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ANALYSING THE SITUATION OF AGRICULTURAL ENTERPRISES IN LIQUIDATION BY MEANS OF BANKRUPTCY PREDICTION MODELS

Review
Article

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Abstract

After the international financial crisis, the issue of risk management came to the fore in Hungary as well. During the recent period and nowadays, almost every enterprise, whether small or big, is experiencing the effect of crisis and the resultant after-effects. As an effect of the crisis, a significant number of enterprises got into a disadvantageous situation and several of them went bankrupt as well as many of them seriously fight for the survival. The enterprises and their creditors should be aware of the solvency of their own and of their customer, because its deterioration can cause serious difficulties for both of them. The financial position of an enterprise is relevant for the internal stakeholders as well, because it heavily affects their situation, too. For all the above reasons, there is a more and more powerful demand for such solutions which can help to predict the risk of bankruptcy. The aim of the treatise is to analyse three agricultural enterprises in liquidation through bankruptcy prediction models; these enterprises can be found in the Northern Great Plain region. The treatise draws attention to the fact that the economic situation of an enterprise in liquidation can be predicted by means of bankruptcy prediction models.

INTRODUCTION

After the international financial crisis, the issue of risk management came to the fore in Hungary as well. In the recent period as well as nowadays, almost every enterprise, whether small or big, is experiencing the effect of crisis and the resultant after-effects (Fenyves, 2014). As an effect of the crisis, a significant number of enterprises got into a disadvantageous situation and several of them went bankrupt as well as many of them seriously fight for the survival. The enterprises and their creditors should be aware of the solvency of their own and of their customer, because its deterioration can cause serious difficulties for both of them (Bayaraa, Tarnóczy & Fenyves, 2019).

Today it has become common for agricultural enterprises to plan and define a schedule the production processes. To make the production operate more efficiently and profitably year after year, not only the system of internal and external conditions of the production are necessary to be determined, but also the factors that affect the management of the company (Nagy, Fenyves & Nábrádi, 2009; Nagy & Vathy, 2016). The financial position of an enterprise is relevant for the internal stakeholders as well because it also affects their situation heavily. For all the above reasons, there is a more and more powerful demand for such solutions which can help to predict the risk of bankruptcy (Fenyves & Tarnóczy, 2019). Various financial indicators and models can be used for the prediction. Today, quite a lot financial indicators have been developed which can be linked with this area and there are different prediction models as well (Chorafas, 2002).

The way traditionally leads to the present and future estimation of the management situation of a company through the analysis of annual report (Fenyves, Bács, Zéman, Böcskei & Tarnóczy, 2018). By analysing the publicly available data of annual report, an insight can be obtained into the property, financial and income positions of any company (Kristóf & Harangi-Rákos, 2016; Zsarnóczyai & Zéman, 2019). Financial indicators compress the data set of annual report into such information which can be utilized for the analyses; these indicators are static and it is recommended to manage them with caution (Musinszki, 2014). From the point of view of prediction, the financial indicators are reckoned as factors affecting the corporate future as well. Therefore, for the bankruptcy prediction, a stressed attention shall be paid to the major financial indicators expressing the solvency of company (Böcskei & Deres, 2015). However, the financial indicators themselves do not provide future data since they are calculated based on the data of previous year(s). At all events, if other information sources are not available,

information about the corporate future can be obtained by means of financial indicators and by applying reliable predicting-modelling techniques (Kristóf, 2005).

MATERIAL AND METHOD

In present treatise, three undertakings performing agricultural activity are analyzed. The registered offices of companies can be found in the Northern Great Plain region. This is important because the geographical location and the difference of customer demands, as well as the quality of living standard may be influencing factors in the comparison of a trading company of Northern Great Plain with a trading company of Transdanube. The selected undertakings are already in liquidation. These undertakings have been included in the analysis in order to present that weakness of the given companies could have been predicted by means of bankruptcy prediction models and maybe the termination would not have been required in case of due intervention. Among the different bankruptcy prediction models, the use of Altman's, Springate's, Comerford's and Fulmer's bankruptcy models are shown.

- Altman applied multivariate models. Lots of financial indicators are used for determining the "Z" score which are weighted according to their relative effects. This is the "Z" score analysis. The original model calculates the "Z" score based on five indicators:

"Z" model can be written by the following equation:

$$Z = 0.012X_1 + 0.014X_2 + 0.033X_3 + 0.006X_4 + 0.999X_5,$$

where X1: Capital Employed/Total Assets, X2: Balance Sheet Earnings/ Total Assets, X3: EBIT (i.e. Earnings Before Interest and Taxes)/ Total Assets, X4: Market Value of Shares/Total Liabilities, X5: Net Sales Revenues / Total Assets.

Insofar as the value of "Z" score is under 1.8%, then the undertaking will probably get into a financial crisis. If the value of "Z" score is above 1.8%, then the chance for occurrence of corporate crisis will be small. But in case of a value being larger than 3, it is likely that crisis will not threaten the company within a foreseeable time (Altman & Hotchkiss, 2005).

The aforementioned Z model of Altman can be applied just in case of such public companies which have been admitted to an official listing on a stock exchange. For this reason, Altman created another model for the non-listed companies. The new formula is as follows:

$$Z=0.717X1 + 0.847X2 + 3.107X3 + 0.42X4 + 0.998X5,$$

where X1: Working Capital/ Total Assets, X2: Balance Sheet Earnings/ Total Assets, X3: EBIT/ Total Assets, X4: Book Value of Equity / Total Liabilities, X5: Net Sales Revenues / Total Assets.

In case of the non-listed companies, the value of “Z” model differs from the former values. If value of Z is smaller than 1.23, the undertaking will go bankrupt. Insofar as the value of Z is larger than 1.23, bankruptcy will not be expected in this case. If value of Z is larger than 2.90, the chance for bankruptcy of the company will be small (Altman & Hotchkiss, 2005).

Springate’s model was made during an examination of 40 companies. Accuracy of the model is 92.5%. The critical value is 0.862, under which the undertaking will become insolvent most probably.

$$\text{Its formula: } Z = 1.03 * x1 + 3.07 * x2 + 0.66 * x3 + 0.4 * x4$$

x1: Working Capital / Total Assets, x2: Operating (Business) Profit / Total Assets, x3: Earnings Before Taxes / Current Liabilities, x4: Net Sales Revenues / Total Assets.

RESULTS

The first bankruptcy prediction model was Altman’s Z-score model. The three agricultural undertakings in liquidation were analysed by means of “Z” model and based on the annual reports being available to me.

The first two tables demonstrate the results of ANTAL+APPELT Kft. obtained by Z model. The values of Z model can be obtained if the results of the first table are substituted into Altman’s equation. Indicator X1 shows the quotient of the net working capital and total assets. The net working capital can be calculated as a difference of current assets and current liabilities. It is practical to have a look at what rate these values have represent in the balance sheet in the five years analyzed. In each of the examined five years, it can be stated that a continuously decreasing tendency presents itself in case of both the current assets and the current liabilities. The net working capital was negative in each of the five years which is due to that the current liabilities were larger in each year than the stock of current assets (Table 1).

Indicator X2 demonstrates the quotient of balance sheet earnings and the total assets. The assets consist of three factors: the fixed assets, current assets and the accrued assets. The highest value of the total assets was in 2014. By 2014, the value of intangible assets was increased by 19.507 thousand HUF compared to the previous year. This amount is due to a land lease tender which was won by the

company. The stocks can be found within the group of current assets. The value of stocks was 22.120 thousand HUF which decreased by 10.41 thousand HUF compared to the previous year. Namely, sunflower and corn were invoiced. Funds were 2.447 thousand HUF which decreased by 1.476 thousand HUF compared to the previous year. The balance sheet earning was positive only in 2014. It was negative in the next examined years. Thus, values of indicator X2 were also negative from 2015 to 2017. The balance sheet earnings should be examined in the income statement. In 2015, the net sales revenues increased in comparison with the previous year, at the same time, the sum of other income decreased from 13064 thousand HUF to 1100 thousand HUF which is drastic. And, the material expenses increased. The financial operations were also negative so the current profit/loss, which is equal to the balance sheet earnings in this case, was also negative.

Indicator X+, as it can be observed in the table, was positive only in 2014. EBIT can be calculated from the amount of earnings before taxes and the investment payments. In the examined first year, the earnings before taxes were positive then were negative in the other years. The highest value, - 7458 thousand HUF, was reached in 2016. In this year, the net sales revenues drastically decreased. While it was 10279 thousand HUF in 2014, it was a fraction i.e. 713 thousand HUF. In contrast, the expenses had larger amount. Thus, the net sales revenues were negative in 2016. Value of the current profit/loss was equal to the net sales revenues since the result of financial operations was 0 in 2016. As there were no extraordinary events, the earnings before taxes were equal to the current profit/loss.

Indicator X4 examines the quotient of the equity and the outside capital. During the five years, the equity shows a continuous decreasing trend. Two of the most conspicuous amounts are the values of 2014 and 2018. In 2014, 17590 thousand HUF was the amount of equity, while it decreased to 201 thousand HUF in 2018. In 2014 and 2010, the undertaking has no long-term liabilities. But a continuous growth can be observed from 2016. There were current liabilities in each of the five years. These values show a decreasing trend during the analysed years.

Indicator X5 compares the net sales revenues to the total assets. The net sales revenues show an increasing from 2014 to 2015 then a sharp decrease can be experienced from 2015 to 2016. However, by 2017, there is a powerful growth, the amount increases from 713 thousand HUF to 2020 thousand HUF. But the net sales revenues are already zero HUF, there are only other incomes.

By substituting the results of indicators X into the equation of Z model, the following values have been obtained (Table 2).

Insofar as value of Z is smaller than 1.23, it means that the undertaking will go bankrupt. Values in each of the five years were negative so it was already predictable that the undertaking would go bankrupt. Results of other years have further confirmed this fact.

MERCS-97 Kft was the next agricultural undertaking analysed according to Altman's Z-score model (Table 3).

Indicator X1 shows the quotient of net working capital and total assets. In each of the five years, negative values are recorded for indicator X1. This can be deduced from the result of working capital. The value of current assets has continuously decreased. The highest amount of current assets, 1632 thousand HUF, was in 2014. The results of current liabilities increased till 2016 then a reduction can be observed by 2017. In each year, the amount of current assets was always less than the current liabilities.

Indicator X2 demonstrates the quotient of balance sheet earnings and total assets. Between 2014 and 2018, the results were negative. In case of the assets, a continuous decrease can be observed. In case of both the fixed assets and current assets, decrease can be observed. Balance sheet earnings were positive only in 2017.

Indicator X3 is based on the quotient of EBIT and total assets. Amounts of earnings before taxes and interest payments are necessary for the calculation of EBIT. In the present case, there were no interest payments in either of the years. However, the earnings before taxes were negative in each of the examined years.

Indicator X4 examines the quotient of equity and outside capital. Equity of MERCS-97 Kft was negative in each year. In the present case, these values of equity consist of the subscribed capital, the cumulative reserves and the balance sheet earnings. The subscribed capital was 3000 thousand HUF in each year, the cumulative reserves and the balance sheet earnings were negative in each year, except 2017 when the balance sheet earnings were positive. It is required to analyse the income statement for the development of balance sheet earnings.

Indicator X5 compares the total assets to the net sales revenues. There are net sales revenues in 2014 and 2015. Their value is zero since 2016. Therefore, operating (business) profit consists of the amounts of expenses only, its consequence is that it is negative. The following table illustrates the values of Z model (Table 4).

By means of Altman's formula, it can be stated from the results that the company can go bankrupt between 2015 and 2018 since value of Z is smaller than 1.23. Based on value of Z model, year of 2014 is in the gray zone since the value is larger than 1.23 but smaller than 2.90. Companies being in the gray zone have a chance to avoid the bankruptcy. It

can be stated that bankruptcy would not threaten the undertaking if the value of Z model was more than 2.90.

Terményszárító és Raktározó Kft (Crop Drying and Storing Ltd) is the third and final agricultural undertaking analysed on the basis of Altman's indicator.

The following table summarizes the results of indicators X (Table 5).

The first pair shows the proportion of net working capital and total assets. All values are negative between 2014 and 2018. This negative sign has developed due to the quotient of current assets and current liabilities. Since the amount of current assets is much smaller than the current liabilities. The current assets show a decreasing trend from 2014. In case of the current liabilities, a reduction can be observed till 2016 and then a growth from 2017.

Indicator X2 compares the balance sheet earnings to the assets. In case of the assets, the reduction is continuous from 2014. In each examined year, a reduction can be observed in case of both the fixed assets and the current assets as well. The balance sheet earnings were positive in the first two years then negative in 2016 and 2017. Finally, the result is zero in 2018. Results of operating (business) profit, results of financial operations and thereby the current profit/loss were also positive in 2014 and 2015. There was an extraordinary event, 7114 thousand HUF, in 2015 only. The last indicator compares the net sales revenues to the total assets. The net sales revenues increased till 2016 then these were less compared to the previous year. And, their value was § in 2018. Therefore, the result of quotient of indicator X5 was zero in 2018. The following table demonstrates the values of Z (Table 6). Values of "Z" model are negative, except in 2015. It can be stated that Terményszárító és Raktározó Kft is threatened by risk of bankruptcy in each year. Although, Z model was positive since it is smaller than 1.23 therefore it is also characterized by bankruptcy.

The other model was Springate's model, based on which the three companies were analysed. My first company analysed was ANTAL+APPELT Kft. The following table shows development of the model (Table 7).

Springate's model distinguishes four indicators. The first indicator examines the development of quotient of the working capital and the assets in total. The working capital was negative in each of the five years, especially in the year of 2014 when it was the most -28.485 thousand HUF. In 2014, the value of assets in total was 70.642 thousand HUF, it was also the highest value in the analysed five years. In the other years, a decreasing trend can be observed till 2016. Then, a minimal growth can be experienced in 2017. Results of indicator X1 were negative in each of the examined five years. Each

value of indicator X1 was negative due to the negative sign of working capital.

The following things are required to calculate the indicator X2: amount of the earnings before taxes as well as interest payments and then the quotient of this result and assets. Earnings before taxes of the undertaking was positive in 2014 only, these values were negative in the following years. The interest payments were zero in each of the five years. Value of 2014 for indicator X2 was positive. In the following periods, the negative sign of the earnings before taxes influenced that the indicators were negative. The next indicator was indicator X+ which examined the quotient of earnings before taxes and current liabilities. In case of the previous indicator, it was determined that the earnings before taxes were negative between 2015 and 2018. The company had current liabilities in each of the examined five years. The value of current liabilities continuously decreased from 2014 to 2017. In 2018, a minimal growth can be experienced in comparison with the previous years. Indicator X3, like the previous indicator, was also positive in the first analysed year i.e. in 2014. For the further years, negative values were obtained. Its reason is also the negative sign of earnings before taxes now. The last, fourth indicator demonstrates the development of quotient of net sales revenues and assets in total. Very different results will be obtained if the net sales revenues based on the balance sheet are examined. A growth can be experienced from 2014 to 2015, there is a large regression from 2015 to 2016 and finally, the net sales revenues are already zero HUF. The highest value, 10.279 thousand HUF, was in 2015, this value was already zero in 2018 (Table 8).

Springate model values of ANTAL+APPELT Kft were negative between 2014 and 2018. As these values were under 0.862 and were even negative as well, the bankruptcy of undertaking can unequivocally be stated on the basis of Z values of the model (Table 9).

My next agricultural company was MERCUS-97 Kft. The company was analysed based on Springate's model. Indicator X1 demonstrates the quotient of working capital and assets in total. The working capital was negative in the examined five years. The working capital can be interpreted as a difference of the current assets as well as the current liabilities. It can be observed that the values of current assets were the highest in 2014 then a continuous tendency can be observed till 2018. The highest value of current liabilities was in 2018. The negative values of working capital are due to that the current liabilities were much higher in each year than the values of current assets. The values of assets in total continuously decrease from 2014 to 2018. Indicator X1 was negative because the working capital has negative results as well. Indicator X2 was also negative in each of the five

years. Earnings before taxes of MERCUS-97 Kft were negative in the examined five years. Its interest paid was zero in each year. The next, indicator X3 was also negative. It was also due to the value of earnings before taxes. The current liabilities were positive in every year. In case of the last pair of indicators, indicator X4, there were evaluable results only in 2014 and 2015. Indicator X4 can be interpreted as a quotient of net sales revenues and the assets in total. In case of the undertaking, the net sales revenues were the highest in 2014 then a reduction can be experienced for 2015. But, from 2016 to 2018, the amount of net sales revenues was already zero. Therefore, the result of Springate's model cannot be evaluated and the values will be zero in the years of 2016, 2017 and 2018 (Table 10).

Z values of model will be negative in each year. Since Z is smaller than 0.862 and it is negative, it can be stated that the agricultural company will go bankrupt. Terményszárító és Raktározó Kft was my next company analysed on the basis of Springate's model volt. The following Table 17 presents development of the model (Table 11).

Terményszárító és Raktározó Kft was the next and final undertaking which was analysed on the basis of Springate's model. Values of indicator X1 were negative in each of the five years. Its reason developed due to the working capital. Working capital is the difference of the current assets and current liabilities. Value of current liabilities is much larger than value of current assets. Thus, the working capital was negative as a result their difference. Final results of indicator X2 are very different. In 2014 and 2015, these ones were positive then already negative in 2016 and 2017. And, the result was already zero in the last year. In each year, the company paid zero HUF interest. Earnings before taxes were positive in the first two years then negative in the following two years. And, it was zero in the last year. A smooth reduction can be observed with regard to the assets. In 2016 and 2017, values of indicator X2 were negative because the values of earnings before taxes were negative as well. Like the previous indicator, the indicator X3 was also negative in two years, in 2016 and 2017. Its reason also brings us back to the changing values of earnings before taxes. Indicator X4 interprets the quotient of net sales revenues and assets in total. Net revenues of sales show a growth from 2014 to 2016 then a smaller reduction from 2016 to 2017 and finally, there are no reliable data in 2018 since the net revenues of sales was already zero in the last year (Table 12). In case of the undertaking, it can be stated that value of Z was not negative since it did not reach the given interval thus the bankruptcy can be determined unequivocally in this year as well, based on the value of indicator. With regard to the other examined years, the bankruptcy is

unavoidable. This is also confirmed by the negative values of Z indicator.

CONCLUSIONS

Over a five-year period of the analyzed companies bankruptcy can be determined. If the companies had applied the bankruptcy prediction models, they would have been able to find out earlier that they were close to bankruptcy, and perhaps it could have been prevented. Also, recognizing the situation in time could have resulted in the elaboration of a plan for a solution.

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Tables

Table 1
Development of Altman Z-score model in case of ANTAL+APPELT Kft.

Amount unit: -

Description	2014	2015	2016	2017	2018
Net Working Capital / Total Assets	-0,4032	-0,4287	-0,2319	-0,5919	-0,0729
Balance Sheet Earnings / Total Assets	0,0015	-0,0453	-0,1184	-0,0408	-0,0665
EBIT/ Total Assets	0,0019	-0,0453	-0,1183	-0,0408	-0,0665
Exchange value of equity / Outside capital	0,3316	0,2909	0,1270	0,0746	0,0032
Net Sales Revenues/ Total Assets	0,0958	0,1590	0,0113	0,0313	0,0000

Source: Own editing based on annual report of ANTAL+APPELT Kft

Table 2
Values of Z-score model in case of ANTAL+APPELT Kft

Amount unit: -

Description	2014	2015	2016	2017	2018
Value of Altman Z-score	-0,0472	-0,2058	-0,5695	-0,5231	-0,3139
Interval	Z<1,23	Z<1,23	Z<1,23	Z<1,23	Z<1,23
State	-bankruptcy	bankruptcy	bankruptcy	bankruptcy	bankruptcy

Source: Own calculation based on formula of Altman Z-score model

Table 3
Development of Altman Z-score model in case of MERCS-97 Kft

Amount unit: -

Description	2014	2015	2016	2017	2018
Net Working Capital / Total Assets	-0,8722	-4,2442	-6,8562	-6,4273	-12,8315
Balance Sheet Earnings / Total Assets	-0,7685	-2,4394	-0,7111	1,3721	-4,0921
EBIT/ Total Assets	-0,7495	-2,4046	-0,7111	-0,8254	-4,0921
Exchange value of equity / Outside capital	-0,3412	-0,7829	-0,8581	-0,8496	-0,9240
Net Sales Revenues/ Total Assets	5,9406	11,9759	0,0000	0,0000	0,0000

Source: Own editing based on annual report of MERCS-97 Kft

Table 4
Values of Z-score model in case of MERCS-97 Kft

Amount unit: -

Description	2014	2015	2016	2017	2018
Value of Altman Z-score	2,1805	-0,9573	-8,0879	-6,3676	-25,7685
Interval	1,23<Z<2,90	Z<1,23	Z<1,23	Z<1,23	Z<1,23
State	gray zone	bankruptcy	bankruptcy	bankruptcy	bankruptcy

Source: Own calculation based on formula of Altman Z-score model

Table 5
Development of Altman Z-score model in case of Terményszárító és Raktározó Kft

Amount unit: -

Description	2014	2015	2016	2017	2018
Net Working Capital / Total Assets	-0,5700	-0,0491	-0,1254	-0,9621	-0,9621
Balance Sheet Earnings / Total assets	0,0042	0,0029	-0,2555	-0,2936	0,0000
EBIT/ Total Assets	0,0052	0,0034	-0,2553	-0,2933	0,0000
Exchange value of equity / Outside Capital	0,0350	0,2668	-0,0047	-0,2396	-0,2396
Net Sales Revenues/ Total Assets	0,2077	0,3557	0,5665	0,5935	0,0000

Source: Own editing based on annual report of Terményszárító és Raktározó Kft

Table 6
Values of Z-score model in case of Terményszárító és Raktározó Kft

Amount unit: -

Description	2014	2015	2016	2017	2018
Value of Altman Z-score	-0,1670	0,4449	-0,5362	-1,3580	-0,7905
Interval	Z<1,23	Z<1,23	Z<1,23	Z<1,23	Z<1,23
State	bankruptcy	bankruptcy	bankruptcy	bankruptcy	bankruptcy

Source: Own calculation based on formula of Altman Z-score model

Table 7
Development of Springate model in case of ANTAL+APPELT Kft

Amount unit: -

Description	2014	2015	2016	2017	2018
Working Capital / Assets in total	-0,4032	-0,4287	-0,2319	-0,0100	-0,0729
(Earnings Before Taxes + Interest Payments) / Assets in total	0,0019	-0,0453	-0,1183	-0,0408	-0,0665
Earnings Before Taxes / Current Liabilities	0,0025	-0,0585	-0,2048	-0,1169	-0,1610
Net Sales Revenues / Assets in total	0,0958	0,1590	0,0113	0,0313	0,0000

Source: Own editing based on annual report of ANTAL+APPELT Kft

Table 8
Values of Springate model in case of ANTAL+APPELT Kft

Amount unit: -

Description	2014	2015	2016	2017	2018
Value of Springate model	-0,3696	-0,5558	-0,7328	-0,2002	-0,3856
Intervals	Z<0,862	Z<0,862	Z<0,862	Z<0,862	Z<0,862
State	bankruptcy	bankruptcy	bankruptcy	bankruptcy	bankruptcy

Source: Own editing based on the annual report

Table 9
Development of Springate model in case of MERCS-97 Kft

Amount unit: -

Description	2014	2015	2016	2017	2018
Working Capital / Assets in total	-0,8722	-4,2442	-6,8562	-6,4273	-12,8315
(Earnings Before Taxes + Interest Payments) / Assets in total	-0,7495	-2,4046	-0,7111	-0,8254	-4,0921
Earnings Before Taxes / Current Liabilities	-0,4937	-0,5221	-0,1009	-0,1241	-0,3110
Net Sales Revenues / Assets in total	5,9406	11,9759	0,0000	0,0000	0,0000

Source: Own editing based on annual report of MERCS-97 Kft

Table 10
Values of Springate model in case of MERCS-97 Kft

Amount unit: -

Description	2014	2015	2016	2017	2018
Value of Springate model	-1,1489	-7,3079	-9,3115	-9,2360	-25,9845
Intervals	Z<0,862	Z<0,862	Z<0,862	Z<0,862	Z<0,862
State	bankruptcy	bankruptcy	bankruptcy	bankruptcy	bankruptcy

Source: Own editing based on the annual report

Table 11
Development of Springate model in case of Terményszárító és Raktározó Kft

Amount unit: -

Description	2014	2015	2016	2017	2018
Working Capital / Assets in total	-0,5700	-0,0491	-0,1254	-0,9621	-0,9621
(Earnings Before Taxes + Interest Payments) / Assets in total	0,0052	0,0034	-0,2553	-0,2933	0,0000
Earnings Before Taxes / Current Liabilities	0,0056	0,0094	-0,5769	-0,2239	0,0000
Net Sales Revenues / Assets in total	0,2077	0,3557	0,5665	0,5935	0,0000

Source: Own editing based on annual report of Terményszárító és Raktározó Kft

Table 12
Values of Springate model in case of Terményszárító és Raktározó Kft

Amount unit: -

Description	2014	2015	2016	2017	2018
Values of Springate model	-0,4843	0,1084	-1,0671	-1,8017	-0,9910
Intervals	Z<0,862	Z<0,862	Z<0,862	Z<0,862	Z<0,862
State	bankruptcy	bankruptcy	bankruptcy	bankruptcy	bankruptcy

Source: Own editing based on the annual report