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Article

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Journal of Business Economics and Management (JBEM)

Provided in Cooperation with:

Vilnius Gediminas Technical University

Suggested Citation: Schönfeld, Jaroslav; Kuděj, Michal; Smrčka, Luboš (2018) : Financial health of enterprises introducing safeguard procedure based on bankruptcy models, Journal of Business Economics and Management (JBEM), ISSN 2029-4433, Vilnius Gediminas Technical University, Vilnius, Vol. 19, Iss. 5, pp. 692-705,
<https://doi.org/10.3846/jbem.2018.7063>

This Version is available at:

<https://hdl.handle.net/10419/317307>

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FINANCIAL HEALTH OF ENTERPRISES INTRODUCING SAFEGUARD PROCEDURE BASED ON BANKRUPTCY MODELS

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Received 21 August 2018; accepted 28 October 2018

Abstract. This paper is focused on the financial situation of enterprises introducing safeguard procedure (in other words moratorium) in the Czech Republic. The paper's aim is to show if the enterprises asking for the safeguard procedure do have financial conditions for recovering and maintaining the going concern principle. The safeguard procedure should help the enterprise to solve their problematic situation because it protects them against creditors for the court approved time period. The safeguard procedure cannot be successful when the financial situation is extremely poor and therefore this paper analyses the enterprises' financial situation upon applying for safeguard. The situation is evaluated using bankruptcy models, such as Altman Z-Score, Kralicek Quick Test, IN 99 and IN05. The evaluation is conducted in different time moments, specifically one year, two years and three years before implementing the safeguard procedure. Results for the individual enterprises are summed up by basic descriptive statistics as mean, median, low and upper quartiles. The results show that the financial situation of most enterprises was very poor before introducing the safeguard procedure and it had deteriorated during the years before.

Keywords: financial conditions, moratorium, safeguard procedure, insolvency, models predicting financial distress, Czech Republic.

JEL Classification: G33.

Introduction

The Safeguard procedure (in other words moratorium) is an institution which is included in the Act No. 182/2006 Coll. on bankruptcy and settlement in the Czech Republic. This act is generally known as the Insolvency Act. This paper does not seek to solve legal aspects of the safeguard procedure, but it is focused on economic and entrepreneurial contexts of the safeguard procedure. The moratorium offers a temporary protection from creditors. Simply said, debtors are not obliged to pay long-term debts and they have a possibility to keep the

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business running and start financial rehabilitation leading to the long-term business functioning.

This paper is focused on the description of enterprises' financial health before asking the safeguard procedure (moratorium) in the Czech Republic. The successful rehabilitation leading to the long-term functioning and maintaining the going concern principle is not automatic. Many enterprises do not succeed and their situation is solved as liquidation. The real aim of the safeguard procedure can be fulfilled only if there are favorable external and internal conditions. The external conditions can be mainly characterized as an existing market for the enterprise's products and availability of additional financial resources. The internal conditions consist of managers' and owners' incentives to recover the business activities, competitive products, other existing internal resources as employees or financial situation. The financial conditions are crucial. None enterprise can maintain its existence if there are not enough favorable conditions for financing at least operational activities. On one hand, the long-term debts can be put aside for a while. On the other hand, the operational activities need to be financed continually. The enterprise cannot loose employees and supply-demand contract relationships. This paper analyzes the enterprises' financial situation. The real financial situation is a crucial feature which can answer if the safeguard procedure (in other words moratorium) can fulfill its objective or if it is just a way of doing the insolvency proceeding longer. The longer insolvency proceeding usually has negative consequences for creditors. This paper is original because there are no other researches in this area which focus on the pre-insolvency situation of the enterprises asking for the safeguard procedure (moratorium). It should show if the moratorium applied in the conditions in the Czech Republic has a sense and it fulfills the expectations. The analyzed data sample covers the enterprises asking the safeguard procedure in the time period 2008–2017 in the Czech Republic. The financial conditions of these enterprises will be assessed by bankruptcy models, such as Altman Z-Score, Kralicek Quick Test, IN 99 and IN05.

The paper is divided into several parts. After introduction which has pointed out the sense of the safeguard procedure theoretical background focused on enterprise financial rehabilitation follows. Part Aim, methodology and data discusses the paper's aim as several research questions, data sample and used methods are introduced. The most important part is called Results and there can be found the gained results from the conducted analysis about the enterprise financial health. The paper concluded with discussion and conclusions which present influence of environment, limitations and further research possibilities.

1. Theoretical background

The corporate insolvency has negative consequences. Entrepreneurial activity finishes most of the time and that is connected with economic as well as social issues. There is the social burden on previous employees and their families. Larger enterprise means larger impacts on the society and therefore the government tries to minimize the social cost of defaults (Eklund, Levratto, & Ramello, 2018) and a negative influence on the whole economic system (Lee, Yamakawa, Peng, & Barney, 2011). There are even current efforts of the European Union which tries to avoid fully insolvency regime in the case of the corporate reorganization.

These efforts could be found in Draft Directive on Preventive Restructuring Framework and Second Chance¹. This procedure should enable corporate rehabilitation without opening the formal insolvency proceeding. It has many critiques (eg. Eidenmüller, 2017). On one hand, it is not formal insolvency. On the other hand, the process has many similar characteristics as the classical insolvency proceeding (Tollenaar, 2017). The effort is clear the rule-based procedure of liquidation and very strict process of reorganization according to the insolvency law should be supported by principle-based procedures enabling the corporate rehabilitation (de Weijjs & Baltjes, 2018). Although the safeguard procedure (in other words moratorium) is solved according to the insolvency law in the Czech Republic it is still an institute which should support the principle-based procedure and help the debtors to solve their situation.

Social-political importance of the moratorium is connected with the state debt (Salomão, 2016) or with of mortgages (Dendramis, Tzavalis, & Adraktas, 2018). Going back to the moratorium according to the insolvency law which enables the business to keep running. In the Czech Republic there are opinions that financial rehabilitation is usually not successful (Smrčka, Arltová, & Schönfeld, 2013), but this measures are very often used (Kislingerová, Richter, & Smrčka, 2013). Obstacles of restructuring are not connected only with the Czech Republic but they can be observed in all EU member states (Eidenmüller & van Zwieten, 2015). The Czech enterprises enter the insolvency proceeding very often totally without any possessed property (Kislingerová, Richetr, & Smrčka, 2013 or Čámská, 2013) and therefore the results of the insolvency proceedings and satisfactory rates for creditors present very low numbers (Smrčka, Čámská, Arltová, & Pláček, 2017 or Smrčka & Čámská, 2017). On the other hand the moratorium (safeguard procedure) is the institution which should avoid the insolvency proceeding. It can be assumed that the enterprises asking for the moratorium should be sufficiently financially healthy for fulfilling the 'going concern' criteria. However, Schönfeld et al. (2018) proved that the majority of the enterprises asking for the safeguard procedure finished in insolvency.

2. Aim, methodology and data

This paper's aim is to analyze the financial situation and performance before the safeguard procedure. It should show if the enterprises are healthy enough to successfully implement and follow through this situation. Otherwise the safeguard procedure is not used for its purpose when there are not met necessary conditions. These conditions can be generally characterized as ability to recover and keeping the business running.

This chapter explains paper's research ideas followed by used data sample and applied research methods. The subchapter research methods will specify which tools will be used for the financial situation evaluation. Due to the many components of the financial health the synthetic measures on the basis of bankruptcy models will be chosen. The results of these models will be summarized using descriptive statistics.

¹ Directive of the European Parliament and of the Council on Preventive Restructuring Frameworks, Second Chance and Measures to Increase the Efficiency of Restructuring, Insolvency and Discharge Procedures and Amending Directive 2012/30/EU, COM(2016) 723.

2.1. Research ideas

The paper is focused on one main research issue and that is the financial performance of the enterprises asking for the safeguard procedure (moratorium) in the Czech Republic. According to Schönfeld et al. (2018) majority enterprises asking for moratorium finish at insolvency. It leads to the research idea that enterprises asking for the safeguard procedure do not achieve good financial health. The financial health of these enterprises will be evaluated by this paper. Methods for the evaluation are specified further. Secondly, it is frequently discussed that the enterprises enter the insolvency proceedings too late and therefore they do not have any property anymore (Kislingerová, Richter, & Smrčka, 2013 or Smrčka et al., 2017). Therefore, the financial situation of the enterprises will be evaluated in the different times and it would show if the enterprises should ask for the safeguard procedure earlier, when their financial health is still appropriate and the situation retrievable. The analysis of financial performance, situation or health is based on the knowledge of financial statements which should be regularly published and generally available. Unfortunately, Czech enterprises do not always publish their financial statements which was confirmed by Bokšová and Randáková (2013), Čámská (2013) or Strouhal, Gurtvis, Nikitina-Kalamae, Li, Lochman, and Born (2014). Thirdly, the financial situation of enterprises publishing and not publishing regularly will be compared. It is based on the assumption that the more transparent enterprises have to hide fewer things (details or information) and therefore their financial situation should more satisfactory.

2.2. Data sample

The paper's analysis will be conducted using the data sample which was extracted from the corporate database Bisnode Magnusweb. This data sample consists of enterprises which applied safeguard procedure (moratorium) on the basis of valid insolvency law. The sample originally contained 47 enterprises (legal entities). Two statistical units were extracted because financial data was not available and further analysis could not be processed. The corporate database Bisnode Magnusweb is also a source for enterprises' financial statements which are a crucial input for the bankruptcy models.

The final data sample consists of 98 annual financial statements. These statements are divided according to their age before the application of the safeguard procedure how it is presented by a following table.

Table 1. Age structure of the sample (source: authors based on Bisnode Magnusweb)

Age structure	Number of units
1 year before safeguard procedure	23
2 years before safeguard procedure	35
3 years before safeguard procedure	40
Total	98

Table 1 shows that the enterprises do not publish their financial statements regularly. The decreasing number of observed units proves that closer safeguard procedure is the enterprises are less willing to publish their statements.

2.3. Research methods

This paper is focused on the financial health of the enterprises which applied safeguard procedure. The financial health depends on financial performance which is summarized by Kapliński (2008) in following points – the company's financial structure, financial liquidity, solvency, the company's capability to adapt, economic sources, capability to generate profit, capability to maximise the company's market value. These characteristics are almost all achieving the best values because of trade off effects. It means that these characteristics must be balanced. Synthetic measures as the bankruptcy models offer a way of this balancing when the enterprise financial health should be assessed (Kislingerová & Hnilica, 2008). The bankruptcy models usually combine several ratios evaluating different aspects of enterprise financial health as profitability, liquidity or leverage. These models are based on probabilistic roots and they were constructed on the basis of empirical observations (De Laurentis, Maino, & Molteni, 2010).

Following synthetic measures have been selected for the paper's analysis. They are Altman Z-Score, Kralicek Quick Test and indices IN99 and IN05 from the IN indices family. Altman Z-Score is the oldest complex model, first published in Altman (1968). According to Čámská (2012) it is the most known model worldwide which is still used after its revisions. Its wide use and popularity in the Czech Republic can be proven by Machek (2013), Pitrová (2011) or Režňáková and Karas (2015). Altman formula will be used in the version for the enterprises which are not publicly traded and it is displayed by equation 1. The gained value of Z-Score is evaluated according to Table 2.

$$Z\text{-Score} = 0.717 \times \frac{NWC}{A} + 0.847 \times \frac{RE}{A} + 3.107 \times \frac{EBIT}{A} + 0.42 \times \frac{E}{L} + 0.998 - \frac{S}{A}, \quad (1)$$

where *NWC* – Net Working Capital; *A* – Assets; *RE* – Retained Earnings; *EBIT* – Earning before Interests and Taxes; *E* – Equity in accounting value; *L* – Liabilities; *S* – Sales.

Table 2. Altman Z-Score evaluation table (source: authors based on Altman & Hotchkiss, 2006)

	Z-Score Value
Healthy enterprise	$Z > 2.9$
Grey zone	$1.23 < Z < 2.9$
Unhealthy enterprise	$Z < 1.23$

Unfortunately, the Altman formula did not provide reliable results at the beginning of the transition period in the Czech Republic (Čámská, 2012) and therefore other ways were sought. One possibility was construction of national approaches as e.g. indices IN99 and IN05 which are marked according to a creation year. The approach IN99 should evaluate the enterprise performance from the point of potential investor and therefore it is more focused on the value creation than on the bankruptcy prediction. On the other hand, the model IN05 should combine an investor as well as a creditor view how it is visible from the evaluation

table (Table 3). Following equations presents the models IN99 and IN05. These approaches are highly used (Klečka & Scholleová, 2010; Gavurova, Packova, Misankova, & Smrčka, 2017 or Čámská, 2016).

$$IN99 = -0.017 \times \frac{A}{L} + 4.573 \times \frac{EBIT}{A} + 0.481 \times \frac{R}{A} + 0.015 \times \frac{CA}{SL}, \quad (2)$$

$$IN05 = 0.13 \times \frac{A}{L} + 0.04 \times \frac{EBIT}{I} + 3.97 \times \frac{EBIT}{A} + 0.21 \times \frac{R}{A} + 0.09 \times \frac{CA}{SL}, \quad (3)$$

where A – Assets; L – Liabilities; $EBIT$ – Earning before Interests and Taxes; R – Revenues; CA – Current Assets; SL – Short-term Liabilities; I – Interest.

Table 3. Indices IN evaluation table (source: authors based on Neumaierová & Neumaier, 2002 and Neumaierová & Neumaier, 2005)

	IN99		IN05
Enterprise creating value	$IN99 > 2.07$	Enterprise creating value	$IN05 > 1.6$
Grey zone	$2.07 < IN99 < 0.684$	Grey zone	$1.6 < IN05 < 0.9$
Enterprise not creating value	$IN99 < 0.684$	Risk of bankruptcy	$IN05 < 0.9$

Another approach can be presented by Kralicek Quick Test which is used in German speaking areas and it prefers the investor view. This approach is not based on the equation as the previous models although it is also based on the financial ratios. These financial ratios (equity/assets, debt repayment period, ROA and CF before taxation/sales) are computed and their values are graded according to the evaluation table (Table 4). The grades are summed up and the mean is computed afterwards. It must be noted that although the previous models preferred higher values (better financial health), the Kralicek Quick Test prefers lower values because lower grades mean better financial health. This approach is used e.g. by Machek (2013) or Čámská (2016).

Table 4. Kralicek Quick Test evaluation table (source: authors based on Kralicek, 2007)

Ratio/Grade	1	2	3	4	5
Equity over Assets	>30 %	> 20 %	>10 %	<10 %	negative
Debt repayment period	<3 years	<5 years	<12 years	<30 years	>30 years
ROA	>15 %	>12 %	>8 %	<8 %	negative
CF over Sales	>10 %	>8 %	>5 %	<5 %	negative

Values of the selected bankruptcy models will be computed for each statistical unit from the sample. The gained values will be displayed for each model and divided according to the year of the observation. The year of observation is derived from the year of the implementing safeguard procedure (one year, two years and three years before).

3. Results

Tables containing results for each selected prediction approach create a backbone of this chapter. They are followed by a figure showing time development which illustrates the situation of worsening financial conditions. The last part is dedicated to a comparison between all enterprises and enterprises which publish their financial statements regularly.

3.1. Altman

Altman Z-Score presents the bankruptcy model with the highest worldwide popularity. Descriptive statistics contained in Table 5 prove that financial performance of majority enterprises was very poor regardless of which time is analysed. The value lower than 1.23 classifies the enterprise as unhealthy. It is evident that more than 50% of analysed units belonged to the unhealthy zone in all three time frames. In the case of one year before the safeguard procedure it is even more than 75%. The rest of observations belongs to the grey zone and exceptionally to the healthy enterprises according to the values of Altman Z-Score. It should be noted that although the observations belong to the grey zone the final values of Z-Score are located at the bottom of its interval.

Table 5. Results of Altman Z-Score (source: authors based on financial statements)

		1 year	2 years	3 years
Mean		-1.70	0.90	0.47
Median		-0.16	1.08	1.07
Variance		49.93	1.44	33.43
St. Deviation		7.07	1.20	5.78
Minimum		-33.74	-1.53	-34.36
Maximum		4.13	3.63	4.93
Percentiles	25	-1.47	-0.11	0.46
	50	-0.16	1.08	1.07
	75	0.83	1.49	2.03

3.2. Kralicek Quick Test

Kralicek Quick Test is based on a discrete evaluation of financial ratios. The final value exceeding 3.5 is classified as hardly positive Kralicek (2007). When the final value is closer to five it means the enterprise is closer to the bankruptcy or insolvency. The evaluation based on Kralicek Quick Test shows very precarious financial situation of businesses in the sample. Almost each enterprise is classified as exposed to bankruptcy. Slight exceptions can be observed 2 and 3 years before the safeguard procedure when 25% of enterprises reached value lower than 3.75. On the other hand if we concentrate on minimum which represents the best result in the case of Kralicek Quick Test it was never lower than 2.5. The value 2.5 indicates satisfactory financial results but it was achieved only for one enterprise and it was 3 years before safeguard procedure. Other values (other enterprises) reached much worse results.

Table 6. Results of Kralicek Quick Test (source: authors based on financial statements)

		1 year	2 years	3 years
Mean		4.53	4.07	4.11
Median		4.50	4.00	4.13
Variance		0.15	0.27	0.41
St. Deviation		0.39	0.52	0.64
Minimum		3.75	3.00	2.50
Maximum		5.00	5.00	5.00
Percentiles	25	4.25	3.75	3.75
	50	4.50	4.00	4.13
	75	4.75	4.50	4.50

3.3. Family IN indices

The family IN indices is presented by two indicators – IN99, focusing on the investor view, and IN05, combining the investor and creditor view. Evaluation by the IN indices is the worst because these indicators are the strictest. Except maximum all descriptive statistics belong to the not creating value zone in the case of IN99 which is the worst possible result (see Table 7). Upper quartile shows that 75% of observed cases belonged to the not creating value zone. Other results were part only of the grey zone 1 years and 2 years before safeguard procedure. However, there were several exceptional cases three years before whose results were located in the zone creating value.

Table 7. Results of Index IN99 (source: authors based on financial statements)

		1 year	2 years	3 years
Mean		−0.94	−0.04	0.42
Median		−0.65	−0.06	0.23
Variance		2.22	0.75	1.74
St. Deviation		1.49	0.87	1.32
Minimum		−5.17	−2.78	−3.28
Maximum		1.58	1.49	6.24
Percentiles	25	−1.50	−0.20	−0.02
	50	−0.65	−0.06	0.23
	75	0.12	0.54	0.69

IN05 provides comparable results which are even worse. All cases one year before the procedure belong to the unhealthy zone which is connected with high probability of bankruptcy (detail provided by Table 8). When we focus on the time two years before we realize that more than 75% of the cases are part of the worst zone and the best enterprises do not reach better

final values than the grey zone. The time three years before is again exceptional but only in the case of the upper 25% of the cases which belong to the grey and creating value zones.

Table 8. Results of Index *IN05* (source: authors based on financial statements)

		1 year	2 years	3 years
Mean		-0.78	0.20	0.57
Median		-0.29	0.35	0.51
Variance		2.02	0.54	1.29
St. Deviation		1.42	0.73	1.14
Minimum		-4.95	-2.45	-3.35
Maximum		0.82	1.30	5.71
Percentiles	25	-1.54	-0.15	0.23
	50	-0.29	0.35	0.51
	75	0.21	0.69	0.89

The results of *IN99* and *IN05* should be compared. The following table presents a comparison between these two models using three evaluation zones. It shows that the zones have 90% of overlapping. Although the grey zone is classified by both models only in 71.5% cases there are other 21.4% classified as the grey zone by *IN05* and by the not creating value zone by *IN99* which is saying the same because *IN99* does not follow the creditor view and the risk of bankruptcy. It proves that the results gained by these two indices are fully comparable.

Table 9. Comparison of *IN99* and *IN05* (source: authors based on financial statements)

>1.6 0.9–1.6 Creating Value Grey Zone			<i>IN05</i>		
			<0.9		
			Bankruptcy		
<i>IN99</i>	>2.07	Creating Value	100%	7.1%	
	0.684–2.07	Grey Zone		71.5%	7.2%
	<0.684	Not Creating Value		21.4%	92.8%

3.4. Time development

When time development is analysed we assume that the enterprises' financial health would be worst 1 year before implementing the safeguard procedure. The safeguard procedure is one of the last things the enterprise management can take to save the company. The time development is presented by Figure 1. Median values of Altman, *IN99* and *IN05* have been chosen instead of the mean values because of sample variance (in another words observed outliers). This choice is more robust and provides stable results. At the end, the results of Kralicek Quick Test are not displayed in Figure 1. It is caused by a discrete character of the model based on the intervals. The model is not able to distinguish differences and worsening

when enterprises already belong to the unhealthy (bankruptcy) zone. On the other hand, Altman, IN99 as well as IN05 have the continuous character and therefore they are capable of detecting any further deterioration of the enterprise healthy conditions.

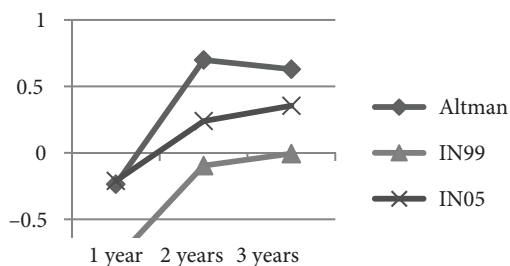


Figure 1. Time development of median values (authors based on financial statements)

The trend is evident and it fully confirms the research idea. It is indisputable that the closer the safeguard procedure the worse the results. On the other hand, it should be noted that the results were very poor already three years before. The values of bankruptcy models still deteriorated during the analysed time period. It is worth noting that the difference between 2 and 3 years before is much lower than difference between 1 year and 2 years. The fall of 1 year is really significant. The same conclusion can be derived from all three models – Altman Z-Score, IN99 and IN05.

3.5. Regular disclosure

The enterprises generally do not publish their financial statements regularly in the Czech Republic. This fact is analysed by government authorities as well as by researchers. Table 1 showed that only 23 enterprises from the sample published financial statements one year before the safeguard procedure. It is a half of the total number. Surprisingly almost all 23 enterprises published their statements in all analysed years. It was valid for 20 enterprises. It only supports Bokšová and Randáková (2013) that companies in troubles do not pay attention to the regular disclosure. On the other hand it means that these 20 enterprises are more transparent. It leads to the research question that these enterprises could have better financial performance. The following tables contain descriptive statistics about the selected bankruptcy models. First, are the values for all enterprises are displayed (Table 10). Secondly, the values for the enterprises which had been publishing for the whole analysed period are displayed (Table 11). For both groups the same time is used, 3 years before safeguard procedure.

Table 10. Results for all enterprises 3 years before (source: authors based on financial statements)

	Altman	Kralicek	IN99	IN05
Mean	0.47	4.11	0.42	0.57
Median	1.07	4.13	0.23	0.51
Variance	33.43	0.41	1.74	1.29
St. Deviation	5.78	0.64	1.32	1.14

End of Table 10

		Altman	Kralicek	IN99	IN05
Minimum		-34.36	2.50	-3.28	-3.35
Maximum		4.93	5.00	6.24	5.71
Percentiles	25	0.46	3.75	-0.02	0.23
	50	1.07	4.13	0.23	0.51
	75	2.03	4.50	0.69	0.89

Table 11. Results for regularly publishing enterprises 3 years before (source: authors based on financial statements)

		Altman	Kralicek	IN99	IN05
Mean		-0.63	4.29	0.35	0.52
Median		0.63	4.50	-0.01	0.36
Variance		62.99	0.41	3.05	2.39
St. Deviation		7.94	0.64	1.75	1.55
Minimum		-34.36	2.50	-3.28	-3.35
Maximum		4.93	5.00	6.24	5.71
Percentiles	25	0.03	3.81	-0.29	0.14
	50	0.63	4.50	-0.01	0.36
	75	2.56	4.75	0.87	0.92

The assumption that the regularly publishing enterprises would achieve better results can be rejected. Basic descriptive statistics have lower values for the regularly publishing enterprises. The statement of the lower values is valid for Altman Z-Score, IN99 and IN05 who are maximization indicators. Contrary, the values of Kralicek Quick Test reach higher values. Unfortunately, Kralicek Quick Test is a minimizing indicator, regardless of whether mean or median are analysed and worse results are also gained for lower quartile in the case of the regularly publishing units. Surprisingly, maximum as well as minimum (according to the models the healthiest and unhealthiest enterprise) belong to the regularly publishing group. The sample size (only 20 enterprises) causes that upper quartile reaches better results for the regularly publishing group.

4. Discussion

The synthetic measures as Altman Z-Score, Kralicek Quick Test and IN indices showed very low financial performance of the enterprises included in the sample, with the inevitable consequence that the enterprises implementing the safeguard procedure are highly exposed to the bankruptcy. This confirms findings of Schönfeld et al. (2018) that the safeguard procedure is not used for its purpose. The general purpose is help to avoid bankruptcy and insolvency. The research conducted by Schönfeld et al. (2018) showed that 93% of enterprises asking for

the safeguard procedure finished in the insolvency. The enterprises finished in the insolvency although the safeguard procedure should have helped to recover and keep the business running. Unfortunately, Czech enterprises enter the insolvency proceedings completely devoid of assets very often (Kislingerová, Richter, & Smrčka, 2013 or Čámská, 2013). It is no wonder that same results were detected in the case of the safeguard procedure. The actions for enterprise rescuing generally come too late in the Czech Republic.

Conclusions

This paper was focused on the financial situation of the enterprises implementing the safeguard procedure (moratorium) according to Czech insolvency law. It was realized with the use of classical synthetic measures that these enterprises had already been in the bankruptcy situation before they requested implementation of the safeguard procedure. The analysis of the IN indices even proved that most of the companies had been in the bankruptcy or not creating value zone three years before the safeguard procedure was declared. Unfortunately, the moratorium was applied for much later than when their financial performance first indicated problems. It means that the enterprises allow their situation to continue unaddressed until the last stage of the corporate crisis. On the other hand, the limitations of this paper should be noted. The first limitation is the sample size which consists of 98 financial statements describing 45 enterprises in total. The sample size does not enable real testing of statistical hypotheses but there are included almost all enterprises which asked for the safeguard procedure in the time period 2008-2017 in the Czech Republic. The sample reduction is caused by the unavailability of financial statements. The second limitation is the sample heterogeneity. The heterogeneity can be expressed by several variables – enterprise size, field of business activity or the year of the safeguard procedure. The field of business activity has an impact on the values of financial ratios because the enterprises function on a different business model. The year of asking the safeguard procedure is crucial because it could be connected with different macroeconomic conditions. Crisis and post crisis years are completely different from the years of economic expansion. Other limitations are connected with legal and institutional environment in the Czech Republic. The question therefore arises as to what causes this delay that the enterprises enter insolvency proceeding too late. Several reasons can be discussed in this respect. Firstly, it could be unwillingness of owners-managers to evaluate the real enterprise situation. They do not want to lose and they even cannot imagine that they will lose their own business (which they have been building for years). Secondly, the safeguard procedure forms part of the insolvency institutions and insolvency proceedings have high publicity, which therefore begs the question as to whether a moratorium or a similar institute of protection against the creditor in order to avoid bankruptcy would be functional if it were not an insolvency institution.

Funding

This work was supported by the Internal Grant Agency of the University of Economics in Prague under Grant Development of the Financial Situation of Enterprises before Bankruptcy – Identification of Business Crisis Signs IGS F3/15/2018 (IG309028)..

Author contributions

JS and LS conceived the study, MK was responsible for the data analysis, JS wrote the first draft of the article and LS made proofreading.

Disclosure statement

Authors declare that they do not have any competing financial, professional, or personal interests from other parties.

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