

Impact of the Czech Changing Economic Environment on Bankruptcy Models

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This paper is focused on corporate bankruptcy prediction models and methods to determine whether the evaluated entity has a higher probability of bankruptcy. Consequences of corporate financial distress for other business partners can be devastating and end with an insolvency proposal. To avoid these consequences, corporations need tools to provide reliable answers. Since the 1960s plenty of models have been created but not all of them are accurate enough for the current market conditions of the Czech Republic. The Czech Republic has witnessed an increasing number of insolvency proposals since 2008. There are several reasons such as the new insolvency law, global economic crisis, entering the European Union, and completion of the economic transformation, etc. The changing economic environment necessitates of testing current methods and models because reliability can decrease over time as many studies have shown.

The key question is if sufficient tools exist for predicting the level of corporate financial distress that could lead to insolvency and corporate bankruptcy. Such tools should provide reliable results and to support business decision making. On one hand we need to forecast probability of corporate bankruptcy. On the other hand, we do not want to stigmatize healthy companies by classifying them as unhealthy. The model cannot fail in either way. It must identify healthy companies as those with a low risk of bankruptcy and unhealthy entities as entities with a high risk of bankruptcy.

Current conditions differ significantly from the past. Czech insolvency law but there are also problems connected with the insolvency register (Smrčka, *Advances in Information Systems and Technologies*, 2013). Financial data are the key input for the majority of models but their availability is less than before. Though obligated to publish, many companies do not do so, often as a consequence of a poor corporate

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financial situation (Čámská, Sborník recenzovaných příspěvků z mezinárodní konference Hradecké ekonomické dny 2013, 2013) Likewise stable companies do not publish their results, keeping such statistics private in order to remain competitive. An additional problem is the economic crisis which has had a negative impact on the corporate financial data generally included in financial statements. Therefore z-score based tools report worse values.

Not yet been discussed in research and surprisingly overlooked is the accounting system. The Czech Republic accepts both national as well as International Financial Reporting Standards (IFRS). An increasing number of entities have begun implementing IFRS yearly. These standards differ significantly. Therefore, the inputs for computing financial distress models are not equal, which automatically suggests that the results will also differ. The entity may even be classified in a different group by the models according to the accounting system used. There is a lack of research work quantifying differences between systems although there are many publications describing the Czech accounting standards and IFRS. According to the systems' description (Strouhal et al., WSEAS Transactions on Business and Economics, 2009) the IFRS are more prudent, working with real market prices and even including leasing directly from financial sources in the balance sheet. We estimate that many financial ratios included in financial distress models have lower IFRS values. It is impossible to quantify these differences generally and to conclude whether a significant number of companies can be misclassified as mentioned above. It does not depend solely on the accounting system itself but also on the current business situation and given the financial distress model's because these models employ different financial ratios. One model may be highly affected but the other more robust.

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