DISCREPANCY BETWEEN THE DEFAULT AND THE FINANCIAL DISTRESS MEASURED BY BANKRUPTHCY MODELS

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ABSTRACT

This paper analyzes the discrepancy between the year when a company's financial problems begin to be measured by bankruptcy models and the year of its default, regardless of the solution (bankruptcy or reorganization). The sample of 50 companies (not traded on financial markets, chosen by turnover, with data available) has been chosen from the list of companies which underwent bankruptcy proceedings in the period 1st January 2008 – 31st August 2013. The timing of the default has been compared to the beginning of financial distress according to the chosen models and the ability of the models to predict the default has been examined. The main objective of this study is to determine how long these not traded companies postpone filling. Our objective is to find out if the companies commence insolvency proceedings in accordance with their impaired financial situation measured by the standard formulas for predicting bankruptcy or if there is any delay. We have found out that companies defer commencement of insolvency proceedings measured by bankruptcy models at least for 2 years. Moreover we conclude that even debtors are not successful with their insolvency petition at their first attempt.

Keywords: financial distress, bankruptcy models and insolvency law, commencement of insolvency proceeding, insolvency petition

INTRODUCTION

This paper focuses on the analysis of the economic situation in which companies enter the insolvency proceedings. The aim of this paper is to determine when businesses started to show deterioration of their financial situation by standard indicators of financial analysis and analyze the delay between the time of the beginning of the problems measured by these indicators and the time of entering the legal proceeding. Act No. 182/2006 Coll. Bankruptcy and Settlement (hereinafter the 'Insolvency Act' or the 'IA') determine the conditions when the debtor is insolvent. We compare the moment when companies enter bankruptcy under this Act to the time when they appear as unhealthy by the commonly used indicators of financial analysis.

The topic of discrepancy between legal and financial insolvency affects various fields of financial science. Furthermore, companies that are late to enter insolvency proceedings may find it impossible to restructure, making bankrupt their only remaining solution. The moment of insolvency, bankruptcy, and the probability of bankruptcy are important variables in the valuation of companies. These variables are related to either the risk premium, which is considered in the discount of future cash flows, or directly to the choice of method of valuation. The study of the moment of insolvency and bankruptcy is the first stage of our research, after which the empirical study of the bankruptcy probabilities will follow. The bankruptcy probabilities are indirectly related to Lodowicks' (2007) theoretical model of company valuation using a method of real option. The lack of empirical support for some variables in this model—for example, the probability of positive or negative development—put it at a disadvantage for practical use. We think that the bankruptcy probabilities can be used as a lower border for the estimation of probability of negative development in this model as well as in various risk analyses. At the same time, the above mentioned model works with the barrier option, where the barrier is represented by the

insolvency criteria, which is usually counted based on the legal requirements for the bankruptcy. In this paper, we are also indirectly testing if this assumption is correct and if the insolvency criteria of the mentioned model should not be based on the complex models for bankruptcy prediction.

LITERATURE REVIEW

The commencement of insolvency proceedings is considered to be one of the most important issues of insolvency law. Too early as well as too late initiation leads to a loss of economic value for debtors and creditors. Our paper is related to literature that focuses on an economic situation in which companies enter insolvency proceedings. Timing of the commencement of insolvency proceedings is one of the most important variables when assessing the effectiveness of the insolvency process.

Different designs of various national bankruptcy procedures are compared to study their efficiency. Timing is one of the most important issues that plays a significant role in efficiency. Timing can be influenced by the specific design of bankruptcy procedure as well as by a county's legal environment, as a whole and through its ingrained habits. To study efficiency, we have to evaluate performance in a company that enters their bankruptcy process in the Czech Republic. We consider timings as the most significant variable in recovery rates. The latest research in the Czech Republic highlights very low recovery rates. Schonfeld,Smrčka, and Malý (2013) reported recovery rates 25% for secured creditors and 1.3% for unsecured creditors on a sample of over 600 proceedings. On the other hand WorldBank (2013) reported recovery rates for years from 2008 to 2013 for The Czech Republic in DoingBusiness report as follows: 21.3% 20.9%; 20.9%; 55.9%; 56%; 56.3%; 65%. However, those data are based solely on assumptions reported by specialist in the Czech Republic. The sooner a distressed firm files for bankruptcy, the lower their incurred bankruptcy costs and higher their recovery rate (Povel, 1999). To trigger bankruptcy sooner, a legal procedure usually contains some incentives to file for bankruptcy; such as tax allowances, moratorium and so on. Furthermore, the general triggering criteria should be set in the way that a wider range of stakeholders can initiate bankruptcy. (Blazy & Nigam, 2011). On the other hand, Davydenko (2012) tried to find a boundary to define when it is the most advantageous to file for bankruptcy from economic point of view. Davydenko focused on bond defaults as defined by rating agencies. He accounted for the defaults in accordance with the definition, which encompasses bankruptcy filings as well as out-of-court renegotiations with bondholders (bond exchange and/or payment delays). He points out that value of assets, which is below zero net worth, explains the timing of default the best. Most companies in the Czech Republic do not trade on exchange markets. Due to this fact, the market value of assets is not observable. Valuating a company in financial distress is difficult and has not been deeply analyzed. (Hrdý & Šimek, 2012). Adler, Capkun, and Weiss (2006) described how one mutation in a legal act can change the timing of the company entering bankruptcy procedure. Davydenko and Franks (2008) compared different insolvency procedures. Although they mainly focused on the recovery rates, they also confirmed Povel's theory that different bankruptcy codes (creditors or debtors friendly) influence timing of the proceeding.

Smrčka (2012) and Schonfield and Smrčka (2012a) have written about late commencement in the Czech Republic. Prior to this, all authors in the Czech Republic only inferred late commencement based on the following: (a) the public opinion of lawyers and trustees, (b) a very low recovery rate, and (c) a low number of initiated and unsuccessful reorganizations, for which an early solution of the problem is inevitable. None of these papers tested the economic situation in which companies enter insolvency proceeding. Neither did they conduct empirical research on a significant sample or test why there was a delay. The researchers merely indicated that the problem could be of legal or law enforcement origin. Smrčka (2012) concluded his research with the following statement:

> The decisive fact is, that businesses enter insolvency proceedings too late, in a time when their assets are quite insufficient to satisfy the creditors, which means that the assets are equally insufficient to keep the business as a going concern. (p.299).

Another current topic associated with bankruptcy in the Czech Republic describes an inappropriate form of data available in an online

insolvency register (hereinafter IR) operated by the Ministry of Justice. IR is an electronic file filled with data about every proceeding for every bankruptcy and it is publicly accessible. To process data can be clattering and confusing (Schönfeld, J., Smrčka, L., & Malý, T., (2013) and Smrčka & Schönfeld, (2012b) due to an inappropriate data format and the manner of filing data. Kislingerová, Richter & Smrčka (2013) argue that there is very little research done on comparison of Czech insolvency with other countries. The problem with data availability hampers the research in this area and could be seen as a reason for insufficient investigation.

There is a problem with international prediction models, because an accounting methodology is a bit different (closer to the German model) and financial statements are divergent from Anglo-Americans statements (there are prescribed specified rows in all statements). Due to the fact that international models for bankruptcy prediction are not the best fit for Czech economy we have included in our study two Czech based formulas for financial distress. Both are based on data from industry. Newer model was created by Kuchina (2013) in her diploma thesis and is aimed on prediction of bankruptcy. Given that this thesis was created in 2013 and is based on domestic industry data for the period of 2007 – 2011 we have decided to use this model in our investigation as well even though this model is not commonly used.

METHOD

The procedure of our investigation is as follows:

i) An identification of companies that began their insolvency proceedings after IA entered into legal force. A sample selection (consists of 50 companies which have manufacturing or sale of goods or services as their core business). We have not included any financial institutions into the sample.

ii) A definition of the bankruptcy moment according to IA.

iii) A selection of the bankruptcy models. A calculation of indexes and bankruptcy probability using chosen models for every company in the sample.

iv) An estimation of the year in which chosen enterprises began to have difficulties determined by bankruptcy models.

v) A comparison of the identified year to the year when the insolvency proceeding began.

vi) An Assessment of the time lag between the first signs of financial difficulties and the commencement of insolvency proceeding.

SAMPLING: IDENTIFICATION OF COMPANIES WITH INSOLVENCY PETITION

New Insolvency Act became effective on 1st January 2008. The sample is selected from the list of companies that have submitted (or against which it has been submitted) IP after this date. In our research we refrain from our previous intention to select 50 companies with the highest turnover from the list. The companies who are close to bankruptcy may have decreasing turnover in the last years and trying to find out which year shall be taken as relevant for this sorting would be complication without any added value for this paper. We have chosen our sample from a database of companies that were not publicly traded on any domestic or foreign stock exchange and that started the insolvency procedure between 1st January 2008 and 30th August 2013 according to above mentioned criteria. This database has been provided to us by the research company Creditreform, s.r.o., which collects data about companies that have started the insolvency proceedings. When sampling, we followed this criteria:

- Every selected company has its financial statements disclosed in a collection of documents called Commercial Register (companies in the Czech Republic are obliged to do so when they meet certain conditions).
- The financial statements for at least 4 accounting periods were embedded in the Albertina database before the commencement of insolvency proceedings.
- The company had turnover of at least 100 million CZK the year before insolvency proceedings.

The sample contains manufacturing companies or commercially oriented companies (whether aimed at trade in goods or services). There are no financial institutions or other businesses in the sample that deal with financial instruments. Only one company has the legal form of a limited partnership; all other companies in the sample are limited liability companies or joint stock companies.

THE MOMENT OF DEFAULT

The initial phase of insolvency proceedings include a procedure in which the court assesses whether or not the debtor is insolvent. An electronic file for every proceeding is publicly accessible via an online insolvency register operated by the Ministry of Justice. Insolvency in the Czech Republic is measured against two tests: (a) the cash flow test and (b) the balance sheet test. Insolvency requires a multitude of creditors.

In this paper we compared the beginning of the financial distress and the commencement of insolvency proceedings. At first, we defined what is considered as the financial default by legal act. We did not test whether the legal conditions for commencement of insolvency proceeding were fulfilled. Most information necessary to test this is not available to public. However, we tested if the commencements of insolvency proceedings were in balance with the beginnings of financial distress according to the chosen models.

§ (3) Act No. 182/2006 Coll. Bankruptcy and Settlement (or Insolvency Act) defined bankruptcy as insolvency or over-indebtedness as follows:

Insolvency - a situation when the debtor has multiple creditors and his or her debts are overdue more than 30 days and the debtor is unable to pay them. The debtor is unable to meet his or her financial obligations, if payments of a substantial part of his or her liabilities has been stopped, or he or she is for more than three months overdue with his or her payments, or when some of his or her creditors cannot obtain satisfaction of some of the outstanding monetary claims against the debtor enforced by execution, or when the debtor has failed to fulfill the obligation to submit lists referred to in § 104 paragraph 1, which the bankruptcy court obliged him to accept.

Excessive debt - occurs when the debtor has multiple creditors and the sum of his or her liabilities exceeds the value of his or her assets. When determining the value of the debtor's assets the future value of his or her assets and liabilities has to be also taken into account if the company plans to be further in **operation.** "*The Balance sheet (or over-indebtedness) test is defined as a state in which the total sum of a debtor's liabilities exceeds the market value of his or her assets, assessed on a going-concern basis.*" (Faber, 2012).

The third definition of default, called *threatened insolvency*, is not addressed in our paper.

Insolvency proceedings are commenced by the delivery of the insolvency petition (hereinafter IP) to the competent regional court. This petition may be submitted by the debtor or the creditors (e.g., an employee). The prescribed content of IP must strictly adhere to the code. IP can be accepted or rejected by court. If rejected, the insolvency proceeding is canceled.

At its meeting, the court assesses the above mentioned conditions and requirements of the petition. The court assesses the fulfillment of the insolvency conditions and prescribed requirements on the proposal. In our study, we accepted the simplifying assumption that—if the petition was rejected, it was because of failure to comply with the conditions of bankruptcy. Therefore, we deem as the decisive moment the date of submission of the petition accepted by the court. In our sample, this is the last filed bankruptcy petition. In some cases there could be a several years' difference between the first and the last petition received.

Table 1 below compares the number of firms that submitted IP by themselves (in the table labeled "Debtor") with a number of companies, for which someone else submitted the IP (usually a creditor or employee). The table shows that more than half of the petitions (58%) have been submitted by debtors themselves. Moreover it can also be observed that in both cases (whether the application is preceded by the debtor himself or herself or someone else) more than half of the petition did not succeed for the first time. Summary of our findings is shown in the Table 1.

Table1. Insolvency Petition Statistic

Who filed petition	First Petition		Total	Percentage from Total
	Approved	Dismissal		
Debtor	18	11	29	58 %
Creditor	10	11	21	42 %
Total	28	22	50	100%
Percentage from Total	56 %	44 %	100%	

Note. Insolvency petition statistics are based on our sample. Adapted from Ministry of Justice of the Czech Republic (2013).

A SELECTION OF MODELS TO DETECT THE BEGINNING OF FINANCIAL DIFFICULTIES

In the literature, the initiation of bankruptcy based on examination of liquidity was done by John (1993). The boundary theories related to models of financial distress were written by Davydenko (2012). Research, using a combination of financial indicators, focusing on debt and liquidity was cconducted by Shobhana and Deepa (2012).

As mentioned in the introduction to this paper, four bankruptcy models have been chosen. We used those models, which are commonly used for the purposes of financial analyses in the Czech Republic and we added one new model to have also a reference based on Czech economy fresh data.

Though the ratios of liquidity and indebtedness would in some cases better reflect the criteria given by the bankruptcy act we have decided to use the complex models. This is because these models are, according to our opinion, less sensitive to extraordinary changes in one criterion and reflect better the overall situation of the company in a simpler way. The models are represented as follows:

Altman Z-Score Bankruptcy Model

In the Almna Z-Score Bankcruptcy Model, the classification results are identical to the revised five-variable model (Z-Score). The new Z"-Score model is:

$$Z'' = 6.56 \, (X1) + 3.26 \, (X2) + 6.72 \, (X3) + 1.05 \, (X4)$$

T1 = (current **assets − current liabilities**) / total assets.

T2 = retained earnings / total assets

T3 = earnings before interest and taxes / total assets

T4 = book value of equity / total liabilities

Zones of discriminations:

Z" > 2.9 -"**Safe**" Zone

1.22 < Z" < 2.9 -"**Grey**" Zone

Z" < 1.75 -"**Distress**" Zone

Z-score estimated for non-manufacturers & emerging markets (Altman, 2000, p.27).

Kralicek Quick Test methodology (Didenko, Meziels, &Voronova, 2012, p.71)

"*(Kralicek, 1993) was developed in 1990 and it offers fast and precise insolvency assessment. Assessment is based on the calculation of four factors (two indicators of financial stability and two indicators of efficiency). Depending on the value of indicator calculated, it is granted a certain number of points. The gained points give insolvency assessment from 4 (good) to 0 (insolvency) (Table 3). The obtained assessment testifies the weak sides of the enterprise and enables to conclude which of indicator groups negatively affect the total solvency level. The fewer points the better the financial situation and more stable the situation of the analyzed enterprise in the* **future.**"* (Didenko, Meziels, &Voronova, 2012, p.71)

IN 05

$$IN05 = 0{,}13 \times A/D + 0{,}04 \times EBIT/I + 3{,}97 \times EBITAT/A + 0{,}21 \times R/A + 0{,}09 \times CA/STL$$

where: A – assets, D – debt (including reserves), EBIT – earnings before interests and taxes, I – paid interests, EBITAT – earnings before interests after tax, R – revenues, CA – current assets, STL – short term liabilities (bank loans and trade liabilities) (Neumaierová &Neumaier, 2005).

This model evaluates the ability of the company to create a value for the owners. At the same time it could be used to evaluate the financial health of the company and its inclination to bankruptcy. This model was created based on the data of the middle and large sized industrial companies. The model is not really current. It was a bit updated in 2005. The borders and ratios used in this model can already be slightly obsolete. The authors also mention that the model contains the total revenues and it is therefore impossible to find out if the achieved performance is a result of the core enterprise of the company or only a result of extraordinary transactions. On the other hand this disadvantage is included in all the above mentioned models, too.

For this model we used one adjustment based on the discussion to the paper from Neumaierová, Neumaier (2005). We have used the maximal limit of 9 points by the ratio EBIT/I (also in the case when the paid interests were close to zero). There are disputes in the literature regarding the limit for the ratio K1. Some authors claim that this ratio shall be limited for the companies who don't have almost any debts. The reason for this shall be the weight of this ratio to the ratio A/D. In spite of these claims we haven't limited this ratio in analyze.

Model 2013

$$Model\,2013 = \frac{1}{1 + e^{(-1)\times(2{,}337 - 7{,}958 \times EBIT/A - 0{,}568 \times S/A - 6{,}744 \times RE/A + 0{,}521 \times WC/D)}}$$

WC – working capital, EBIT – earnings before interests and taxes, S – sales, D – debt including reserves, RE – retained earnings, A – assets.

This model is the newest of all the used models. Because it is an output of the diploma thesis finalized in 2013, this model is not used in the Czech Republic, as we know. The main advantages of this model are the usage of the latest data as well as the usage of the variable "S" instead of other ratios based on total revenues (operating as well as extraordinary) (Kuchina, 2013).

THE MOMENT OF FINANCIAL DIFFICULTIES – DEFINITION

The moment of the financial distress was measured by all of the mentioned models in two versions (stricter and milder). The reasons for this decision are listed as follows:

In the first variant (stricter) the moment considered as a start of financial difficulties it the year when the company first permanently dropped its rating to the "Bankrupting" or "Grey Zone" (in the case of IN05 and Altmann Z -score) in "Medium enterprise" or "Bad company" (Kralicek's Quicktest), and / or when the company first showed a greater than 40 % probability of default by the Model 2013. Companies that find themselves in financial distress, often due to a lack of liquidity, start to sell their assets. A sale outside the core business is according to Kallberg (1992) the last stage of decreasing liquidity before bankruptcy. However, this can cause a sudden improvement in cash flows as well as profit. This is the main reason why we have used this strict approach and do not take into consideration a short-term improvement in the years before the bankruptcy level to "Medium enterprise" or "Grey Zone" as an interruption of the distressed period.

In the second variant (milder) the year of the financial difficulties is considered as the year when the company was firstly and permanently classified as "Bankrupting" (in the case of IN05 and Altmann Z- score), ""Bad Company"

(Kralicek's Quicktest), and / or when the company first showed greater than 60 % probability of default by the Model 2013. In other words, the companies we consider in this version as problematic amount to those, that at least in the year of entry into insolvency proceedings or continuously in the year of entry into insolvency proceedings and in a certain period before the commencement of insolvency proceedings do not improve their rating from "Bankrupting" (in the case of IN05 and Altmann Z- score), "Bad company" (Kralicek's Quicktest), and/or when the company first shows greater than 60 % probability of default by the Model 2013.

If we find that the company got into trouble "permanently", we mean either that the troubles lasted until the insolvency proceedings were started or until the company ceased to publish its financial statements. For companies in financial distress, this is a relatively common phenomenon, as shown in table 2. The most of the companies had ceased publishing their financial statements 1-2 years prior to the

insolvency proceedings. The same conclusions were reached in his investigation of a much smaller sample by Petráž (2013). In both variants, we therefore consider, that in the period after the company ceased to publish reports until the commencement of insolvency proceedings, the situation has not improved (but also not worsen) and the distressed period was therefore not discontinued. Companies that were in the last year of their financial statements publishing, rated as healthy, were considered to be healthy even during the period when they no longer published.

The difference between mild and strict variant in our study basically lies in the fact, that the stricter variant includes among the companies in financial distress also those with neutral rating, while the milder variant only those firms whose rating dropped to critical areas (i.e.: "Bankrupting" - IN05, Z -score , "Bad company" (Quicktest) greater than 60 % probability of default - Model 2013).

Table 1. Last Financial Statements Disclosure Prior To The Bankruptcy

Number of years before default	Quantities of companies according to the year in which they last time disclosed
-1	3
0	7
1	16
2	17
3	6
4	1
x	50

Note. Based on our sample and adapted from Ministry of Justice of the Czech Republic (2013).

OUTCOMES/RESEARCH RESULTS

A COMPARISON OF THE TIME OF THE FILLING FOR INSOLVENCY PROCEEDINGS WITH THE TIME WHEN FINANCIAL DIFFICULTIES WERE SIGNALIZED IN FINANCIAL STATEMENTS

We measure (in years) how big is the gap between the initiation of the insolvency proceedings and the identification of a poor financial situation according the above

described models. Due to some companies' short existence, the statements are not available for a longer period than four years; therefore, we reported all companies that have demonstrated difficulties four years and more than four years prior to the insolvency proceedings in one group. If we had not done so, we would have seen an increase in the number of companies that have started to

show problems exactly four years prior to the insolvency proceedings, which would be very misleading. The firms are divided into groups according to how many years before entering insolvency proceedings they were detected as unhealthy (see Table 4 and Table 5). The analysis indicates that the examined sample exhibited a poor financial situation for a long time prior to the insolvency proceedings. On the other hand, a large number of businesses in the last year prior to the insolvency proceedings did not show any problems. All models, except IN05 in the case of the stricter variant, showed some increase in the frequency of distressed companies two years prior to the insolvency proceedings.

This increase may be the reult of our assumption that the financial situation is not improving between the moment when the companies cease to publish reports and the moment when they enter into insolvency proceedings. On the other hand, we must consider the cause of the improvements that may include the sale of the property. Therefore, we consider our assumption that

the situation of enterprises does not improve in the period when they no longer publish, as correct. The assumption that the situation of such companies does not deteriorate may be debatable. As shown in table 3, a large number of businesses were classified as unproblematic in the last year before the declaration of insolvency proceedings. It may, however, be due to the fact that a company which has ceased to publish statements from 0 to 1 year before ins. proceedings began to recognize the financial distress in this period. Therefore, we believe that the number of companies that were evaluated as distressed in the last year, would be located between the companies that began to be distressed in 0 - 1 prior to the insolvency proceedings. It is difficult to measure to what extent this is exactly true, due to the unavailability of data. On the contrary, it explains the drop in the number of companies that have started to show problems in 0 to 1 year before ins. proceedings

Table 2. Financial Distress Before The Bankruptcy - A Milder Variant

Frequency

Model	Number of years before default					Do not show distress in last year	Total
	0	1	2	3	4 and more		
IN05	1	5	7	4	17	16	50
Kralicek Quick Tests	3	4	10	6	11	16	50
Model 2013	1	2	7	4	24	12	50
Z-score (1995)	0	3	9	7	19	12	50

Cumulative Percentages

Model	Number of years before default					Do not show distress in last year	Total
	0	1 and more	2 and more	3 and more	4 and more		
IN05	68%	66%	56%	42%	34%	32%	100%
Kralicek Quick Tests	68%	62%	54%	34%	22%	32%	100%
Model 2013	76%	74%	70%	56%	48%	24%	100%
Z-score (1995)	76%	76%	70%	52%	38%	24%	100%

Note. Based on our computations. Adapted from Ministry of Justice of the Czech Republic (2013).

In the case of more severe variant all models reveal problems of the analyzed enterprises four or more years before the bankruptcy. Results were similar even when we applied milder approach to the analysis. Cumulative ratio of the companies that postpone an entry into insolvency proceedings by at least one year in a milder variant can be considered as a conservative estimate (lower limit) of actually deferred petitions. Therefore, we believe that companies in the Czech Republic do not go bankrupt; however, the initiation of bankruptcy is delayed depending on the financial situation. The delay was equal to 4 years or more for the major part of our sample.

Table 3. Financial Distress Before The Bankruptcy Cumulatively - Stricter Version

Frequency

	Number of years before default					Do not show distress in last year	Total
Model	0	1	2	3	4 and more		
IN05	0	5	2	5	28	10	50
Kralicek Quick Tests	1	1	9	3	31	5	50
Model 2013	1	3	4	3	31	8	50
Z-score (1995)	0	3	5	1	35	6	50

Percentages

	Number of years before default					Do not show distress in last year	Total
Model	0	1 and more	2 and more	3 and more	4 and more		
IN05	80%	80%	70%	66%	56%	20%	100%
Kralicek Quick Tests	90%	88%	86%	68%	62%	10%	100%
Model 2013	84%	82%	76%	68%	62%	16%	100%
Z-score (1995)	88%	88%	82%	72%	70%	12%	100%

Note. Based on our computations. Adapted from Ministry of Justice of Czech Republic (2013).

As it can be seen in Table 4, more than 70% of the companies that eventually go bankrupt has financial problems for at least two years before the official insolvency proceedings start (except IN05 and Kralicekova Quicktest with milder variants). Therefore, in our opinion, the act of declaring bankruptcy is delayed in comparison with conditions of IA. Initiation of proceedings, rather, depends on when the person who designs the insolvency petition is able to gather the necessary documents, present them in required form, and to prove that the company really is bankrupt. The assumption that proving the distress of the company to the Czech authorities is not easy is supported by the result of our investigation. We found out that, in our sample, some companies (44%) failed with their attempt to fil for the first time.

CONCLUSION

The aim of this paper was to determine whether firms enter bankruptcy in accordance with their worsening financial situation or whether there is any delay. This paper discussed the delay between the time when the business

appears to be unhealthy according to commonly used indicators of financial analysis combined in bankruptcy or credibility models and when companies actually go bankrupt. To verify the existence of this delay, we used four different models. One of the models has been recently assembled from a sample of Czech companies. In view of possible objections that this model has never been used in practice, we used three other well-known models. Two of these are older models, assembled from foreign data. Given that all four fairly different models inferred similar results, we believe that it is possible, without any doubt, to draw conclusions about the explanatory power of models and their suitability. It is apparent from our research that more than half of the companies are in financial distress for at least two years prior to the bankruptcy. To find out why there is a hold up, it is necessary to do a more detailed research on what causes the delay. It can be argued that large numbers of debtors will delay (hide) the initiation of the procedure due to the threat of adverse consequences after the commencement. On the other hand, so far as our studied materials, we can suppose that one of the factors may be the problem of not succeeding with a drawn petition for the first time, either because of failure to prove insolvency or failure to comply with its mandatory requirements. After a failure the debtor may be discouraged from the submission of a corrective insolvency petition and "forced" to continue his or her operations until he or she will be able to bring sufficient evidence of the bankruptcy or prepare a petition with all its legal requirements. These formal complications could indicate that Insolvency Act requires the petition to be drawn up in such a form that it may lead to delay of an early entry or even to the loss of the possibility to restructure.

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