THE RISK OF CORPORATE BANKRUPTCY – THE CONCEPTUAL MODEL

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Abstract - This article concerns the assessment of different types of risks influencing the corporate bankruptcy risk. The author has developed conceptual model that explains the causes and the trajectories of the collapse of enterprises. In the analyses such factors as demographic, financial, market, political and operational factors influencing the risk of failure were taken into account.

Index Terms - Bankruptcy, forecasting, risk, causes of crisis.

I. INTRODUCTION

In an increasingly competitive global economy, all threats and all opportunities for business are changing fast. In connection with the permanent (structural) increase in the number of bankruptcies throughout the world (Saunders, 2001) - resulting from the intensification of the global competition - a precise analysis of the risk of business failure has become even more important today than it was in the past. Companies today operate in an extremely dynamic environment, characterized by enormous complexity and uncertainty of phenomena. It is worth noting that less than half the businesses operate for more than four years. Therefore, the key issue in today's business environment is to establish areas of risk, current control of economic and financial situation and effective prediction of the risk of bankruptcy, in order to be able to respond in advance. Each company should monitor the various risks that affect its economic situation on an ongoing basis. The collapse of enterprise on a micro-scale has several negative economic and social consequences. The bankruptcy of a company makes creditors of the bankrupt company suffer losses in the form of uncollected receivables. The bankruptcy of a company also affects its collaborators losing customers or suppliers. Therefore, the company - even if it has had success in the market and is not directly exposed to the risk of bankruptcy - should constantly monitor the changing environment, which has an impact on its financial position in order to be able to counteract early crisis-producing factors.

That is why the objective of presented research in this paper is to assess and to define the various risks that affect the risk of bankruptcies. The article consists of four sections. In the introduction, the author presents the justification for the topic and the objective of the research. In the second section brief characteristics of risk definitions is given. The author then presents the different types of business risks and corporate bankruptcy risk. In the last section the conceptual model of corporate bankruptcy is proposed and detailed conclusions are presented.

II. BRIEF CHARACTERISTICS OF RISK OF CORPORATE BANKRUPTCY

Bankruptcy risk cannot be completely eliminated. Generally one can say that it is inherent in making economic decisions. The etymology of the word "risk" has not yet been clearly elucidated. In Persian, "rozi(k)" means a lot, the daily payment, but also bread. In Arabic, "risq" means fate, divine retribution. The Spanish “ar-rico "is bravery and danger, the English "risk"- a situation that causes danger or the possibility that something bad will happen. The Greek "riza" like the Italian “ris(i)co” means the reef which the ship should avoid, and therefore a danger that it should avoid (Kaczmarek, 2003). Most often, however, it is given that the word "risk" comes from the Latin "risicum" - meaning a chance, likelihood of occurrence of positive or negative event, success or failure (Nahotko, 1997). Risk is a very broad and interdisciplinary term. Therefore, it should be noted that the author's intention is not to discuss approaches to risk in different depths of the economy, but to focus on risks from the viewpoint of assessment of risk of corporate bankruptcy.

Fig. 1 Types of business risks

Due to the fact that risk comes in many different fields and disciplines, the literature contains many different

definitions and classifications of risk, depending on the adopted criterion. The most appropriate definition of risk in terms of purpose and subject of this paper is the definition by E. Stibi, according to which risk is the danger of erroneous decisions, which may result in a loss or just a risk of loss (Rogowski & Grzywacz, 1999).

To achieve the purposes of research, the author adopted a classification of risk based on the criterion of factors influencing the risk. Based on this criterion, the risk is divided into systematic (external) and specific (internal). W. DiPietro and B. Sawhney believed that the rate of business insolvencies in the economy is affected jointly by these two types of risk (DiPietro & Sawhney, 1977). Figure 1 shows them with division into areas affecting them.

Systematic risk relates to the general public and the economy, so it cannot be controlled even in part by any company. The level of this risk can only be influenced by parliament, government or central bank. It is important for the prediction and prevention of company bankruptcy that this type of risk cannot be eliminated by the company by constructing a diversified portfolio of investments (Dziawgo, 1997). The sources of systematic risk can be, for example: changes in interest rates, inflation, tax regulations.

Diversified portfolio of investments may however reduce the risk associated with the industry factors. Industry risk is presented in Figure 1 as specific risk, but belonging to the category of exogenous factors, which are outside company's control. According to G. Hall by diversifying investments, companies do not seek to increase profits, but to limit their fluctuations, and thus to reduce the industry risk (Hall, 1992).

Specific risk associated with future events, which can be partially controlled or predicted (Dziawgo, 1997). Thus, it is associated with the decisions of the company. The causes of specific risk may be, for example: competition, availability of raw materials, company liquidity, level of financial and operating leverage, company management.

It seems that a natural indicator characterizing the risk of failure is the risk of bankruptcy of the company. Profit from the economic activity always involves risk. The relationship between risk and profit is the key issue of strategic management and is extensively analyzed in the literature (Miller & Leibein, 1996). In considering the risks in connection with the rate of return it can be concluded that higher interest-bearing securities must have a higher risk or lower liquidity. This follows from the following equation (Jajuga & Jajuga, 1998):

$r = r_r + r_i + r_{lp} + r_{rp}$

where:

r - rate of return (interest rate)

r_r - real interest rate

r_i – rate of inflation

r_{lp} - liquidity bonus based on the fact that lenders prefer more liquid short-term instruments, and borrowers - the non-refinancing long-term instruments.

r_{rp} - the risk bonus, or extra compensation for bearing the risk by the investor in the form of excess over return from risk-free investment.

In literature, one can also find different opinions, namely that there is a negative correlation between risk and profit (Wiseman & Bromiley, 1991). On the other hand, R. Wiseman and A. Catanach argue in their study that risk has multidimensional dimension, and therefore the risk to earnings ratio varies depending on factors taken into account (Wiseman & Catanach, 1997).

Considering the risk of bankruptcy, one should ask whether it is positively or negatively correlated with business profits. I. Dichev using two models for predicting bankruptcy of companies - E. Altman and J. Ohlson - examined the relationship of risk to profit in the population of U.S. listed companies. Based on the results he found that companies with a high risk of bankruptcy are not characterized by higher profits than the "healthy" ones (Cebenoyan & Strahan, 2004). On the other hand, study by D. Davies in Britain showed that 75-80% of bankrupt companies did not quote any loss. It follows that risk of bankruptcy does not directly affect the level of profitability.

To be able to effectively predict the threat of bankruptcy of a company as long in advance as possible, one should split the systematic and specific risk into individual types of risks affecting corporate bankruptcy. Figure 2 shows the proposal of author of this paper for comprehensive approach to such factors. According to the assumptions of this figure, risk of bankruptcy is affected by market risk, operational risk and risk of events. Of course, every business is susceptible to varying degrees to individual risk, depending on age, size, or industry in which it operates.

Market risk is the risk of incurring losses as a result of changes in the company's assets. An important feature of this is that it cannot be fully eliminated, because it connects with the specific economic situation, which is constantly changing. The first factor of market risk to be borne by the company is financial risk. Financial risk is related to making financial decisions about how to finance one's business. This risk is determined by the type and structure of the various sources of financing. Increased amount of debt in the form of loans or credits increases the financial costs incurred by the company. According to H. Stando, relatively small debt ratio only slightly affects the probability of

bankruptcy, but above a certain threshold of debt, the risk is significantly increased (Stando, 2001).

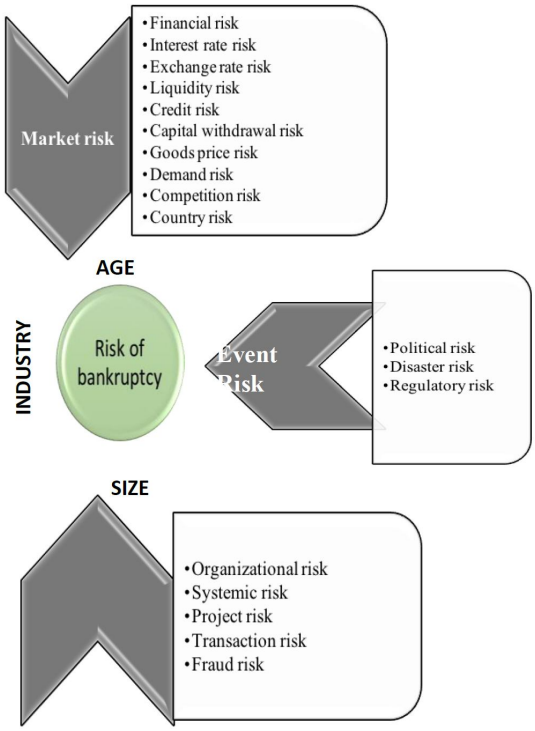

Fig. 2. Risk of corporate bankruptcy

Another factor influencing the market risk is foreign exchange risk. The globalization process taking place in the global economy encourages the development of trade and financial flows. Despite the opportunities, which this development poses to enterprises, it also poses a threat of currency risk. Changes in exchange rates may lead not only to increased volatility of company earnings, but also can have a significant impact on the bankruptcy. The exchange rate is particularly important for companies exporting their products or importing materials for production. Too strong home currency has a negative impact on export volume, making the company products too expensive abroad. On the other hand low value of the home currency has a negative impact on importers, making imports too expensive and unprofitable. In addition, a frequent source of foreign exchange risk, even for companies not exporting or importing, is to have loans denominated in foreign currencies. The role of exchange rate in the development of bankruptcy risk was described by W. Goudi and G. Meeks (1991) and G. Vlieghe (2001).

Another component of market risk is liquidity risk. The company's liquidity, defined as the ability of paying its current liabilities is considered to be the most sensitive barometer of the company's financial position. While long-term development of the company is primarily and directly dependent on changes in fixed assets, the current operation depends on the structure of current assets and sources of financing. Liquidity strategy in terms of income-risk is based on the assumption that each company has to realize in practice two mutually exclusive goals (Wedzki, 1999). On the one hand, it should strive to maintain an adequate level of liquidity, on the other hand, to make a profit. It should be borne in mind that high liquidity requires a greater state of these assets which, remaining in their form, are not profitable. Providing liquidity also enforces the use of safer, but more expensive sources of financing.

According to the assumptions presented in Figure 2, credit risk is another factor included in the market risk which affects bankruptcy of enterprises. In the literature, credit risk is considered mainly from the viewpoint of banks granting loans to companies. In practice, this risk also applies to companies providing trade credits to their partners. This risk is often defined as the probability of failure by the contractor to fulfill one or more contracts due to inability to meet financial obligations. Taking into account conclusions of the research by B. Wilner (2000) on preferences of companies threatened with bankruptcy to enter into trade credits rather than bank loans, a company granting credits to their contractors should monitor the level of bankruptcy risk of their borrowers. No such monitoring may result in a situation in which "healthy" business as a result of problems with obtaining its receivables from bankrupt companies, will face the risk of bankruptcy itself. G. Weinrich distinguished the following factors causing credit risk (Rogowski & Krysiak, 1997):

- risk of loss or solvency - stems from uncertainty about the future business development and includes the risk that repayment of the loan resulting from credit agreement is not settled in full,
- security risk - risk which involves risk of security itself adopted in order to reduce this risk,
- interest rate risk - the risk that during the repayment term spread between the market rate and the interest rate agreed for the loan will be reduced, or even market percentage will rise above the agreed interest rate,
- money value risk - risk that the real value of returned credit will be reduced by inflation,
- currency risk - lies in the fact that value of the loan repaid will decrease due to changes in exchange rates (for foreign currency loans),
- liquidity risk - associated with hazard of untimely repayment - the lack of matching of maturities of assets and liabilities.

As part of market risk, which affects the bankruptcy of companies, Figure 2 further highlights the price risk and risk of decrease in demand. Both the decline in

prices of products offered by the company and/or decrease in demand for these products, as well as price increases of intermediates/raw materials purchased by the company obviously affects the deterioration of the economic and financial situation of the company. The deterioration of the economy, the recession, or various types of shocks in a country affect these two variables. In Figure 2, however, these risks have been placed separately, due to the fact that the price risk and the risk of a decline in demand may increase regardless of country risk - this may be due to the specificity of a particular industry, the products offered by the company.

The second group of risks affecting the risk of bankruptcy is the risk of events (Figure 2). In contrast to market risk, on which the company may have a limited effect, the risk of events is beyond its control. The composition of this risk includes: political risk, catastrophe risk and regulatory risk. For businesses, regulatory risk is important. New laws, regulations, court decisions may cause existing transactions/activities to become unprofitable, or even illegal. Also change in bankruptcy law may affect the change in number of bankruptcies in the economy.

The third group of risk - operational risk (Figure 2), may be fully influenced by a company. In this group of risk, the author distinguished the following variables: organizational, system, project, transaction, fraud risk. Operational risk is the risk of losses due to poor management, inadequate controls, inefficient systems, etc. Bad management is undoubtedly the direct cause of the failures of many companies. Errors in management of the company, leading to its bankruptcy, are due to lack of sufficient knowledge and ability to properly manage, inappropriate attitudes of leadership, poor management of human resources and poor control of production processes. Errors in operating companies can lead to a decrease in the level of customer satisfaction, decrease in brand value and surplus stocks (Linsley & Shrives, 2006).

III. CONCEPTUAL MODEL OF CORPORATE BANKRUPTCY

The conceptual model of company bankruptcy proposed by the author (Figure 3) consists of many factors-cells that have an impact on the course, duration and type of bankruptcy. At the beginning of the model barriers are presented (demand, financial and management area). To a large extent, these barriers are formed by the proximal and distal environment of a company (e.g. restrictive financial policy of the central bank will limit the favorable sources of finance for companies, which can cause a drop in demand for the products offered by the company). Setting of an enterprise also has an impact on the company itself - both its resources and demographic characteristics of the company (age, size, "organizational culture", and flexibility). The unfavorable external conditions will limit the size of companies (even due to limited sources of financing, demand for products of the company). Hence, one can conclude that the cell of "company resources" is directly affected by: the barriers, proximal environment (indirectly, distal environment) and the characteristics of firms such as type of industry. The kind of resources the company has at its disposal defines the options of a given operator and affects its strategy. The resources of the company include:

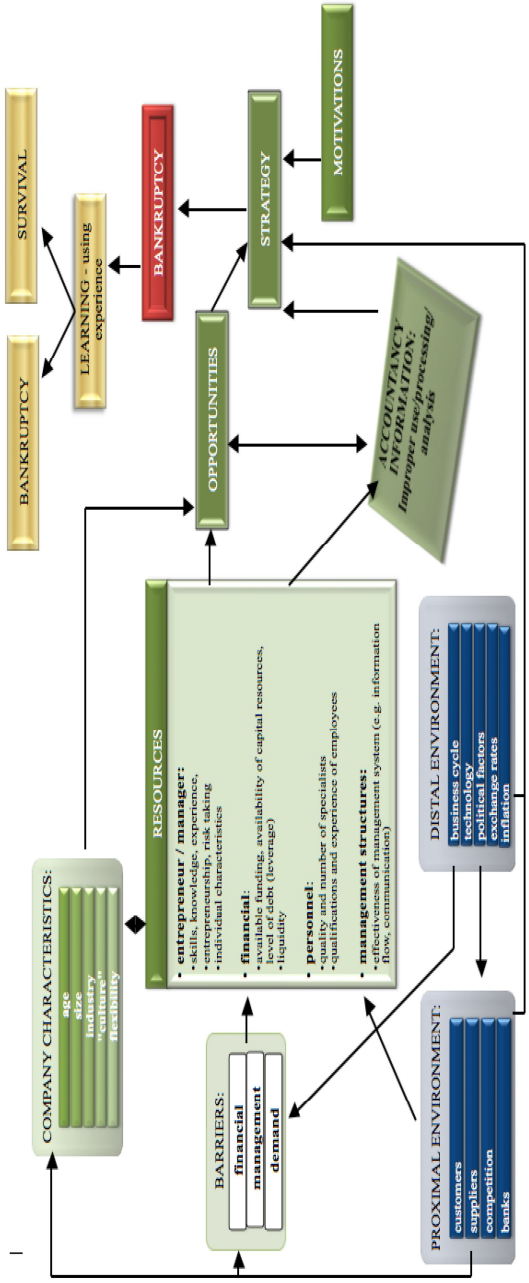

Fig. 3. Conceptual model of corporate bankruptcy

- characteristics of entrepreneur/manager, such as: skills, knowledge, experience, entrepreneurship,

willingness to take risks, individual characteristics;

- financial factors - availability of capital, financing, liquidity, leverage, etc.;
- personal factors, for example, qualifications and experience of employees, number of specialists;
- management system, technology.

Company's options are affected not only by its resources, but also demographics of a given enterprise, such as age or size.

An important element of the proposed model is the inclusion of processing, use of accounting and economic information. The 21st century is characterized by numerous cases of so-called "creative accounting" in enterprises. Techniques of "beautification" of the information used by management to have their reports look better, to pervert the true state of the company by manipulating the numerical values associated with inventory management, depreciation, rental property or lease, have disastrous consequences for those companies. An example of such falsification of a real image of company's financial situation is the fall of the U.S. company Enron or WorldCom. Correct processing of information not only aims at eliminating the practice of "creative accounting", but above all skillful use and analysis of information available to the company. Currently, the complexity of the phenomena occurring around and in business increases. Their uncertainty and volatility increase. This causes the increased reliance of quality of man-made decisions on the quality of the information they possess. This quality can be improved if appropriate methods of original information processing at the company's disposal are applied. This applies especially to the phenomena of economic organization where effective management depends primarily on the proper processing of information as a basis of decision making. Hence the enormous role of the methods of forecasting the company's financial situation to help efficiently process the information held by the company. Poorly processed information adversely affects estimation capabilities of the company, as well as developing and implementing strategies.

Company strategy is also influenced by motivations of the owner or manager. Motivation, guiding the owner when founding the company and subsequent motivations that affect current operations.

Inadequate resources of the company, adversely affecting the environment, barriers, limited company options or poorly estimated capacity (overestimated), inadequate analysis of available information - it all adversely affects to company's strategy and, consequently leads to its bankruptcy.

Taking into account the fact that after bankruptcy of an enterprise, managers find other jobs in other companies, an important question is whether they have learned lessons from their mistakes. Also, in case of owners of failed companies, it is important to draw correct conclusions, so that they do not commit similar errors in the future. The more so because as shown by D. Stokes and R. Blackburn (2002), many people decide to start another business. For this reason, the author of this paper in the model emphasized the element of "learning" and "survival" or a second bankruptcy.

CONCLUSION

The economic literature distinguishes a number of models for growth/development of companies. On the other hand, there is lack of theoretical models describing the factors affecting corporate bankruptcy, placing an economic entity in a dynamic environment. A model, which would present a diagram answering the question why enterprises establishing the objective of achieving growth/development collapse. Presented research of the author of this paper tried to describe the phenomenon of bankruptcy of companies in the form of a simple conceptual model (Figure 3) by adopting Porter's five forces model, Wiklund's growth model and on the basis of analysis of the causes of bankruptcy. In summing up, one may find that bankruptcy of companies is a dynamic system, covering many endogenous factors (e.g. age and size of company, type of industry, profitability, level of indebtedness, skills of managers, the level of entrepreneurship, knowledge, competence, etc.) and exogenous factors, distinguishing proximal and distal environment of economic entities (e.g. business cycle, bankruptcy law, availability of capital, suppliers, customers, inflation rate, technology, level of collaboration of companies-networks, barriers to growth/development, etc.).

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