARABESQUE SA. The research uses a number of financial indicators to quantify the effects of globalization on economic performance analysis method of input and output quantification. The following information was collected for this:
- General data about the company;
- Financial information taken from the annual financial situations (Balance Sheet, Profit and Loss in the period 2004-2009);
- Conditions to be satisfied by a company to be listed on BSM;

3.1. OVERVIEW OF THE COMPANY

ARABESQUE is a limited liability company with Romanian capital, of 14.005.000 lei. Company's headquarters is located in Galati, Str. Timis No.1, registered at the Trade Register under the no. J17/666/1994, Fiscal Code: RO 5340801.

ARABESQUE Company was founded in 1994 and it's active in the trade with building materials. During these years it won the trust of customers through a mix of its products and services. All effort is focused towards continuing improving of this investment mix.

3.2. MODEL PROPOSAL FOR THE TREATMENT OF BANKRUPTCY RISK

In terms of financial crisis is a greater likelihood that a company should enter into default of paying and to present an increased bankruptcy risk. I propose a model for treatment of bankruptcy risk in three phases:
- Phase I: Finding the status of entry in default;
- Phase II: Evaluation of skills for group of executive managers of the company;
- Phase III: Proposals to restructure the company through division, merger or capital infusion.

Phase I: Finding the status of the default entry

For finding the probable entry of the company's in default, we propose to achieve the following simplified model for determining the risk of bankruptcy:

1. Finding that the company is recorded a loss:
- In the last semester of activity: 5 points

- In the last two semesters of work: 10 points
- In the last three semesters of work: 15 points

Indicator calculation: "***Debt repayment period***" based on the relation, for the last financial year:

$$T_D = \frac{Total\ Debts}{Turnover} \cdot 365 \qquad [1]$$

- If $Td < 60\ days \rightarrow$ 0 points
- If $Td \in [60 - 120]\ days \rightarrow$ 5 points
- If $Td \in [120 - 360]\ days \rightarrow$ 10 points
- If $Td > 360\ days \rightarrow$ 15 points

3. Indicator calculation: „***recovery period of the receivable debts***" based on relation:

$$T_{Rd} = \frac{Re\ ceivableDebts}{Turnover} \cdot 365 \qquad [2]$$

- If $T_{Rd} < 45\ days \rightarrow$ 0 points
- If $T_{Rd} \in [45 - 90]\ days \rightarrow$ 5 points
- If $T_{Rd} \in [90 - 270]\ days \rightarrow$ 10 points
- If $T_{Rd} > 270\ days \rightarrow$ 15 points

4. Indicator calculation: „***degree of indebtedness***" based on relation:

$$DI = \frac{Total\ Debts}{Turnover} \cdot 100 \qquad [3]$$

- If DI $<10\%$ 0 points
- If DI $[10\%, 30\%]$ 5 points
- If DI $(30\%, 50\%]$ 10 points
- If DI $>50\%$ 15 points

5. Indicator calculation: „***patrimonial liquidity***" based on relation:

$$Pl = \frac{Fl - Lo - Swsp}{Dst} \times 100 \qquad [4]$$

Where:

Fl   –   Floating;
Lo   –   Loss in the last financial period;
S_{wsp} –   Stocks without sells possibility;
D_{st} –   Debts on short terms (smaller than a year);

- If $P_l > 160\%$ 0 points
- If P_l $[130\%, 160\%]$ 5 points
- If P_l $[100\%, 130\%)$ 10 points
- If $P_l < 100\%$ 15 points

Interpretation of simplified model for determining the risk of bankruptcy, based on adding the points by proposed score function, is the following:

A Category: Imminent risk of bankruptcy 60p.
B Category: Major risk of bankruptcy   [45 – 60 p.)
C Category: Moderate risk of bankruptcy [30 – 45 p.)
D Category: Low risk of bankruptcy   [15 – 30 p.)
E Category: Without risk of bankruptcy   < 15 p.
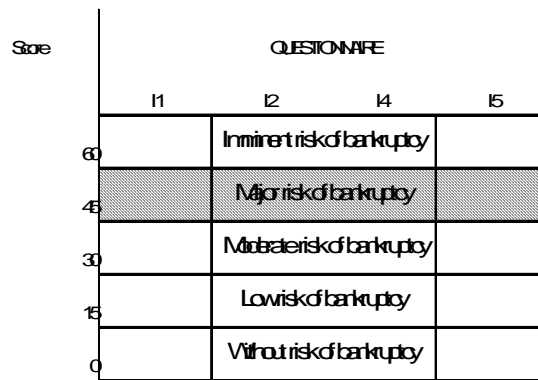
Figure 1. Graphical representation of simplified model for determining the risk of bankruptcy interpretation
Source: Own contribution

Phase II: Evaluation of skills for executive managers of the company group

After finding a likelihood of bankruptcy, we proceed to assess skills for executive managers of the company group, based on computer application TopProfilGrup. Evaluation will be based on technical skills questionnaire. The application will centralize data and will generate a summary report of assessment for each member of the management team and for the whole group. In this report are made also recommendations on what should be changed to reach level V of proficiency (excellence), based on the principles of excellence and professional skills, developed by Jim Collins [1].

Phase III: Proposals to restructure the company through division, merger or capital infusion

In the third phase of the model for handling bankruptcy risk are made specific proposals to restructure the company and management team preparing to promote new principles and competences of professional excellence. These proposals lead eventually, to outsourcing of the activities with loss through division, merger or capital infusion.

Table no. 1. SC ARABESQUE SRL - simplified model for determining the risk of bankruptcy

Nr. Crt.	Year Indicator	2004	2005	2006
1	Number of consecutive semesters in which the society	0	0	0
2	X_1	0	0	0
3	Total debts	147.799.262,00	223.990.476,00	323.099.868,00
4	Turnover	513.626.985,00	734.484.100,00	1.014.508.826,00
5	Recovery period of the debts	105,03	111,31	116,24
6	X_2	5	5	5
7	Receivable debts	55.965.906,00	78.072.977,00	110.858.291,00
8	Turnover	513.626.985,00	734.484.100,00	1.014.508.826,00
9	Recovery period of the receivable debts	39,77	38,80	39,88
10	X_3	0	0	0
11	Total debts	147.799.262,00	223.990.476,00	323.099.868,00
12	Turnover	513.626.985,00	734.484.100,00	1.014.508.826,00
13	Degree of indebtedness	28,78%	30,50%	31,85%
14	X_4	5	10	10
15	Floating	124.738.472,00	164.837.349,00	209.153.636,00
16	Loss in the last financial period	0,00	0,00	0,00
17	Stocks without sells possibility	47.939.054,00	61.051.191,00	69.584.404,00
18	Debts on short terms	55.965.906,00	78.072.977,00	110.858.291,00
19	Patrimonial liquidity	137,23%	132,93%	125,90%
20	X_5	5	5	10
21	Z	15	20	25
22	Interpretation of simplified model	D	D	D

2007	2008	2009
0	1	3
0	5	15
653.003.248,00	757.756.347,00	640.453.931,00
1.362.083.765,00	1.742.169.392,00	1.303.311.899,00
174,99	158,76	179,36
10	10	10
149.446.060,00	160.700.001,00	148.202.268,00
1.362.083.765,00	1.742.169.392,00	1.303.311.899,00
40,05	33,67	41,50
0	0	0
653.003.248,00	757.756.347,00	640.453.931,00
1.362.083.765,00	1.742.169.392,00	1.303.311.899,00
47,94%	43,49%	49,14%
10	10	10
351.042.223,00	346.471.595,00	10.792.641,00
0,00	6.229.671,00	13.050.151,00
152.446.538,00	132.658.702,00	67.878.425,00
149.446.060,00	160.700.001,00	148.202.268,00
132,89%	129,17%	-47,32%
5	10	15
25	35	50
D	C	B
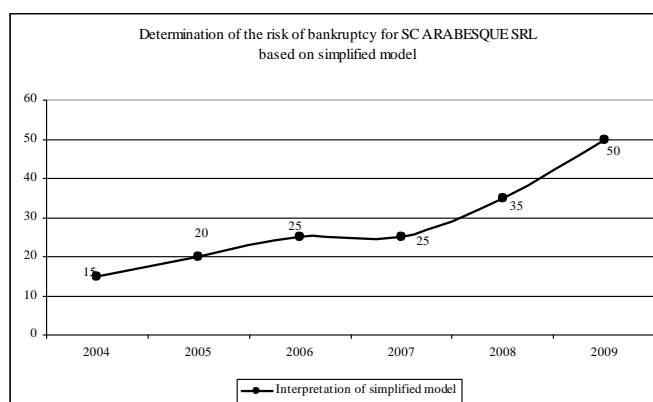
Figure 2. Determination of the risk of bankruptcy for SC ARABESQUE SRL based on simplified model
Source: Own contribution

4. CONCLUSIONS

The financial crisis in Romania has been obvious and, accordingly, it has brought about serious negative consequences such as the external factors generated by the beginning of the financial crisis in Romania in October 2008 and the internal factors for the society which fundamentally influenced the finance reductions in 2009-2010.

In this article we described a model for determining the risk of bankruptcy in which we applied a case study of a big company of building materials distribution on the Romanian market, SC ARABESQUE SRL. For this company it was determine the risk of bankruptcy during the period 2004-2009, and it was proved that the risk of bankruptcy has been increased, even to its maximum, the imminence.

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[1] (Collins, 2007)

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