THE RISK OF FAILURE - CAUSES AND CONSEQUENCES OF THE IT INDUSTRY

Moscviciov Andrei
Faculty of Economics and Business Administration Babeş-Bolyai University, Cluj-Napoca, Romania

In this paper the author shows the ways to asses the bankruptcy risk using a related system of methods: economic, managerial, banking and statistics. At the end of this paper is addressed this issue with the help of Robertson Model.

Keywords: bankruptcy risk, economic risk, financial risk

JEL Classification: G32

1. Introduction

Business activity is subject to risk at any time. In general, it is considered that risk is the probability that an undesired event occurs.
Depending on its market position, economic and financial situation, economic environment, respectively the climate in which it operates, a company can support more difficult or easier the risks is subject to. Basically there is no economic activity in which risk does not interfere at a certain time. But its intensity may be different depending on the field, market trends, image of the country in the global context, etc.

2. Method and Results

Companies are usually subject to the following types of risk: economic, financial and bankruptcy. Financial welfare diagnosis is a means of obtaining accurate and qualitative information about the real possibilities of the company at the beginning stage of the economic crisis. A company with a serious analytical system is able to recognize in time the approaching crisis. With the help of financial analysis can be found vulnerable spots in the company's economy and can be proposed efficient solutions for the company to get out of the difficult situation.
In our opinion, *bankruptcy risk* can be defined as the inability of firms to cope with a financial-banking transaction, namely their inability to reimburse in time the sums borrowed under the conditions agreed with the banks in the credit contracts. The risk of bankruptcy can be the result of difficulties showing up that initially, at the analysis stage and also credit evaluation and approval stage could not be identified, but occurred during the contract. Therefore, the diagnosis process of failure risk is to assess the firm's ability to meet commitments to others, therefore in the assessment of company's solvency.

With the purpose of analyzing risk, experts rely on the financial theory that provides a series of concepts that have enabled the recent opening of the financial analysis of the company. The traditional approach of financial diagnosis, widely inspired by the concerns of bankers, the risk was perceived as a risk of insolvency. From this point of view the customer's financial analysis is divided into several stages: working capital cycle analysis; analysis of performance indicators; analysis of capital structure, indebtedness; liquidity analysis.
In the area of risk in lending, financial analysis was focused mainly on critical assessment of credit records, ran from a banking point of view. Its analytical scheme could be therefore summarized to two basic points:

- companies address to banks or other financial institutions a credit application, in general conditions of excess of demand over supply;
- financial diagnosis should allow the selection of applications, eliminating those with very high probability of non-recovery (i.e. those with high risk) and thus making the adjustment between demand and credit offer.

As in the financial theory is prevalent the concept which defines risk through the variability of results and increasing instability of company's performance, now found worldwide, it can not remain unexplained, financial analysis has widen the risk concept linking it first to the notion of financial flexibility, namely the ability of companies to adapt financially to environmental change. This is because the risk is seen now by the outcome variability, variability that is better controlled by the company as it has a high degree of flexibility.

The analysis (diagnosis) of risk perceived by the company can go along with the company capacity analysis to cope with this risk (i.e. the flexibility analysis), the two analyses are not totally identical; a true analysis of financial flexibility is needed more to a strategic diagnosis than a financial one. Secondly, broadening the concept of risk of financial analysis was done by deepening companies' difficulties study and by the more elaborate analysis of the risk of bankruptcy. Financial diagnosis received these new tools in its efforts, aspect reflected by the use of the notions: "financial leverage effect", "operating leverage effect", "scores" or "ranks". The rank consists in grading or classifying securities, being subject to transactions on a capital market, using a synthetic indicator in the study of results and cash flows that generate problems to the companies and bankruptcy risk analysis.

Even though statistically it was found that the frequency of strictly financial difficulties is limited, financial analysis comes with important contributions in studying and treating the companies' difficulties as all causes of degradation ultimately have a direct impact on performance or financial position.

Traditional contributions of financial analysis to detect "risk businesses" are related to the use of its instruments: balances, rates, flow panels, etc. The multitude of indicators provided by these tools has made necessary the search for global notation (SCOR), allowing taking into account only significant indicators and highlighting the interdependences of different features that they translate. One can thus achieve empirical or statistical risk detection.

Credibility represents the material and moral support, the essential element without which a credit may not be granted. Gaining trust requires knowing the customer which is produced by an activity of analysis and documentation, so that an assessment as close to the real asset and financial situation is done, recognition of manufactured products and services, relationships with partners, professionalism of management. When lending, the bank takes a credit risk, reduced by a careful evaluation of the borrowers, establishing exposure limits and implementing a prudent provisioning policy when there is danger of loss.

Investigation of customer activity in order to know him is pursued and completed by the analysis of creditworthiness, which allows on the one hand reducing the credit risk and on the other hand establishing an image of the client and the uncertainty degree incurred by the bank in order to make the decision to continue the customer's analysis for credit approval.

The risk of the requested loan default is generated by:
- borrower's inability to generate adequate cash flows as a result of adverse events in business activity due to economic and political environment;
- uncertainty about future value and quality, the liquidity degree and the market value of debtor's collateral materials;
- borrower's business deterioration.

For this, through the financial analysis the bank seeks to identify and quantify the risk of client's performance, liquidity risk and the risk of capital structure and financing.
Customer creditworthiness is ascertained using the indicators that define it and express his ability to pay his obligations about to assume by signing the credit agreement.
Bankruptcy risk analysis can be achieved using some methods, which in terms of the form of the link between phenomenon (the company's solvency) and its influence factors can be grouped in my opinion into four categories (Fig. no.1) (management methods, economic methods, statistical methods and banking methods), which will be discussed below.

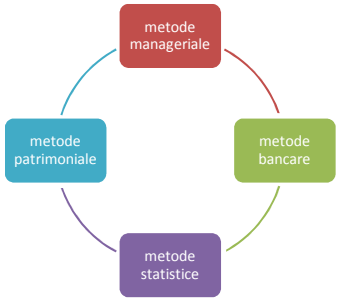

Figure no.1 Methods of analyzing the bankruptcy risk

Professor Robertson identified four elements that produce changes in the firm's financial health, namely: market stability, lower profits, lower working capital, and loan growth. Professor Robertson scoring function is as follows:

$$Z = 3{,}0\,X1 + 3{,}0\,X2 + 0{,}6\,X3 + 0{,}3\,X4 + 0{,}3\,X5$$

in which:

$$X1 = \frac{(Turnover - TotalAssets)}{Turnover}$$

$$X2 = \frac{Gross\,\mathrm{Re}\,sult.of\,.the.Financial.Exercise}{Total.Assets}$$

$$X3 = \frac{Current.Assets - Total.Liabilities}{Total.Liabilities}$$

$$X4 = \frac{Equity - Loans}{Total.Liabilities}$$

$$X5 = \frac{Liquid\ assets - Overdraft}{Loans}$$

Z function aims to the changes that occur in the firm's financial situation from one period to another. If the Z score depreciates by 40% or more than 40% in one year, automatically the analysis should identify the causes of Z score reduction. If the score is 40% or over 40% in two consecutive years, then the company cannot survive because of its financial instability.
An alternative to the scoring method, practiced in particular by banks is "normative comparison", the creditworthiness of traders who use credit, which is shown below (Stănescu, Işfănescu and Băicuşi 1996: 250).

Table no. 1 Robertson Model applied to Romanian IT companies

Lei

	Romania		Accomplished 31.12.2005	Accomplished 31.12.2006	Accomplished 31.12.2007	Accomplished 31.12.2008	Accomplished 31.12.2009
	Turnover-total assets		- 7 624 111	- 5 047 945	- 12 558 790	21 689 617	- 13 663 574
	Turnover		140 229 348	132 240 400	108 031 499	157 175 823	115 939 144
1)	**X1**		-0.05	-0.04	-0.12	0.14	-0.12
	X1 Variable	3	-0.87	-0.61	-1.86	2.21	-1.89
	Gross Result of the Financial Exercise		28 726 444	55 740 758	60 162 886	62 475 813	58 384 878
	Total Assets		147 853 459	137 288 345	120 590 289	135 486 206	129 602 718
2)	**X2**		0.19	0.41	0.50	0.46	0.45
	X2 Variable	3	0.57	1.23	1.50	1.38	1.35
	Current Assets-Total Liabilities		3 546 223	- 2 432 872	- 1 242 828	11 662 140	8 257 559
	Total Liabilities		140 229 348	132 240 400	108 031 499	157 175 823	115 939 144
3)	**X3**		0.03	-0.02	-0.01	0.07	0.07
	X3 Variable	0.6	0.02	-0.01	-0.01	0.04	0.04
	Equity-Loans		65 201 453	59 890 440	65 303 125	77 807 369	82 598 422
	Total Liabilities		140 229 348	132 240 400	108 031 499	157 175 823	115 939 144
4)	**X4**		0.46	0.45	0.60	0.50	0.71
	X4 Variable	0,3	0.14	0.14	0.18	0.15	0.21
	Liquid Assets –Bank Overdraft		63 040 644	56 389 075	39 236 476	45 743 659	40 783 983
	Loans		4 959 388	2 858 135	2 063 490	2 571 055	2 879 304
5)	**X5**		12.71	19.73	19.01	17.79	14.16
	X5 Variable	0,3	3.81	5.92	5.70	5.34	4.25
	"Z" SCORE VALUE		3.67	6.66	5.52	9.12	3.97
				182%	**83%**	**165%**	**44%**

Source: Author's calculation.

The data analysis shows that except for 2009, IT companies in Romania have not had financial problems.

3. Causes of Bankruptcy

The causes generating difficulty for the company have different origins. From statistical studies done over longer periods of time was found that about 51% of the causes generating bankruptcy are those from socio-economic and competitive environment in which the company works:

- increasing national and international competition;
- emergence of substitute products;
- loss of a major customer or his bankruptcy;
- bankruptcy of an important supplier that provides certain materials, parts, components essential for the continuation of the company's work;
- bankruptcy of a bank with which the company had prevailed relationships;
- the emergence of more stringent regulations on safety line and environmental protection;
- continuous drop in the stock market quotation for listed companies.

In another order of ideas one should also consider domestic nature causes which led to at least half of the bankruptcies according to statistics. These causes are overwhelmingly related to poor management:

- stock and customer rotation lower than the rules of the sector;
- the practice of lower margin than similar businesses;
- repeated losses from operations;

- inability of credit renewal.

An attempt to systematize the many causes generating difficulty states or even bankruptcy may take into account the following grouping criteria:

a. Causes related to the reduction of activity:

- the downward trend in demand for products made by the company;
- loss of key customers;
- declining competitiveness of the company's products;
- low degree of renewal of products, respectively adapting to needs;
- conjectural decrease in demand;
- enhanced national and international competition;
- bankruptcy of major suppliers.

b. Cases related to reducing margins and profitability:

- inadequate strategic decisions;
- selling price rigidity;
- too high staff costs;
- the existence of fixed assets technically obsolete;
- the large share of financial charges;
- unexpected increases in raw material prices.

c. Specific cases related to company's treasury:

- difficulties in getting loans to finance;
- long term stock rotation;
- term extension of clients' credit;
- term reduction of supplier's loan

d. Specific causes to the management system:

- managers' inadequate training and inability to adapt to new market conditions;
- misunderstandings between members of management;
- poor analytical accounting and failing to recognize the full cost;
- lack of substitutes for current leaders;
- excessive compensation of managers.

e. Accidental causes:

- misappropriation of funds;
- natural disasters;
- internal social problems.

From the above mentioned factors, it can be concluded that among the causes of bankruptcy the following prevail:

- *poor management*, which seems to be the basis of over 50% of all bankruptcies. Key management errors are: bad financial advice, lack of communication with employees, loss of control over costs, inadequate marketing policies, production overcapacity etc.
- *internal problems*: unskilled labor, loss of important projects, image degradation, fraud, waste above the maximum allowed level;
- *external factors*: competition, company's life cycle; it is known that all products, services and even companies have a limited life; economic recession, disasters etc.

4. Conclusions

Bankruptcy risk and investor presents interest both to an investor and to a company's manager. Many researchers and financial institutions were and are concerned with developing *a method for predicting the risk of bankruptcy* starting from a group of rates closely related with companies' health or weakness. This is why many researchers found that measuring bankruptcy risk can be established through an empirical function which allows estimating the probability for a company to record losses and therefore be unable to honor its obligations to customers and to the banks which provided loans.

The main hypothesis of the classical fundamental analysis is to continue the company's future activity. When this probability to continue the activity falls significantly, investors are interested in estimating it in order to mitigate potential losses.

It seems absurd considering the bankruptcy of companies listed on the stock market, as it's generally known that the stringent criteria for admission to be listed on the stock market, regarding certain high levels of profitability and capitalization over the last 2-3 years, allow listing on the capital market only to very competitive and with a strong financial position companies.

But famous cases of sudden bankruptcy of companies listed on international capital markets is no longer news to investors. Thus, rapid degradation of financial performance, coupled with managers' talent to "cover up" the actual results of listed companies, have imposed the need to elaborate some models of quick prediction of their success or failure.

5. References

- Articles in journals:

1.Beaver, W.H., „Financial Ratios and Predictors of Failure, Empirical Research of Accounting: Selected Studies". *Suppliment to Journal of Accounting Research*, No.4(1988).

2.Brown, Lawrence. D., Pinello, Arianna S. „To What Extent Does the Financial Reporting Process Curb Earnings Surprise Games?". *Journal of Accounting Research* 5(2007).

3.Carslaw, Charles A., Mills, John R. „Developing Ratios for Effective Cash Flow Statement Analysis". *Journal of Accountancy* (1991).

4.Crane, Matthew, Dyson, Robert A. „Risks in Applying the New Business Combination Guidance to Intangible Assets". *CPA Journal* 79(2009).

5.Davis, Michael, Largay, James A. III. „Consolidated Financial Statements", *CPA Journal* 78(2008).

6.Epstein, Barry J., Jermakowicz, Eva K. „IFRS Converges to US GAAP on Segment Reporting". *Journal of Accountancy* 207(2009): 50.

7.Epstein, Barry J. „The Economic Effects of IFRS Adoption". *CPA Journal* 79(2009).