
Czech Hospitality and Tourism Papers
Editor: The Institute of Hospitality Management in Prague, Svídnická 506, 181 00 Prague 8
Editorial Board Chair: Petr Čech
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Published two times per year, print run: 250
Price per issue: 120 CZK
Order and distribution: Study room, IHM, e-mail: studovna@vsh.cz, www.vsh.cz/chtp
ISSN: 1801-1535
Registration: Ministry of Culture, Czech Republic: E 15814
Print: Česká digitální tiskárna, s. r. o.
Date of issue: December 15, 2015

Czech Hospitality and Tourism Papers Journal is integrated into the ERIH PLUS and EBSCO databases.

CZECH HOSPITALITY and TOURISM PAPERS

Volume XI.
Issue 25/2015

Czech Hospitality and Tourism Papers (hereinafter CHTP Journal), publishes mainly scientific and survey papers focusing on the development of theoretical and practical aspects of the hotel and spa industry, gastronomy and tourism. Papers are published in English language.

The CHTP Journal serves primarily as a platform for the presentation of an author's, or team of author's, original research results in the above-mentioned fields. A "Consultation and discussion" section contains survey papers and also specialized survey papers from the pedagogical and expert activities of academics, as well as reports on research project results.

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Ľuboš Elexa, Ľudmila Šmardová

FINANCIAL DISTRESS MODELS IN HOSPITALITY ENTERPRISES IN SLOVAKIA

Abstract: *The article focuses on possible warning signals that help to a company to reveal potential financial problems in the future that may lead to a bankruptcy or other distress. It categorizes companies as failed and successful and examines the accuracy to which warning signals and ex-ante models were accurate in hospitality businesses.*

Key words: *bankruptcy, ex-ante analysis, financial distress, hospitality*

JEL Classification: *M20, G33*

Introduction

The tendency of judging the company's business conditions is oriented on consideration of a long list of possible quantitative and qualitative parameters that are known as ratios, indicators, metrics, etc. The truth is, they just evaluate past activities or past results which cannot be changed (ex-post consideration). They have just declarative character and no relevant possibility to prevent the causes (mainly in case of negative changes), are able only to minimize or mitigate possible casualties or take corrective actions. Alternatively to these approaches, the methods aimed towards future are labelled as ex-ante analysis methods, financial distress models or bankruptcy prediction scores. Their information sources are still the same, since there do not exist any documents automatically predicting or forecasting future results in details. But whereas ex-post analysis tells us what happened till now or how company looks as to its accounting statements structure, ex-ante analysis helps us to find out, how the situation and financial conditions would look like, whether we can await flourishing business or prepare for possible problems, eventually loss or bankruptcy. Almost each prediction model is based on simple assumption that before every major crisis the company indicates the future problems for a longer time period. Such indications or anomalies denote financial problems and may help just to those companies which are in some way threatened. Those symptoms may be expressed differently, primarily like changes in the size of indicator, its variability during the time, its dynamics, etc. (Lesáková et al, 2007). As there exist a lot of various methods for capturing positive or negative trends, the authors of models utilized diversified set of procedures.

Following article analyses the forecast of company's financial distress on the example of 90 business entities from hospitality industry in Slovakia and testifies the accuracy of selected models 5 years prior to their identification as failed or successful.

Material and methods

The objective of submitted article is to testify the validity of selected bankruptcy or solvency models on the sample of 90 companies from hospitality industry (hospitality as their dominant activity). 45 companies were selected from the list of so called bankruptcy companies (they entered to a bankruptcy within the period of 2009-2014). As a bankruptcy status (failed companies) was selected the situation specified by the Slovak law on bankruptcy and restructuring. Second half of the sample (successful ones) was comprised from the companies with ROA bigger than 15 %. In spite of the fact that for example Zmijewski rejected equal samples of both groups (Gundová, 2014), we inclined to balance them as did the most of bankruptcy models' authors. Research sample was examined with usage of Altman Z-score (1968), IN05 (Neumaierová, Neumaier, 2005), Taffler model (1982), Ohlson logit model (Lee et al, 2009) and Zmijewski probit model (1984). We came out from the basic assumption about early warning signals, so the analysis for selected companies was realised five, three and one year before the company was categorized as failed or successful. In case of unclear situation (companies in grey zone) the accuracy of criteria was not considered.

Firstly, we chose a list of companies that fulfilled above mentioned criteria. Than we calculated 10 most typical indicators and compared results of failed and successful companies in the past. According to median values of indicators we chose those, which were significant for failed of successful companies and quantified the number of correctly categorized companies in both groups. A simple test of expected future was realized with application of Law on bankruptcy and restructuring and amendment of Commerce code valid since 2016, so we identified companies with „real" financial problems. According to the law we testified the possibility of over indebtedness (negative equity). According to second one we testified so called „institute of crisis" stating that the relation of equity and debt should not be lower than 8 %. Finally, we applied existing models for the ex-ante analysis of companies' future and identified models that were the most accurate for the needs of bankruptcy prediction in hospitality industry.

Publicly available accounting statements were used as a source of information. Commercial database was used for selection of companies according to their median values and compilation of research sample. For the analysis we utilized multivariate models, logit and probit models that were complemented with basic descriptive statistics, mathematical and graphical depiction.

Results

After both groups of companies were identified, we compared their relative indicators in the effort to see, whether failed companies tend to indicate worse results or, on the contrary, successful companies better results. We confirmed that current ratio, current assets turnover, daily sales in payables, return on assets, return on equity, return on sales, debt ratio and interests coverage were significantly better in case of successful companies. Only the total assets turnover was better in failed companies. As to the time, it was obvious that in failed companies during the five years development the situation was getting much worse, while in successful ones the situation was rather stable (standard deviations were bigger in failed companies in all indicators). In failed companies the biggest downfall was noticed in current ratio, debt ratio and interest coverage as the most visible changes in time.

Later we decided to keep an eye on „warning signals" that should be taken into consideration when a company is analysed and possible bankruptcy candidates are identified. The most significant signals were given by bankruptcy models, but first of all we wanted to apply less complicated and more obvious proofs of possible financial threats.

According to Slovak Law on bankruptcy extreme insolvency is one of the reasons why companies are going bankrupt (it has more than one creditor and is unable to pay due debts for longer than 30 days) or overindebtedness (debtors' due debts exceed the value of total assets). As we were not able to examine the first condition (lack of data), we focused on second reason that is easily confirmed or rejected through negative equity. Slovak hospitality businesses (in general as industry) are lossy for almost a decade. Therefore, such a long time in a loss made a huge pressure on equity value, thus making companies' equity to be negative. Results in table 1 showed that successful companies suffered less from negative equity, while failed ones showed extreme indebtedness (mainly one year prior to analysis).

Slovak legislation after the last amendment of Commerce code introduced (since January 1, 2016) so called institute of crisis, that is less strict as above mentioned bankruptcy, but still points at companies in problems. Results of companies' identification were similar. In addition to previously stated legislation issues we added other less complicated but certainly very important warning signals that may indicate problems to come. We decided to distinguish between failed and successful companies as to the suffered loss, negative net working capital, negative cash flow, as well as extraordinary liabilities the company may raise to partners and own association (the last one because of simple expectation that companies in the effort to overcome capital problems, cumulated loss and negative equity looks for additional capital sources among its owners/stakeholders). Data in the next table describes warning signals in both groups five, three and one year prior to analysis. Last columns identify how accurately was the company categorized as failed or successful and thus they identify which criteria suit the best as a warning signals.

Table 1: Warning signals in failed and successful companies and accuracy in their categorization

Status	*Failed*			*Successful*			*Correct grouping*		
Data prior to categorization	5	3	1	5	3	1	5	3	1
Negative equity	67%	73%	93%	27%	33%	33%	70%	70%	80%
Equity/debts <0.08	73%	87%	93%	33%	40%	60%	70%	73%	67%
Loss	87%	80%	93%	47%	60%	53%	70%	60%	60%
Negative net working capital	80%	93%	100%	53%	60%	60%	63%	67%	70%
Negative CF	47%	67%	60%	53%	60%	47%	47%	53%	57%
Extraordinary liabilities to partners and association	33%	33%	27%	40%	33%	33%	53%	50%	53%

Source: Own processing, 2015.

Similarly to previous steps we continued with application of distress models. We calculated all indicators needed for appropriate model, calculated the final score and categorized the company as failed of successful. Data in the table shows whether the initial categorization equals (and how much) to the categorization after the distress was predicted.

Table 2: Accuracy of prediction models in both categories

Status	*Failed*			*Successful*		
Years the data is prior to categorization	5	3	1	5	3	1
Altman	87%	93%	100%	47%	33%	27%
Taffler	60%	53%	87%	40%	27%	27%
IN05	73%	87%	87%	40%	33%	20%
Ohlson	80%	73%	80%	67%	73%	40%
Zmijewski	80%	73%	87%	80%	73%	67%

Source: Own processing, 2015.

The results showed that all models are highly accurate in failed companies just one year before the bankruptcy.

Discussion

There exist plenty of signals that the company may fail, like lowered sales, lowered cash collection, increased payback periods, increased debt, but they are too general to be taken too seriously in common business. In hospitality many of them may be neglected due to possible seasonality. Moreover, many times the companies themselves are „blind" in their revelations – managers consider situation subjectively, rely just on accounting statements or

try to project a company favourably even in case of problems (accounting window dressing). As was visible from both tables, some results are attracting attention to signals that are anyway connected with accounting, but not complicated as to availability. In failed companies low equity/debt portion and negative net working capital showed extraordinary success in predicting bankruptcy 3 years before it happened. The situation one year prior bankruptcy was even more successful. In case of distress models the set of examples that were chosen for analysis, confirmed the accuracy of categorization and prediction. Only the Taffler model showed lower success, except of one year prior to problems. Altman's Z-score for non-manufacturing companies and IN05 model's accuracy of 93, respectively 87 % in failed companies was extraordinary. On the other hand, and this is visible in both tables, warning signals and distress models are more accurate rather in identification of failing companies, than in successful. Anyway, general application of whatever distress model may be misleading, as industry's specifics, economic development, business cycles, etc. may limit its usage in different environments. In its initial test (Tatum, 2011), the Altman's Z-Score was found to be 72 % accurate in predicting bankruptcy two years prior to the event, while its application in hotel industry was 88.24 % accurate, although industrial companies model was applied on hotels (Diakomihalis, 2012). Therefore above mentioned short examination will continue, more data for more companies will be involved and other trends and specifics of hospitality industry in Slovakia will be investigated.

Conclusion

Methods within ex-ante financial analysis serve as a prognosis of possible future results, solvency or insolvency. They are based on current or even past financial results and on financial indicators of exactly the same construction as were those used previously in ex-post analysis. Submitted article on the example of hospitality businesses in Slovakia confirmed that the manager/owner should be careful when relying on distress models without their detailed understanding. As the results showed, Taffler model was less acceptable because of its lower accuracy five or three years prior to the bankruptcy. On the other hand, Altman's model for non-manufacturing companies and IN05 models were proved to be very successful. Among the common warning signals negative equity, equity/debt relation, loss and negative net working capital together were considered to be accurate in case of bankruptcy prediction. Moreover, we concluded that both signals and models are more proper in cases of failure prediction than in case of possible success.

Literature

[1] Altman, E. 1968. Financial ratios, discriminant analysis and the prediction of corporate bankruptcy. In *Journal of Finance*, vol. 23, No. 4, 1968. ISSN 1540-6261. pp 589-609.

[2] Diakomihalis, M. 2012. The accuracy of Altman's models in predicting hotel bankruptcy. In *International Journal of Accounting and Financial Reporting*, vol. 2, no. 2. ISSN 2162-3082. pp 96-113.

[3] Gundová, P. 2014. Verification of the selected prediction methods in Slovak companies. In *Acta academica karviniensia*, No. 4, 2014. ISSN: 1212-415X. pp 26-38.

[4] Lee, A. C., Lee, J. C., Lee, Ch. F. 2009. *Financial analysis, planning and forecasting. Theory and application*. 2nd edition. Singapore: World Scientific Publishing Co., 2009. 1136 p. ISBN 978-981-270-608-9.

[5] Lesáková, Ľ. et al. 2007. *Finančno-ekonomická analýza podniku*. Banská Bystrica: Univerzita Mateja Bela, Ekonomická fakulta, 2007. 208 p. ISBN 978-80-8083-379-4.

[6] Neumaierová, I., Neumaier, I. 2005. Index 05. In *Evropské finanční systémy*. Sborník příspevků z mezinárodní vědecké konference, 2005. ISBN 80-210-3753-9. pp 143-148.

[7] Ohlson, J., 1980. Financial ratios and the probabilistic prediction of bankruptcy. In *Journal of Accounting Research*, vol. 18, No. 1. ISSN 1475-679X. pp 109-131.

[8] Taffler, R. J. 1982. Forecasting company failure in the UK using diskriminant analysis and financial ratio data. In *Journal of the Royal Statistical Society*, vol. 145, no. 3. ISSN 1467-9868. pp 342-358.

[9] Tatum, T. 2011. *Turning black ink into gold*. eBooklt.com, 2011. 98 p. No ISBN.

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