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From Crisis to Success

INTRODUCTION

The competitive environment was always the catalyst for the market, where the companies with the best ideas, innovative and relentless in finding new spaces have been able to survive and grow. After the change of the social establishment in 1990 thousands of legal companies were established within the territory of the Slovak Republic. Many of them were successful and have survived until the present days. A large number of them, however, disappeared and made space for new com-panies. As there is no single factor of success we cannot even generalize about the causes, for which many businesses have ceased their activities. Not every business can be attributed to the account at the end of the global economic crisis. The firm's crisis represents the unfavourable situation for a long time, a negative deviation from the normal state, which is ignored or tolerated by the management of the company until the time when it is no longer possible to change. However, if there is a possibility to predict adverse developments in the enterprise, to reveal the impending decline and then remove the deficiencies, it is necessary to make use of the prediction model and protect the value represented by the pros-perous business for society as a whole. This article will present some of the selected prediction models for the detection of adverse financial development of the company.

CRISIS OF AN ENTERPRISE AND ITS IMPACT ON OTHER ENTITIES

The crisis of a firm represents the unfavourable situation for a long time. It can be described as a negative deviation from the normal state, which is ignored or tolerated by the company. The problems, worsen the image of the company and

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subsequently influence the relationships with business partners, banks, other organizations and the public. If this situation is not addressed, it becomes a threat to the society. As a result of serious crises there are then suggestions for audits, and attempts to restructure the companies. The courts of the Slovak Republic annually receive hundreds of new applications for declaration of bankruptcy as well as announcements of audits and restructuring. According the statistics of the county courts about bankruptcythere was (fig. 1) the growing trend of auditioning for a property of legal companies which peaked in 2011, then fell slightly in 2012 and again has continued to increase The same results of the analysis of the banking and non-banking register in Slovakia by Crif-Slovak Credit-Bureau company – From crisis to success [CRIF, 2014] confirmed this situ-ation. In the last year, the rise in numbers of bankruptcy of legal entities continued, according to the data of the given company and ended up in bankruptcy 365 legal companies in 2013. A growing trend has been recorded also in restructuring operations. The negative trend continued in 2014 with increases of bankruptcies declared on the property of legal entities and natural persons – freelancers. Many firms in the field of wholesale and retail trade went bankrupt, followed by the companies engaged in the repair of motor vehicles and motorcycles. A large number of candidates has been in the industry and in the construction industry.
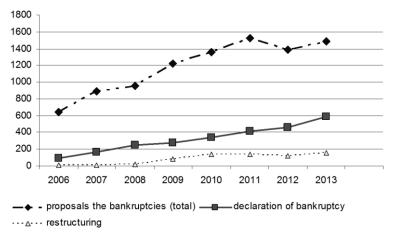

Figure 1. Overview of bankruptcy agenda in the district courts

Source: own research under Ministry of Justice of the Slovak Republic, bankruptcy proceedings in the courts, http://www.justice.gov.sk/Dokumenty/Konkurzy.

Any unplanned end means large financial losses to the company itself, its business partners and job losses and is associated with the rise in unemployment in the region. Other most often affected institutions are banks and their losses resulting from defaults (fig. 2). In the Slovak Republic an increase in non-perform-

ing loans of legal entities took place in the context of the financial crisis. Banks have reacted to losses by setting premiums on interest rates. Consequently this leads to price rises for other sources of potential credit and it influences the quality of the business environment.
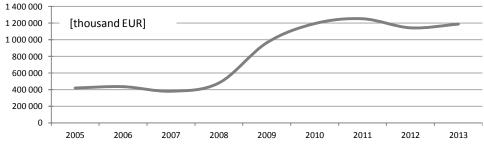

Figure 2. Non performing loans to non-financial corporation

Source: own research under NBS http://www.nbs.sk/sk/statisticke-udaje/menova-a-bankova-statisti ka/statisticke-udaje-penaznych-financnych-institucii/uvery

Table 1. Risk-Return Performance of Defaulted Bonds and Bank Loans

Year	Altman-NYU Salomon Center Defaulted Bank Loan Index [%]	S&P 500 Index [%]	Citigroup High Yield Bond Market Index [%]
1996	19,56	22,96	11,29
1997	1,75	34,36	13,18
1998	-10,22	28,58	3,60
1999	0,65	20,98	1,74
2000	-6,59	-9,11	-5,68
2001	13,94	-11,87	5,44
2002	3,03	-22,08	-1,53
2003	27,48	28,70	30,62
2004	11,70	10,88	10,79
1996–2004			
Arithm.Average (Annual) Rate	6,81	11,49	7,72
Stand.Deviation	12,31	20,71	10,60
1996–2004			
Comp.Average (Annual) Rate	6,19	9,64	7,28
1996–2004			
Arithm. Average (Monthly) Rate	0,56	0,88	0,62
Stand.Deviation	2,76	4,69	2,36
1996–2004			
Comp.Average (Monthly) Rate	0,53	0,71	0,56

Source: [Altman, Hotchkiss, 2006].

Altman in describing table 1 states that: "The annual return for the Combined Index was up 15, 14 percent for 2004. The cumulative index level closed at 166.3 for the year, up from 144.4 at yearend 2003 (December 1995 %100). [Altman, 2006, p. 209] The Combined Index enables us to benchmark performance criteria for a more broadly defined defaulted securities market. At the end of 2004, the market values of the bond versus bank loan indexes were very close to each other at $16.9 billion for bonds and $18. 2 billion for loans".

Although the company will experience less severe crisis in long-term it leads to the threat of a fundamental objective of the company [Smejkal, Rais, 2013, p. 31]. The current crisis is associated with the insolvency of an undertaking, it is therefore necessary to manage cash flow. If an enterprise has problems with cash flow, it is only a consequence of deficiencies [Zuzák, Königová, 2009, p. 132] in areas other than financial, which have occurred in the past and have not been adequately or successfully resolved.

CRISIS AND PREDICTIVE MODELS

The financial situation is one of a number of factors, which points to a negative trend. The financial condition of enterprises can be assessed through the implementation of the financial analysis that helps reveal the reserves and avert a negative development in the management of the enterprise. From the perspective of the time, financial analysis can be seen as a retrospective (ex post) and prospective (ex ante). In the analysis of the ex post, the causes of the financial situation are construed based on horizontal and vertical analysis of financial statements – balance sheet, income statement and statement of cash flows. It is then deepened through analysis using a set of financial indicators rate. It is possible to overcome the limitation of the ex post analysis by further extension of the current situation via the use of financial analysis ex ante. The basis of the forecasts is the current status of the level and development of indicators that is projected into the future by using appropriate methods. The accuracy of this forecast differs according to the distance of the present from the targeted future. Early efforts to identify the causes of instability and prevent their nascent stage led to the creation of special methods for acute financial analysis, which we call „the early warning systems" [Baran et al, 2008].

Bankruptcy models suggest the financial situation of the company, they arise from the real data of companies that went bankrupt. Using the formulas it is possible to point out whether the enterprise will prosper, or go in to bankruptcy. They have an indicative character and are not a substitute for a complete financial analysis. Since the middle of the 20th century, many world financial analysts, have been looking for ways to reveal negative trends of the enterprise by the rate of financial indicators. Among the first, were the works of W.H. Beavera or R.A.

Fishera. Later, others were added. Known for years are the bankruptcy models of E.I. Altman for companies whose shares are traded also for businesses without trading in the markets. The same is true for Taffler's bankruptcy models and many others. In the Czech Republic, the works of Neumaiers, who were trying to find their own prediction model. In 1995, there was the first model called IN95, which contained six financial ratios [Sušický, 2014].

The last of the indicators: liabilities overdue/total returns points to the insolvency of enterprises. So at any given time it reflected a weak spot in the economy. Indicators have been developed on the basis of financial statements and not on market values. For a little liquid capital market it was an advantage. The weight of indicators for specific sectors of the economy were formed and the verification of the index was on thousands of Czech enterprises. Then the creation of additional indexes followed: IN99, IN01 and IN05. At present, a new INFRA system [Neumaierová, Neumaier, 2014, p. 35–41] – a tool that allows you to combine indicators of financial control and risk management is being introduced. It was applied to the industrial enterprises in the Czech Republic in the years 2011–2012.

The next option for the prediction of the impending bankruptcy is the balance sheet analysis system created by Czech financial analyst Rudolph Douchy in the 1990s [Kočišová, Kubala]. The easiest option is the balance sheet analysis I. It is suitable for fast evaluation of a company and uses the four indicators such as stability, liquidity, profitability and activity of a firm. Balance sheet analysis (II), which was created at a later time uses 17 indicators. Four summary indicators of stability (S) activity (A), liquidity (L) and profitability (R) are the weighted average of the partial indicators belonging to one group and one indicator is the total (C). The variable (S) is the weighted average of indicators S1 to S5, the stability of each of these parameters is assigned a weight according to the extent of the impact on the overall stability of the enterprise:

$$S = \frac{2 \cdot S_1 + S_2 + S_3 + S_4 + 2 \cdot S_5}{7} \tag{1}$$

$$S_1 = \frac{equity}{fixed\,assets} \qquad S_4 = \frac{total\,assets}{5 \cdot short\text{-}term\,borrowings}$$

$$S_2 = \frac{2 \cdot equity}{total\,assets} \qquad S_5 = \frac{total\,assets}{15 \cdot stocks}$$

$$S_3 = \frac{equity}{borrowings}$$

In all indicators the best resulting value is equal to the number 1 or number close to it. According to the model of the balance-sheet analysis II a variable L liquidity is the weighted average of incremental causal indicators of company's liquidity. These are incorporated into the equation of the total liquidity with coefficients that reflect the weight of their influence:

$$L = \frac{5L_1 + 8L_2 + 3L_3 + L_4}{16} \tag{2}$$

$$L_1 = \frac{2 \cdot financial\ assets}{short\text{-}term\ borrowings}$$

$$L_2 = \frac{financial\ assets + accounts\ payable}{2,17 \cdot short\text{-}term\ borrowings}$$

$$L_3 = \frac{current\ liabilities}{2,5 \cdot short\text{-}term\ borrowings}$$

$$L_4 = \frac{working\ capital}{total\ assets}$$

Variable of activity (A) is the weighted average of the indicators of the activity of the undertaking, it is therefore complemented by their impact factor:

$$A = \frac{A_1 + A_2 + A_3}{3} \tag{3}$$

$$A_1 = \frac{turnover + production}{2 \cdot total\ assets}$$

$$A_2 = \frac{turnover + production}{4 \cdot equity}$$

$$A_3 = \frac{4 \cdot added\ value}{turnover + production}$$

The variable of profitability (R) represents the weighted average of profitability together with the respective weights:

$$R = \frac{3R_1 + 7R_2 + 4R_3 + 3R_4 + R_5}{17} \tag{4}$$

$$R_1 = \frac{10 \cdot earnings\ before\ interest\ after\ taxes}{added\ production}$$

$$R_2 = \frac{8 \cdot earnings\ before\ interest\ after\ taxes}{capital}$$

$$R_3 = \frac{20 \cdot earnings\ before\ interest\ after\ taxes}{total\ liabilities}$$

$$R_5 = \frac{1,33 \cdot profit\ from\ economic\ activities}{accounting\ profit}$$

$$R_4 = \frac{40 \cdot earnings\ before\ interest\ after\ taxes}{turnover + production}$$

The resulting value of the C model analysis (II) balance will then be:
>1,00 – good financial standing, quality enterprise,
1,00–0,50 – the deteriorating state of the enterprise,
<0,50 – the financial problems, the risk of bankruptcy.

CONCLUSION

The survey showed that there have long been underrated manifestations of the crisis by the companies. In terms of time, management respond with a delay of 3–6 months being overly optimistic and assuming that the crisis only touches others. Most of today's managers have never experienced a crisis in practice. They do not know the risks associated with the business or they evaluate these risks poorly. When analyzing the economic situation of the company financial analysts use a variety of ratios, which represent the level of the individual areas of corporate economic environment.

This may be for example liquidity, profitability, activity or stability. The above indicators have a high ability to testifying, but precisely because of their large number and opacity they may result in incorrect assessment of the situation of the company. Properly used predictive models can be tools to assessment of the financial health of the company. Their use at regular intervals, along with performing financial analysis should therefore be obvious to company management, creditors, mainly banks, but also for capital market investors and the public.

BIBLIOGRAPHY

Altman E.I., Hotchkiss E, 2006, *Corporate Financial Distress and Bankruptcy: Predict and Avoid Bankruptcy, Analyze and invest in distressed debt*, Hoboken, N.J.: Wiley.

Baran D, et al., 2008, *Finančno-ekonomická analýza podniku v praxi*, Bratislava.

CRIF Slovak Credit Bureau. Available at: http://www.crif.sk/Novinky/Novinky/Pages/V-2-%C5%A1tvr%C5%A5roku-zbankrotovalo-historicky (access: 08.Sept.2014 r.).

Kočišová K., Kubala P., *Bankrotné a bonitné modely a ich využitie v konkurenčnom prostredí*, http://of.euba.sk/merkur_2012_cd/prispevky/Kočišova_Katarína_Kubala.pdf.

The Ministry of Justice of the Slovak Republic, Statistics, Available at: http://www.justice.gov.sk/Stranky/Informacie/Vysledky-vyhladavania.aspx?k=konkurzy&s=All%20Sites (access: 05.Sept.2014 r.).

Národná Banka Slovenska, http://www.nbs.sk/en/statistics/money-and-banking-statistics/statistical-data-of-monetary-financial-institutions/loans (access: 30.Aug. 2014).

Neumaierová I., Neumaier I., *Infa Performance Indicator Diagnostic System*, „Central European Business Review", roč. 3, č. 1, s. 35–41. ISSN 1805-4862, http://cebr.vse.cz/cebr/article/download/118/82 (access: 08.Sept.2014 r.).

Sušický J., *Využitelnost bankrotních modelu a jejich aplikace v podmínkach České republiky*.Available at: file:///C:/Users/Tom%C3%A1%C5%A1/Downloads/Suick%C3%BD_Jan%20(3).pdf (access: 27.July 2014 r.).

Smejkal V., Rais K., 2013, *Řízení rizik ve firmách a jiných organizacích*, Grada Publishing, a.s., Praha.

Zuzák R., Königová M., 2009, *Krízové řízení podniku*, Grada Publishing, a.s., Praha.

Summary

To identify impending threats to the enterprise as well as the financial soundness of a company, professional theory recommends using one of the many methods – the method of balance sheet II analysis. After the outbreak of the global economic and financial crisis, however the bankruptcy predictive model ceased to be trusted in business circles, as in many cases it did not proveitself. On a sample of bankrupt as well as successful public limited companies listed in Business Journal it is possible to test the statistical percentage of the model and to confirm its further use in practice.

Keywords: competition, bankruptcy, failed loans, prediction models

Od kryzysu do sukcesu

Summary

W celu oceny kondycji finansowej przedsiębiorstwa, w tym zidentyfikowania zagrożenia ryzykiem bankructwa przedsiębiorstwa, teoria rekomenduje wykorzystanie jednej z wielu metod analizy bilansu – metodę analizy bilansu II. Kryzys gospodarczy i finansowy spowodował, że modele przewidywania upadłości przedsiębiorstw po tym, jak w wielu przypadkach nie sprawdziły się, straciły swoje zaufanie w kręgach biznesowych. Przetestowanie modelu, w celu oceny jego dalszej przydatności w praktyce, jest możliwe na próbie przedsiębiorstw ujętych na liście Business Journal obejmującej realnie upadłe spółki, jak i te w dobrej kondycji finansowej.

Słowa kluczowe: konkurencja, bankructwo, nieudane kredyty, modele predykcyjne