AN ANALYSIS OF VALUE CREATION IN CZECH FOOD COMPANIES

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Abstract: The subject of this article is based on an analysis of food companies in the Czech Republic. The aim of the article is to identify differences in value creation (including causal ones) across the companies. We chose a basic sample of all 931 Czech companies in the food industry sector, in segments such as meat and fish processing, milk and dairy products and so on. Of this group, 707 companies had sufficient and available financial data for the year 2014. In the second step we calculated the EVA and ROE indicators for those companies. Subsequently, 382 successful companies (EVA indicator > 0) and 103 extremely unsuccessful companies (ROE < 0) were selected for further analysis. For these companies, a profile analysis, considering difference in averages, was done which allowed us to compare each of selected financial indicators in both groups of companies and to find the greatest differences between them. In the next step a logistic regression model was used (for indicators with a statistically significant difference) identifying which indicators would serve as the basis for a model for distinguishing high-performing companies from low-performing ones. Thus obtained indicators are evaluated on the basis of the food company model. We created a CVM model which is able to identify companies which create values in 97.1 % of cases and in 79.6 % of cases is able to recognize companies which destroy value. An advantage of the model is its ability to detect areas where the companies are strengthened or weakened due to used financial indicators.

Keywords: value creation, performance, EVA ratio,financial analysis, food companies

JEL Classification: L25, L66, G31

INTRODUCTION

The aim of the article is to analyse food companies in the Czech Republic. It focuses on recognizing the differences in value creation (including causal ones) across the companies. It is partly aimed at dividing the companies into a high-performing group (creating value) and a low-performing group (destroying value) and attempts to identify the indicators that best distinguish between these two groups of companies. The result would then be a comprehensive indicator (composed of selected financial indicators) that with considerable accuracy would be able to identify the high-performing and low-performing companies, including areas where there is creation or, conversely, destruction of value.

Within the research, the authors combine a performance and value approach. A performance approach is typified by a complex view of various areas of the company through a wide range of financial indicators which serve as indicators of a good or, conversely, a problematic or bad situation. In contrast, the value approach, as represented by the EVA indicator, is typical for its overall view of the company's ability to create or destroy value. Linking the two approaches makes it possible to identify the areas (through various financial indicators) where value (as detected by the EVA indicator for the company as a whole) is created or destroyed.

The use of the EVA indicator allows us to categorize the companies into those creating value (EVA > 0 while ROE > 0) and those destroying value (EVA < 0 while ROE < 0). However, the design of the EVA indicator does not allow us to find out the causes of the creation or the destruction of value. Rather, it is based on an estimate, more precisely, on a calculation

of risks that are often external (see, for example, the risk-free rate risks derived from government securities) or are only focused on one area of the company, i.e. on profit and profitability, or on the market value of equity (cf. Kaur, Narang, 2009, Chvátalová, Hřebíček, 2012, Kuběnka, Bolečková, 2015). Within the structure of the indicator EVA equity, which is also used in our research, is a greater focus on the inner workings of the company, nevertheless, the view of the company through risk remains the same (Neumaierová, Neumaier, 2014). The authors Neumaierová and Neumaier (Neumaierová, Neumaier, 2014), Walters (Walters, 1999) and Panigrahi et al. (Panigrahi et al., 2014a) seem to have gone the furthest regarding the inner workings of the company, including the identification of the causes of value creation. These authors, however, link the factors affecting the value (its creation) directly to the EVA indicator, whereas in our study, it is merely used to categorise companies. The other indicators (including the constructed model) are attached to it only indirectly. Such an approach should ensure better identification of potential sources of value creation, as it is wider and does not focus on areas that are directly affected by the EVA indicator (in this case, ROE and cost of equity).

Conversely, the financial indicators within the investigation into performance are able to identify problem areas in the company, thereby attracting the attention of managers and enabling a speedy identification and subsequent solving of the problem. However, in the context of performance, value, or more precisely, its creation, expansion, or destruction, is only one of the areas of investigation, that is to say, it is only one of the possible approaches. Thus, if a company (managers or owners) wants to focus on value, i.e., where and why it comes into existence, grows or, vice versa, expires, it offers the opportunity of using those financial performance indicators that have the greatest impact on the value measured by EVA, either individually or within the presented model.

1. THEORETICAL FRAMEWORK

Performance is a common term (and not only in relation to customer satisfaction), and many authors deal with performance measurement. Nevertheless, there are few authors who concern themselves with defining it, even though there is no standard and generally accepted definition of this term. This makes a comparison of differently measured performance problematical, as different tools measure performance which is conceived differently.

Performance is defined in different ways, usually with regard to the degree of generality. Drucker defines performance as the final test of any organization (Drucker, 1992). It can be added that this test must have its economic dimension. Performance can also be defined more specifically as the company's ability to increase the value of invested capital (Hindls et al., 2003). A company is high-performing if it achieves its objectives and, at the same time, is able to satisfy the demands of its customers more effectively and with greater efficiency than its competitors (Kotler, 1984). Effectiveness, in this context, means the degree of satisfaction of customer demands, while efficiency is the efficacy with which the company spends resources on ensuring the required level of customer satisfaction (Neely et al., 1995). Performance reflects a company's ability to increase the value of invested resources by its activities, and to produce profit and ensure future development (Škodáková, 2009). It can be added that performance embraces all the areas of the company's activities, which it is necessary to harmonize in such a way that the result is a functioning and prosperous company with good, long-term prospects (Pavelková Knápková, 2005). In this research, performance will be viewed as effectiveness. Performance will then be assessed with regard to the expended resources of the company from a purely financial point of view.

When measuring performance, it offers up the possibility of using a complex perspective that allows us to assess all the economic aspects of the functioning of a company in a quantitative way. This view corresponds with the one of Drucker's, who, as early as the 1950s, came up with the thesis that market position, innovation, productivity, physical and financial resources, profitability, the performance of managers and their development,

the performance and approach to work of employees, and public accountability are the proper criteria of performance (Drucker, 1954).
At present, companies tend to focus on maximizing shareholder value, whereby the measurement of economic values and financial measurements are integrated together to help management to achieve its goals (Esbouei et al., 2014). Due to this, the EVA indicator in our research is derived from the ROE indicator (EVA equity) (cf. Varaiya, et al., 1987).
The financial performance measurement indicators can be divided into two groups: traditional indicators (including, for example, ROE, ROA) and modern indicators (e.g. EVA). These measure the same financial performance, but in different ways (Yalcin et al., 2012). For the best Turkish companies in the food industry (evaluated as high-performing), the results of assessment are the same according to both methods (Yalcin et al., 2012). We can conclude that there should be a significant statistical difference between the selected traditional indicators of two groups of companies which were created by dividing the research sample of companies into high-performing and low-performing by means of the EVA indicator (hypothesis 1). The EVA indicator and its results does not include grey zone.
Within a complex approach to measuring company performance, it is possible to encounter different groups of financial indicators. Some authors use indicators of profitability, activity, indebtedness, liquidity, growth and indicators of asset structure (see Delen et al. 2013). Others use indicators of profitability, indebtedness, liquidity and growth (see Heikal et al. 2014).
It follows that, at least for the long-term viability of the company, its profitability, which seems to be the primary measure of performance, is influenced by a number of other factors. The company must ensure it is solvent, because without this it cannot survive in long-term. Ability to pay, however, represents a certain limitation of profitability, because the company is forced to retain a certain amount of funds in its account, which, therefore, cannot be invested and increased in value. The company must also maintain a reasonable proportion of debt, and thus a reasonable share of risk associated with debt. This is another limitation of profitability, because the maximum debt would represent, on the one hand, a maximum return on equity (in the case of a positive effect of financial leverage), but on the other hand, the maximum risk of over-indebtedness (in the case of a negative effect of financial leverage). Effectiveness also has an influence on profitability, which is treated as the company's resources and it is reflected in the indicators of activity (turnover). The capital market perspective is also important. It serves as a correction device for the identified (accounting) performance of the company, more precisely it allows us to assess the real performance of the company from an external (independent) view.
It is therefore appropriate to assess performance in this context, at least in the area of profitability, liquidity, indebtedness and activity. Unfortunately, due to the absence of a developed capital market, it is not possible to use indicators of this type when researching the financial performance of companies in the Czech Republic (with the exception of a few dozen companies).
Authors such as Walters (Walters, 1999), Neumaierová and Neumaier (Neumaierová, Neumaier, 2014) or Panigrahi et al. (Panigrahi et al., 2014) have elaborated the relationship of performance and value in terms of areas, which are, on the one hand, reflected in the degree of efficiency, and on the other, more or less contribute to the creation of value. Panigrani et al. have also elaborated a relationship of selected financial indicators (including EVA) to shareholder value (Panigrahi et al., 2014b), which corresponds with the approach used in our research. It suggests that the indicators showing the level of performance are also able to indicate the degree of value creation.

1.1. Methodology

The companies will be divided into three groups on the basis of the EVA indicator plus will be added the grey zone. In the first group (high-performing companies) will be those companies where EVA > 0 and ROE > 0, the second group (the grey zone) will consist of companies where

EVA < 0 while ROE > 0 and in the third group (low-performing companies), will be made up of companies where EVA < 0 and ROE < 0.
Only companies from the first and third groups will be used for further analysis of the differences between the selected traditional indicators. Thus, the difference between high-performing and low-performing companies will be emphasised and more striking. This should reflect in the differences in the selected traditional indicators of both groups of companies.
The construction of the EVA indicator was based on the methodology of the Ministry of Trade and Industry which is used as standard in Czech companies (Department of Economic Analyses, 2014, pp. 158-161).The general construction of the indicator, in which the ROE indicator, cost of equity (re) and the amount of equity (VK) also feature, is as follows: EVA = (ROE - r_e) * VK
The costs of equity are further calculated by using a modular method and they represent the sum of the risk-free rate of return, business risk, financial stability risk, and risks related to the size of the company and financial structure.
After dividing the companies into the appropriate groups (high-performing and low-performing) a profile analysis will be done for each company in both groups. For this analysis, 34 common financial indicators will be used (see Table 1), again designed in accordance with the methodology of the Ministry of Trade and Industry (Department of Economic Analyses, 2014).

Table 1 – A selection of the indicators used in the model from a list of the financial indicators used in the profile analysis (all indicators are listed in Appendix 1)

Current liquidity = current assets / short-term liabilities
Net profit margin = net profit result / (operating income + extraordinary income)
Leverage = total assets / equity
The degree of financial autonomy = equity / (long-term liabilities + short-term liabilities + bank loans and overdrafts)
Indebtedness ratio = equity / external resources
Immediate liquidity = financial assets / short-term liabilities
Share of own resources = equity / total assets
Quick liquidity = (current assets – reserves) / short-term liabilities
Operating liquidity = (depreciation + EBIT+ reserves) / (long-term liabilities + short-term liabilities – long-term financial assets)
ROCE = EBIT / (equity + reserves + long-term liabilities + long-term bank loans)

Source: The authors

The profile analysis allows us to compare each of the selected financial indicators in both groups of companies and to determine the differences between them. In order to create a model that is best able to distinguish between high-performing and low-performing companies, the indicators with the greatest differences will be used. The degree of an indicator's differentiation will be examined through the distance of average values of the relevant indicator between the two groups of companies, and individually for all studied indicators. The authors draw on the assumption that the more diverse the indicators, the easier it will be to distinguish between high-performing and low-performing companies-
In the second step, we get to the modelling of selected indicators using logistic regression. Logistic regression is applicable where there are only two expected results - the company is either high-performing or low-performing. It is prerequisite of normality that is important for logistic regression. In our model, it is fulfilled by drawing from a basic file, and not only from a selection of data (Pecáková, 2007). At the same time, it is essential that both results are adequately represented in the data (Hendl, 2012). Then it is possible to construct a logistic regression model in the following form (Hosmer, 2013):

$$P[Y(x) = 1] = \frac{\exp(\beta' x)}{1+\exp(\beta' x)} \quad (1)$$

Where Y takes the values 0 and 1, and thus defines the difference between the categories Y = 1 as a high-performing company and Y = 0 as a low-performing company. The concrete calculations are processed using the statistical

software GRETL (Gretl, 2016). To verify the reliability of the model variables, a t-test is used with a set level of significance of p = 5%.
To verify the validity of the model as a whole, a Chi-square was used. It is calculated as follows:

$$Q_{LR} = 2(\ln L(\hat{\beta}_k, \hat{\beta}_{-k}) - \ln L(0, \tilde{\beta}_{-k})) \qquad (2)$$

A P-value < 0.05 rejects the null hypothesis that the model without residuals is better than the one under consideration, which can be interpreted to mean that the model is reliable (provides correct results).
The individual financial indicators (including EVA) are variously mutually interconnected through the use of the same or similar input data. This is why the multicolinearity of the modelled variable will also be tested in the final model. Therefore, the intensity of dependence between two or more explanatory variables will be measured, in which the capacity of the detected rate of multicolinearity will be ascertained. The calculation of the value of multicolinearity (VIF) is as follows: VIF (j) = 1 / (1 - R (j) ^ 2), where R (j) is the multipath correlation coefficient between the variable j and the other independent variables. The co-linearity test accepts the model, if the minimum value is higher than 1 and lower than 10. In this context the multicolinearity is acceptable. The differentiation rate will be ascertained by means of the distance of averages of the individual groups for each indicator.

1.2. Research sample

We chose a basic sample of all 931 Czech companies in the food industry sector, in segments such as meat and fish processing, milk and dairy products and so on. Of these companies 707 companies had sufficient and available financial data for the year 2014. From this group, 485 companies were then selected for further analysis (382 high-performing and 103 low-performing companies).

2. RESULTS

In creating a comprehensive model from financial indicators, which would at the same time be able to identify high-performing companies (creating value) or, conversely, the low-performing ones (destroying value), it was, first of all, necessary to categorise the companies into two groups using the EVA indicator. The results are shown in Table 2. It is clear from the results that, in our categorisation, the high-performing companies are more numerous (78.7%).

Table 2 Characteristics of the high-performing and low-performing companies

Group of companies	Number	EVA average	EVA max	EVA min	ROE average	ROE max	ROE min
High-performing	382	69 302	1 737 341	1	27.07 %	423.65%	0.27%
Low-performing	103	-16 322	-8	-338 636	-20.62 %	-0.06%	-478.92%

Source: The authors

The table also shows that all the companies belonging to the group of high-performing or low-performing companies were selected, i.e. those of 'very high-performance' with a maximum EVA or ROE or those of 'very low-performance' with a minimum EVA or ROE. Due to the fact that the survey excluded the 'grey zone' group of companies with a negative EVA and positive ROE, the results of high-performing and low-performing companies do not overlap. The attained variety of data from the two groups of companies, along with the non-overlapping of the results of the EVA and ROE indicators, allowed us to create a robust model that respects the diversity and differences of the surveyed companies.
The second step was to identify indicators that were appropriate for the model construction. The suitability of the indicators was assessed on the basis of differences in values of averages of the indicators between high-performing and low performing companies, where a greater divergence meant a greater suitability of the indicator for inclusion in the model. The average values of the selected indicators and their mutual differences within both groups of companies are set out in Table 3 (the values of all indicators are given in Appendix 2). The values in Table 3 are

ranked from the largest positive differences to the largest negative differences. Positive differences mean that the average value of the indicator for the group of high-performing companies was higher than in the group of low-performing companies. In the case of negative differences, the average value of the indicator for the group of high-performing companies, was on the contrary, lower than in the group of low-performing companies. Five factors with the largest positive differences and five indicators with the largest negative differences were then selected for further analysis.

Table 3 A comparison of coefficients of averages – the selection of the indicators used in the model

Differences in averages	**Order**	**Indicator**
Positive differences		
320%	1	Degree of financial independence
123%	2	Immediate liquidity
111%	3	Quick liquidity
104%	4	Current liquidity*
79%	5	Share of own resources
Negative differences		
-158%	30	Financial leverage
-162%	31	Indebtedness ratio
-169%	32	Operating liquidity
-177%	33	Net profit margin
-226%	34	ROCE

Source: The authors

While modeling with logistic regression, based on the results of the t-test, statistically insignificant indicators were gradually removed. The following six indicators were removed:

- Financial leverage (p-value: 0.2449)
- Degree of financial independence (p-value: 0.4403)
- Immediate liquidity (p-value: 0.5693)
- Share of own resources (p-value: 0.0915)
- Quick liquidity (p-value: 0.9738)
- Operating liquidity (p-value: 0.1561)

The resulting equation of the logistic regression model of value creation (value creation model - CVM), which is able to distinguish between high-performing and low-performing companies with regard to the ability to create or destroy value that was constructed by means of logistic regression then takes the following form:

$$CVM = \frac{1}{1+e^{-(1.1064-0.0585*F_1+0.02787*F_2+1.1487*F_3+0.2086*F_4)}} \quad (3)$$

Where:
F1 ...current liquidity
F2 ... net profit margin,
F3 ... ROCE
F4 ... indebtedness ratio

There are four indicators which are statistically significant (p-value < 0.05) in the logistic regression model shown in Table 4, meaning that they can be included in the model. This table also shows specific p-values, and in particular the coefficients of the individual variables (the used indicators) which determine the model equation. To verify the validity of the model, the chi-square was calculated (see Methodology section) with a value of 129.613 and a p-value of 0. This makes it possible to reject the null hypothesis and consider the resulting model as reliable.

Table 4 The variables and parameters of the final model

Variable	Coefficient	p-value
Invariable	1.10642	<0.0001
Current liquidity	-0.0584979	0.0023
Net profit margin	0.0278744	0.0002
ROCE	1.14867	<0.0001
Indebtedness ratio	0.208643	<0.0001

Source: The authors

Given the closeness of individual data in the financial statements and their possible interactions, a test was conducted that detects the possibility of collinearity (see Table 5). With regard to the achieved values, it is possible to say that the final model is correct and to rule out the possibility of collinearity of the used indicators.

Table 5 Collinearity test results of the variables used in the model

Variable	Value of correlation coefficient
Current liquidity	1.008
Net profit margin	1.023
ROCE	1.140
Indebtedness ratio	1.128

Source: The authors

To verify whether the model corresponds to the real data and has a real explanatory ability, the resulting model was tested using data from the food industry. Given the fact that the model was created using a basic file so that the maximum information value could be obtained, a special test pattern was not used, the input data was. In this testing, the agreement with classifying the companies in the original way (using the EVA and ROE indicators into two groups of companies) with their classification using the CVM model was studied. At the same time, limit were set in CVM model for high-performing (creating value), low-performing (destroying value) and 'grey zone' companies (it cannot be clearly said whether they create or destroy value). In this test - putting values into the equation model, it was found that the model showed a high ability for similar classification, as in the case of using the EVA and ROE indicators, when setting the limit values in CVM to 1 - 0.758 for high-performing companies, then 0.758 to 0.628 for 'grey zone' companies and 0.628 - 0 for low-performing companies (see Table 6).

Table 6 The results of testing the model with the input data

	CVM values	Number of companies	% sample	Consensus
High-performing companies	> 0.758	349	71.13%	97.13%
'Grey zone' companies	between	85	17.53%	Was not studied
Low-performing companies	< 0.628	55	11.34%	79.63%

Source: The authors

The consensus of Grey zone was not studied due to is character. The EVA indicator does not include the grey zone, which means we can´t compare the consensus CVM x EVA in this category.

3. DISCUSSION

Using the EVA equity indicator and the ROE indicator, which is, in this case, part of EVA, companies were divided into high-performing ones (creating value) and low-performing ones (destroying value). This construction of the indicator is possible, although it differs from the original structure (cf. e.g. Neumaierová, Neumaier, 2014 O'Hanlon, Peasnell, 1998). The explanatory power of the EVA equity indicator is different from the original indicator and tells us more about the value for the owners of the company (shareholder), than the value

from the viewpoint of potential investors (stakeholders). In terms of evaluating the performance of the company, focusing on its inner workings, where the owners' point of view is very important even critical, we consider a fitting structure.

The EVA indicator as constructed here serves only to differentiate the companies into high-performing (creating value) and low-performing (destroying value) groups. The subsequently constructed CVM model, which is capable of identifying the creation or destruction of value, is independent of the indicator EVA. This independence means that the indicators used in the CVM model are not a direct component of the EVA. This distinguishes the CVM model from INFA (and derived indices IN), which is, by its construction, directly linked to EVA (cf. Neumaierová, Neumaier, 2014). However, due to the interdependence of the individual financial indicators, it is not possible to ensure the complete independence of the indicators (see above).

The construction of CVM model was done in two steps, the first of which was to reduce the potentially usable financial indicators to those which were, in terms of the extent of their differences within the groups of high-performing and low-performing companies, most likely to become part of the construct of the CVM model. This reduction was done objectively, and it was necessary because of the lower number of companies in the group of low-performing companies (103 in total). The use of ten indicators in the CVM model is, thus, appropriate in terms of dimensionality reduction.

The CVM model that we created includes four financial indicators, one of which refers to liquidity, two refer to profitability and one relates to indebtedness. The indicator of liquidity affects the creation of value negatively. Because the growth of liquidity (in this case, current) represents an increase in the amount of funds (in this case, rather an increase in current assets) in relation to short-term resources, it can be concluded that this activity contributes to the creation of value negatively. This does not alter the fact that the effect of this variable in the CVM model compared to other models is weak (the second weakest in the model). If increasing (current) liquidity reduces performance and company value, it means that relevant assets or money is not being used appropriately, whether fully or partially. It is clear from the Table 3 that the liquidity of high-performing companies is significantly higher than that of low-performing ones, where it can be assumed that the higher liquidity is caused by higher levels of reserves, i.e. not making use of current assets. It will need to be analyzed within the specific company, where this inefficiency lies, whether in short-term assets, accounts receivable, stocks of materials and completed products and so on. In terms of value creation, it can also be inferred that current liquidity should be rather low, more precisely that value can be created by actions that reduce this liquidity.

The indebtedness indicator (indebtedness ratio) has a positive effect on value creation. Upon closer examination of the indicator of indebtedness, it is obvious that a decrease in indebtedness has a positive effect on growth and value creation. This is contrary to the generally accepted finding that increased indebtedness increases performance (Park, Jang, 2013).There is also, however, research that shows a negative effect of indebtedness on performance (Rajan, Zingales, 1995), which, on the other hand, supports our findings. From Table 3, it is clear that the indebtedness of high-performing companies is significantly lower than that of low-performing ones. With regard to the trade-off between profit and costs associated with debt, it was found that companies target optimal debt (Park, Jang, 2013). It can be inferred that the lower indebtedness of high-performing companies contributes to creating value more than the higher indebtedness of low-performing companies. This raises the question of whether the high-performing companies should be recommended to reduce their debt further, although it can be presumed from the model. It can be assumed that the use of equity (including debt) by low-performing companies is worse than that of high-performing ones. This is evident from differences in the profitability indicators of high-performing and low-performing companies, especially ROCE. The question is though, whether this is due to the high price

of liabilities or whether the causes must be sought in the inner workings of the company.
With regard to the negative effect of liquidity, indebtedness reduction (if, at the same time, there is an increase in balance sheet totals by increasing the amount of equity) must not project into an increase in liquidity (e.g. increasing the volume of money), but into an increase of in operations of the company (it must be properly invested, i.e., it must generate profit). The influence of this variable in the CVM model is relatively strong (the second strongest), which means that the indebtedness ratio has a great influence on creating value.
The indicators of profitability (ROCE and net profit margin) also effect value creation positively. In view of the construction of the EVA indicator, which includes profitability indicators (whether ROE or ROA), this is not a surprising finding. On the contrary, it confirms that for value creation (its growth), profitability (its growth) is crucial. It is clear though that it is not enough only to increase profits in relation to the balance sheet, or the ROCE part, i.e. the value of used resources (financial - liabilities or material - assets), but also profit against sales (net profit margin), which means company performance. The use of assets (or resources) is, in this respect, more significant and has a greater impact on value creation, than increasing the profit margin (see Table 4).
Recommendations for the creation and growth of company value from the viewpoint of the CVM model can be formulated as follows: increase company performance while increasing the profitability of invested resources, and while reducing the involvement of debt and lowering long-term liquidity (current ratio). For this, we recommend taking into account the risk of using one's own and external liabilities, which should then be reflected in their price and therefore profitability. The risk of insolvency should also be considered, which means comparing company liquidity with the recommended values or the average of a particular sector, and monitoring the structure of current assets.
This design of the CVM model is very similar to the index IN05 which is based on the INFA analysis (Neumaierová, Neumaier, 2014). In this index, there also are indicators from the same areas, i.e. profitability, liquidity and indebtedness, as in the case of the CVM model. However, the specific indicators are different. This is probably due the fact that the construction of the index IN05 and the CVM model is different, and also that the CVM model is constructed on a narrower set of data. While the index IN05 can be used universally, the CVM model can only be used (so far) for the food industry.
It is interesting that there is no indicator from the area of the activities of the company either in the index IN05 or the CVM model. It seems that these indicators have very little or no effect on value creation. It can be concluded that for value creation, it is not important how fast the individual resources are (either individually or together) utilised (how long they stay in the company), but the effect that is achieved by their use. From this point view value and its creation is very closely linked to profit and its creation.

CONCLUSION

A CVM model was constructed which from current data forms an equation, by means of which the analyst can classify companies into one of two groups – high-performing companies that create value (CVM greater than 0.758), and low-performing companies that destroy value (CVM less than 0.628). The model has greater explanatory power for companies that create value (97.13%), than for those that destroy it (79.63%).
The intervals set in this way allow us to utilise the maximum potential of the model. However, at the same time, it is in some cases not possible to clearly define the performance of the company, that is to say whether the company creates value or destroys it, and this introduces a so-called grey zone. This signals the fact that the company is heading for problems, and by extension does not generate enough value. Given that the design of the CVM model also meant to identify traditional indicators with statistically significant differences between the high-performing and low-performing companies, it is possible to consider hypothesis 1as verified.
The model is designed so that it covers three areas of company finance, namely liquidity, indebtedness and profitability. Contrary

to models from abroad (see e.g. Altman, E.I. (1968) it includes liquidity, which is consistent with models from the Czech Republic (Neumaierová, Neumaier, 2014 Grünwald, 2001). Although the model is similar to, for example, the index IN05, it was constructed in a different way and the specific indicators that were used are also different. The CVM model does not aspire to predict potential value creation of the company in the future. It is a model that evaluates the company retrospectively (ex post) based on actual data. However, the CVM model enables us to get a quick idea of the extent of the achieved value also in the areas where the value is mostly created or, conversely, mostly destroyed. The use of the model is particularly applicable to the corporate sector, whereby the owner or the manager of a company can easily check the economic performance of their investment (company).

LIMITATION

This model can be used as a model of solvency, which means as a model that determines whether company creates value or destroys it. However, the model is unable to determine whether the company goes bankrupt. With regard to its structure, it may also be recommended for use more in the short term. The model is further limited to the area of the food industry in the Czech Republic. It was constructed based on the results of this sector and to transfer the findings to other sectors or countries would only be possible on the basis of further research and verification. It must also be emphasized that for proper explanatory power, it is necessary to use the identical construction of indicators, including the relevant accounting data, without which it cannot obtain the correct outcomes. On the contrary, a different or incomplete construction of indicators, will most probably lead to distorted, inaccurate and ultimately misleading results and interpretations.

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APPENDICES

Appendix 1: List of all financial indicators used in the profile analysis

Current liquidity = current assets / short-term liabilities
Total debt = external resources / total assets
Net profit margin = net profit/ operating income + extra income
Net working equity = current assets / short-term external resources
Net working equity II = profit / operating income + extra income
Debt repayment period = external resources – reserves / profit for the accounting period + depreciation
EBIT = profit + tax payable + expense interest
EVA as a proportion of assets = EVA / total assets
Financial leverage = total assets / equity
The index of financial leverage = ROA / ROE
Self-financing coefficient= equity / total assets
Reserves coverage by working equity = net working equity / reserves
Degree of financial independence = equity / (long-term liabilities + short-term liabilities + bank loans and overdrafts)
Indebtedness ratio = equity / external resources
Cost = total cost / total revenue
NWC / long-term resources = (current assets - short-term external resources) / long-term assets
NWC / assets = (current assets - short-term external resources) / total assets
Turnover of total assets = total revenue / total assets
Turnover of long-term assets = total revenue / long-term assets
Turnover of current assets = total revenue / current assets
Turnover of receivables = total revenue / receivables
Turnover of equity = revenue / equity
Turnover of reserves= total assets / revenue
Immediate liquidity = financial assets / short-term liabilities
Share of own resources = equity / total assets
Quick liquidity = (current assets – reserves) / short-term liabilities
Operating liquidity = (depreciation + EBIT+ reserves) / (long-term liabilities + short-term liabilities – long-term financial assets)
ROA = EBIT/total assets
ROCE = EBIT / (equity + reserves + long-term liabilities + long-term bank loans)
ROE/NWC = ROE / (current assets – short-term external resources)
ROS = profit/revenue
Interest burden = (short-term + long-term) liabilities - financial assets / balance cash flow
Indebtedness CA = (short-term liabilities + long-term liabilities + bank loans and overdrafts) / total liabilities
Indebtedness VK = equity / external resources

Source: The authors

Appendix 2: Coefficients of individual indicators according to the profile analysis and comparison of averages

Coefficient	Order	Indicator
320%	1	Degree of financial independence
123%	2	Immediate liquidity
111%	3	Quick liquidity
104%	4	Current liquidity
79%	5	Share of own resources
75%	6	ROE/NWC
47%	7	Reserves turnover
36%	8	Current assets turnover
21%	9	NWC/long-term resources
4%	10	Receivables turnover
-6%	11	Cost
-39%	12	Turnover HIM
-40%	13	Total asset turnover
-42%	14	Debt repayment period
-55%	15	Interest burden
-57%	16	NWC/assets
-77%	17	Total indebtedness
-80%	18	ROS
-87%	19	Net working equity (alt.)
-91%	20	Net working equity
-93%	21	Self-financing coefficient
-97%	22	Reserves coverage by working equity
-113%	23	EBIT
-115%	24	Own equity turnover
-116%	25	Financial leverage index
-138%	26	Total assets indebtedness
-153%	27	Indebtedness VK
-156%	28	ROA
-157%	29	EVA as assets share
-158%	30	Financial leverage
-162%	31	Indebtedness ratio
-169%	32	Operating liquidity
-177%	33	Net profit margin
-226%	34	ROCE

Source: The authors