

PERFORMANCE FACTORS OF CZECH BREWING INDUSTRY COMPANIES

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Received: October 23, 2012

Abstract

CHMELÍKOVÁ GABRIELA: *Performance factors of Czech brewing industry companies*. Acta Universitatis Agriculturae et Silviculturae Mendeliana Brunensis, 2013, LXI, No. 2, pp. 353–365

The aim of this paper is to identify and subsequently quantify the intensity of relation between selected value drivers of Czech brewing industry companies and thus answer the question of what the significance level of partial indicators influencing the economic value added in the Czech brewing industry is. The aim was achieved by construction and application of multifactorial model for value generators explanation, which represents a synthesis of the INFA model and performance system Balanced Scorecard. The features typical for the first part of the model are algorithmized relations and financial character of the elements, while in the second with non-financial elements the ability of algorithmization is lost and the connection are defined solely on the basis of causality. This inconsistency also implied the difference in the character of analysis results. The proposed model made it possible to identify the most significant generators of value in the Czech brewing industry and it thus became an important guideline for brewery management. The results of the analysis offer a comprehensive overview of the most important value generators and thus enable the company managers to attain the goals of the owners more effectively.

performance, business value, value drivers, financial measures, non-financial measures, beer industry

Performance management

The term “performance” is often used in connection with management systems of a company. Even though this term has a high frequency of usage, its accurate definition is rather difficult to come by, even in publications focused on company performance. In most of these publications, the performance is connected with efficiency. Most authors, such as Corvellec (1994, 1995) or Bourguignon (1995), agree that the term “performance” is related to a process and its result compared with a certain benchmark. Neely (2002) made this definition more specific and described it as a complex of all processes in a company, leading to a future high performance organization (i.e. effective organization). In other words, performance is an activity, which will bring a measurable value in future. The word process has a key role in the definition of performance, which implies that the factors leading to the final result are important as well. Neely (2002) also states that in order to run a company effectively, it is necessary to implement

a causal model, which makes it possible to achieve required results on the basis of knowledge of factors of these results and causal relations between both levels.

When implementing the performance model, the main question appears to be what the success criterion of a given model is, or what company can be considered as efficient. To find the answer to this question, it is necessary to clarify the aims of company behaviour. According to Neumaier and Neumaierová (2002), the existence of a company is tied in with a whole range of different interests, whose bearers are called stakeholders (owners, creditors, employees, customers, business partners). From the viewpoint of individual groups of stakeholders there, because of different configurations of legislative and economic processes, arises a conflict of their interests and subsequently a pursuance of different performance criteria. For a creditor, an efficient company will be such a one which can maintain a continued and reliable ability to pay, for an employee such a one which continually looks

to the well-being of its human resources and for customers such a one which can guarantee a high quality of services and products. Even though these are very important success criteria of each company, none of them could be fulfilled if it did not exist or if it could not satisfy the interests of their owners. From the viewpoint of business economics, it is the owners who have the key influence. The owners are the ones who set up the company, decide about its structure, participate in the profits generated by the company and, last but not least, carry the highest amount of risk connected with the company business. According to Neumaier and Neumaierová (2002), after remunerating all stakeholders with a market price of their claims, there will be left a part of undistributed value which belongs to the owners. Other stakeholders are remunerated preferentially, and what remains then belongs to the owners. It is apparent that the owners bear the greatest portion of risk and in view of this also demand an adequate yield. They also represent the essence of each business unit and that is why each performance model should be constructed with respect to their interests.

What is the owners' interest? Wealth creation, achieving the highest possible appreciation of contributed capital while employing least risky processes. The owner aims to achieve such a state, when the output from the investment put into the company is higher than the input itself. When considering the creation of wealth, the owner cannot neglect two basic principles of finance – the time value of money and the evaluation of projects risk level. Both principles are simultaneously integrated into the indicator of net present value, whose observation is for that matter the basic building bloc of one of the current main methods of management – value based management.

Recently, a newly constructed indicator of company performance evaluation – economic value added (EVA) – has come into use. It respects the above mentioned principles better than the traditional accounting performance indicators. This concept encourages the managers to maximize the difference between the return on contributed capital and the costs of this capital. The acceptance of this concept is connected with expectations of a rise in resource allocation effectiveness and subsequent increase of shareholder value. The indicator is defined as a difference between the profit from the operating activity of a company and its capital cost. Thus it describes the ability of a company to achieve economic profit. Unlike the traditional indicators of financial management based on the accounting model, EVA can reflect real costs incurred in business.

The EVA indicator is not a new discovery. Both economic theory and practice have long been using a performance indicator called residual profit, which is defined as a difference between the profit from operative activity and capital costs. EVA is only a variation of this indicator, with precisely

defined modifications of used profit and capital. This indicator came into existence at the beginning of 1990s in Stern Stewart Management Services, New York, it is the property of this consultation company and it brought a great deal of popularity to the concept of residual income in all its forms. From the moment of its publication and subsequent propagation, the generating of economic value added has become the economic goal of many corporations. Though from the theoretical point of view EVA is seen as a superior performance metric, the results of some empirical studies do not support this claim. Numerous researchers have looked into the effectiveness of EVA using the independent empirical evidences (for instance: Biddle, Bowen, Wallace (1997); Turvey, Lake, Duren, Sparling (2000); Feltham, Issac, Mbagwu, Vaidyanathan (2004); Bacidore, Boquist, Milbourn, Thakor, (1997); Berenstein (1998); Kramer, Pushner, (1997) and did not indicate the superiority of EVA among other financial measures. Nevertheless, among both the Czech academic researches and practical financial analysts the usage of EVA is still limited because of the low empirical evidence of the behaviour of EVA within the Czech economy. A critical point of this research in the conditions of Czech economy is a lack of data about publicly trading companies, which at the same time, serve as an exogenous criterion for assessing the quality of the examined measure in the mentioned studies (see e.g. Chmelíková 2007, 2010).

According to Neumaier and Neumaierová (2002), the concept of EVA is the indicator of short-term (annual) performance of a company. It becomes a long term indicator in perpetuity, i.e. provided that it has long-term sustainability and it is converted to a current net value. In cases when the company does not consider reinvestments, such an indicator of economic value added represents the value of a company for owners and de facto a tool to evaluate the process of a company's performance.

Limits of indicators on the financial basis

In spite of its undoubted quality, the indicator suffers from common problems of financial indicators. Among the most frequently criticised aspects is a fact that this indicator has a delayed informative value (see e.g. Drucker, 1993 or Eccles, 1992). Most of these indicators are based on the past financial statements, which means that they are a consequence of previous decisions made by the management and thus are suitable for the evaluation of past decisions, but they cannot be considered indicative of future success. Their usage might lead to a conflict between new strategies and the current reality of the business environment. According to Kaplan, R.S., another critical factor for the success of financial indicators is the transition to the information age. When the information age started at the end of the previous century, a lot of premises connected with competition became obsolete. Based on these, the companies

maintained a competitive advantage mainly by the fastest possible introduction of new technologies into physical assets and by perfect management of financial assets and liabilities. The information age requires new abilities of both production and services offering companies. The ability to mobilize and make use of intangible assets is much more crucial now than it was before (see e.g. Sabolovič, 2011). And it is the evaluation of intangible assets by financial indicators which is often inadequate. In many cases, the financial criteria are not able to offer precise enough expression of values, which the managers created or dissipated in a given accounting period. An often mentioned setback is also a more complicated transfer of information on the system of financial criteria to the lower levels of management. Some financial criteria are constructed on the basis of market valuations, which are often not available, and if so, only at the whole company level. Their usage at the level of divisions is thus often very limited. Moreover, the construction of some financial schemes is so complicated that communicating it to the operative staff can fall flat. On the other hand, non-financial indicators like customer satisfaction or the quality of products can be easily monitored even on these levels. The importance of non-financial indicators for managing the performance of companies is thus unquestionable and to improve the quality of decision processes, it is desirable to include these indicators among analytical mechanisms. The transition from financial perspective to non-financial in the frame of performance management, which took place in the course of the last decades, brought about many systems for performance measurement (Performance Measurement System – PMS). Neely (2000) defines PMS as a balanced and dynamic system supportive of decision processes in a company. The concept of balance in PMS is achieved by including diverse indicators and thus it offers a comprehensive approach to managing all sections of an organization, and the concept of dynamism is achieved by continual monitoring of internal and external circumstances and subsequent adaptation of company's goals and priorities. Among the main attributes of these systems are above all the ability to absorb company strategy, accordance with the concept of shareholder wealth creation as the main aim of a business activity, the balance of individual performance factors of both financial and non-financial nature, the ability to adapt to changes in the surrounding environment and, last but not least, simplicity.

Factors of company performance

The complex systems of performance thus shifted the interest of managers from individual accounting indicators to a wider scale of factors considered as the main influencers of value. Their primary principle is the causality of occurrences behind the elements and connections of individual systems. According to Neumaier and Neumaierová (2002), there are

three categories of occurrences: algorithmized occurrences, cataloged occurrences and others. The first category is defined by the axioms and relations derived from them, the second one is also characterized by causality, but it is not defined by a functional relation, but by a certain probability, and the third category comprises ungraspable occurrences. The transition from financial to non-financial perspective is accompanied by transition from the first category to the second and third one and by the loss of a certain ability of algorithmical definition of relationships between individual indicators. However, in spite of the loss of the ability to quantify the relationship between studied values precisely, the very knowledge of the above mentioned causality is crucial for the value management.

Despite all the difficulties connected with using financial data, it is possible to consider the financial statements as a very valuable aspect for evaluation and managing the performance of a company. One of the key advantages of financial analysis is the possibility to ground the relations between individual variables algorithmically. In the current practice, three types of indicator systems are generally used for the comprehensive evaluation of companies on the basis of financial data. The three types are the parallel system, the pyramidal system and the credibility and bankruptcy system. Parallel systems single out such indicators which characterize individual areas of the company activity and organize them into groups. The advantages of this approach are its rich theoretical background and the accordance with functional organization of a company, a disadvantage is a low interconnection level between individual system elements, which makes a subsequent comprehensive evaluation of individual analysis results difficult. The advantage of credibility and bankruptcy indices is that they are easy to calculate and one does not have to work with large amounts of data, the disadvantage is that their informative value is not sufficient, if the information on the factors of this performance is not available. The main advantage of the pyramidal system of indicators is the reflection of connections between individual system indicators with a clear tie to a chosen syntactic indicator. A disadvantage is its weak theoretical background and rather high demands on analyst's knowledge. Neumaierová (2008) states that from the viewpoint of the conception of approach, parallel indicator systems are preferred in the current practice, but for the present, which is marked by a high degree of dynamic complexity, the most suitable indicator system conception is that of the pyramidal type. Because of its seeming complexity, pyramidal indicator system of financial performance is only rarely used. In spite of this fact, the pyramidal conception with a new feature of environment is the most compatible, and that is because its emphasis lies in capturing the connections between individual indicators. Unlike when employing the

parallel system of indicators, there is no risk that the main connections influencing this performance will not be taken into account. Because of its positive aspects, the principle of pyramidal breakdown can be selected as the framework for performance management system in Czech companies. By incorporating non-financial indicators into the pyramidal breakdown of a selected performance indicator, it is possible to avoid the downsides of the traditional financial system on the accounting basis, such as the emphasis on the past, low ability to evaluate intangible assets or the lack of clarity for individual employers. The possibility to overcome such difficulties is offered by combining the pyramidal analysis with the EVA indicator, which was thoroughly elaborated by Inka and Ivan Neumaier and which became known as INFA (Neumaierová, I. and Neumaier I., 2002). Linking this causal map to one of many performance systems can offer a comprehensive tool for a more thorough analysis of company performance than the one offered by just a financial analysis.

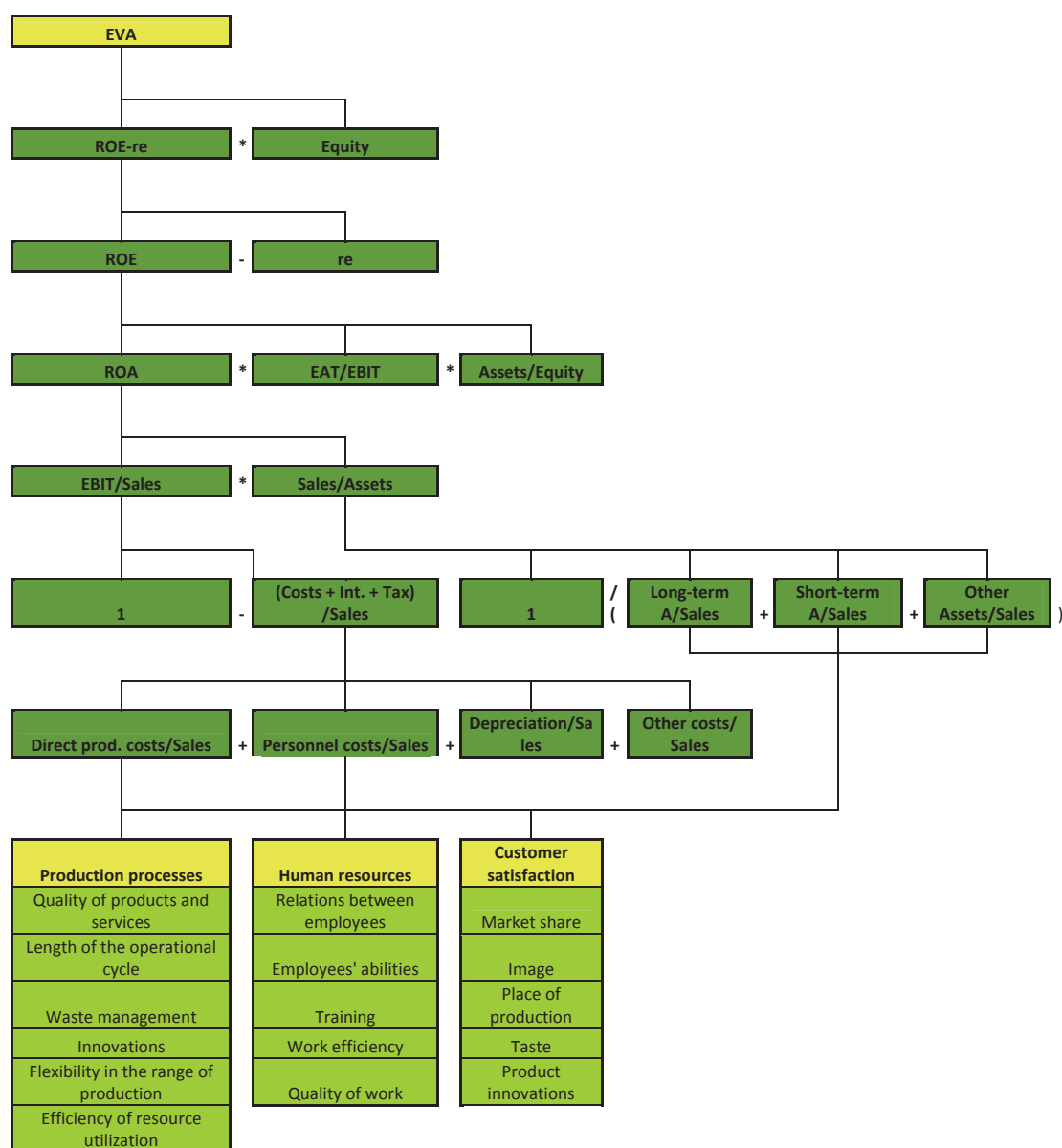
The wave of criticism of financial indicators led to a creation of a whole range of PMS. According to Garengo and coll. (Performance Measurement Systems in SMEs: A Review for a Research Agenda, 2005), the six most frequently used systems comprise Measurement Matrix (Keegan, D. P. Eiler, R. G. and Jones, C. R., 1989), Performance Pyramid System (Neely A. M., 2000), Results and Determinants Framework (Fitzgerald, 1991), Balanced Scorecard (Kaplan, R. S. Norton, D. P., 2000), Integrated Performance Measurement System (Bititci, U. S. Carrie, A. S. McDevitt, L., 1997), Performance Prism Organizational Performance Measurement (Chennell, A. Dransfield, S. Field, J. Fisher, N. Saunders, I. Shaw, D., 2000) a Integrated Performance Measurement for Small Firms (Laitinen, 2002). The shared principles of all these models is the inclusion of all possible factors which determine the value of a company, capturing their connections to the performance of a company and the ability to measure this performance. This principle will also be employed for the analysis of performance of Czech brewing companies. The most cited and probably the most applied model is the Balanced scorecard from 1996 (Kaplan, R. S. Norton, D. P., 1996). This model is based on the transformation of a company's strategy into a set of controllable indicators covering all areas of a company. According to its authors, the concept of Balanced scorecard consists of four dimensions. Apart from the financial aspects, this concept also encourages the search for indicators in three other perspectives – customer perspective, internal company processes perspective and the perspective of learning and growth. All of the four perspectives are interconnected by a system of causal links with a direct connection to a company strategy.

AIM AND THE METHODOLOGY

The aim of this paper is to identify and subsequently quantify the intensity between the selected influencers of company value from the sector of Czech brewing industry. On the basis of this goal, a following research question can be formed: “What is the significance degree of partial factors influencing the creation of economic value added in the Czech brewing industry?”

By means of synthesis of the EVA indicator pyramidal breakdown with the employment of the INFA model and one of the most frequently used PMS model Balanced Scorecard, it is possible to draft a causal map for the analysis of performance factors of the examined companies. The aim of the paper is to identify the performance factors in the brewing companies mainly from the group of financial indicators, but, if such data is available, also from the area of non-financial influencers of value. As a framework for the causal map, a theoretical multifactorial model for generator value explanation will be used (Sabolovič, Živělová, Chmelíková, 2011). It represents a synthesis of the INFA model and performance system Balance Scorecard. Partial indicators of the EVA analysis and the connections between them were thoroughly described by the INFA model authors and were taken from this model as well. The authors of the INFA model differentiate between short-term, middle-term and long-term company performance. The purpose of measurement then shapes the form of the peak indicator EVA, which is, depending on the length of the chosen period, expressed independently, in perpetuity or enriched by the value of a company's growth opportunities. In view of the fact that the aim of this research is to identify the value creation generators in the individual years of a chosen time period, the primary form of the EVA indicator will be selected.

The content of the individual perspectives of the Balanced Scorecard system was created by supplying indicators relevant for the brewing industry in the Czech Republic. To identify the relevancy of factors, especially from the customer perspective, we used the results of an extensive survey on the topic of Beer in Czech society, which is being continually carried out by the Centre for the Public Opinion Research – The Department of Sociology, the Academy of Sciences of the Czech Republic. Among other things, this project also dealt with such characteristics of beer which play a key role in the process, when customers decide whether to consume a given commodity or not. The choice of performance factors from the remaining perspectives – company processes and human capital – was done intuitively and its empirical verification will be carried out later, on the basis of data obtained from a questionnaire survey. The breakdown of the EVA indicator down to the level of non-financial background has a structure showed in Fig. 1:



1: Multifactorial model for the explanation of value generators of brewing companies
Source: (Sabolovič, M., Živělová, I. and Chmelíková, G., 2011)

From the scheme is apparent the boundary between the causal part of the map with functional relations and the part of causal dependencies, lying on the very border of financial and non-financial perspective. The transition from financial to non-financial perspective is accompanied by the loss of a certain ability to define the relations between individual indicators algorithmically. Nevertheless, even in spite of the loss of the possibility to quantify the relation between examined values precisely, the knowledge of causality between the examined values is very important to manage the value. A different character of the two parts of the pyramid implies that different methods should be used to identify the intensity of influence. The construction of the first algorithmized part has a form of the traditional pyramidal breakdown of

financial indicators. The pyramidal breakdown is not focused on the value itself, but on its change. Thus the purpose of pyramidal breakdown is to perform the analysis of syntactic indicator deviations and look for and express the factors which influence the deviations most significantly. According to Dluhošová (2004), there are two basic connections in the pyramidal systems, additive and multiplicative connections. The quantification of influences for the additive connection is defined by the ratio between the change of one partial indicator and the over-all change of all partial indicators. A more complicated situation arises only during the solution of multiplicative connection. Dluhošová (2004) lists four basic methods to solve the multiplicative connections: the method of gradual changes, the method of breakdown with

a remainder, logarithmic method of breakdown and functional method of breakdown. Even though the first method is often used in practice, it is the last two methods which are considered more precise and suitable. Their advantage lies in the fact that while explaining the individual influences, the current change of all indicators is reflected. The comparison between the logarithmic and functional method of breakdown implies that when there are only positive values of indicators, it is possible to recommend the logarithmic method, which is widely known and employed. In cases when there are negative values, this method cannot be applied and that is why a combination of both methods is advised. Both methods lead to similar results.

The output of the first part of the EVA indicator breakdown will be an ordered list of financial factors most significantly contributing to the creation of shareholder wealth within the Czech brewing industry. The identification of these individual indicators will facilitate the significance evaluation of the individual perspectives for value creation in this branch. The first part of the breakdown will be carried out on the basis of the INFA Rating Model (Neumaierová, I., Neumaier, I., 2005). Sabolovič, M., Chmelíková, G. (2011) state that the INFA rating model is compiled from three stages of business performance measurement. The first stage considering creation of productive powers (EBIT/Assets) allows analysing the product with no taxation impact. The second stage covers analysis of redistribution of EBIT among government (tax), creditors (interest), and shareholders (net profit). At the third stage involves financial stability analysis via useful life of assets and liabilities ratio. Algorithm of model is based on interdependencies among balance sheet, income statement and cash flow indicators. Economic Value Added (EVA) modified by Neumaierová & Neumaier (Neumaierová & Neumaier, 2002, 2005, 2005) is concerned on Value Spread (MPO, 2010). Value Spread ($ROE - r_e$) is difference of real return on equity and expected return on the corresponding risk r_e i.e. alternative cost of equity. If the Value Spread is positive the business reached positive EVA and thus shareholder value increases. Principle of cost of Equity r_e by course of INFA Rating Model contravenes mostly applied classical Modigliani – Miller theorem of capital structure (Modigliani & Miller, 1958; Brealey & Myers, 2008). The model of risk controlling comes from econometrics studies of rating agencies risk assessment. Mostly used Capital Assets Pricing Model is not suitable for emerging economics. As well, estimation of beta coefficient of non listed companies makes the model too subjective. In INFA Rating Model the Risk Premium represents the alternative Cost of Equity r_e . It is Return on Equity

achievable from investment to alternative risk opportunity for investment.

$$r_e = r_f + r_{FINSTRU} + r_{FINSTAB} + r_B + r_{LS} \quad (1)$$

where r_f is Risk Free Rate, which is return on risk-free assets represented by annual yield on 10 years Czech governmental bond, $r_{FINSTRU}$ is Financial Structure Risk Premium, which is derived from the debt ratios, $r_{FINSTAB}$ is Financial Stability Risk Premium, which is depended on the value of Liquidity Ratios, r_B Business Risk Premium, which is derived from the productive power of the company and r_{LS} Liquidity Risk Premium, which characterises company size according to total equity.

The second part of the scheme, in which there is no mathematically expressible connections, will be subjected to correlation analysis and if dependence between selected factors is detected, a regressive analysis will follow, with a subsequent mathematical expression of relation between the examined factor and the performance of a brewery. Because the data base is limited by secondary sources, only customer perspective factors can undergo this analysis. Other factors will represent a subject of a subsequent research.

The output of this part of the EVA indicator breakdown will be the analysis of tightness of relation between the selected customer perspective factors and the performance of breweries and using a dependence with correlation coefficient higher than 0.5, a regressive analysis with a precise definition of the causal relation will be carried out.

Data

As a primary data source for the research, financial statements of the examined breweries were used, taken from the electronic version of business register¹. The aim of this paper is to offer as complex an analysis as possible and a subsequent identification of the most significant generators of wealth of brewing industry companies, and that is why it was advisable to include in the research sample the largest possible number of active industrial breweries in the Czech Republic. Currently, there are 47 active industrial breweries in the Czech Republic (i.e. breweries which produce at least 10 000 hl of beer per year). However, the availability of financial statements reduced the number of examined breweries to 30, which represents 65 percent of the industry. Other data was retrieved from the web pages of respective breweries, from brewing calendars and also from the outputs of research dealing with the topic “Beer in Czech society”, which is being continually carried out by the Centre for Research of Public Opinion, the Department of Sociology at the Academy of Sciences of the Czech Republic.

1 The data from the business register was processed by the students at FRRMS and AF of Mendel University in Brno as a part of their assignments for the subjects Business Economics and Diploma Seminar.

RESULTS

Czech brewing

According to information provided by the Czech Association of Breweries and Malthouses (ČSPS), in 2011, after two years of considerable decline, the production of Czech breweries stopped falling. In 2011 17.6 million hl of beer was brewed in the Czech Republic, which represents 0.9% of the world production and places the Czech Republic on the 24th place among beer producing countries. Compared with 2010, the total volume of produced beer marked an increase of 2.7%, owing especially to new beers on the market, the sale of beer in PET bottles and rising export of beer (Altová, 2012). According to the most recent estimates, 500 beer brands are produced in the Czech Republic and their number is rising constantly. In 2001, 46 industrial breweries were producing beer and approximately 120 mini breweries and restaurant breweries.

The performance of brewing industry companies

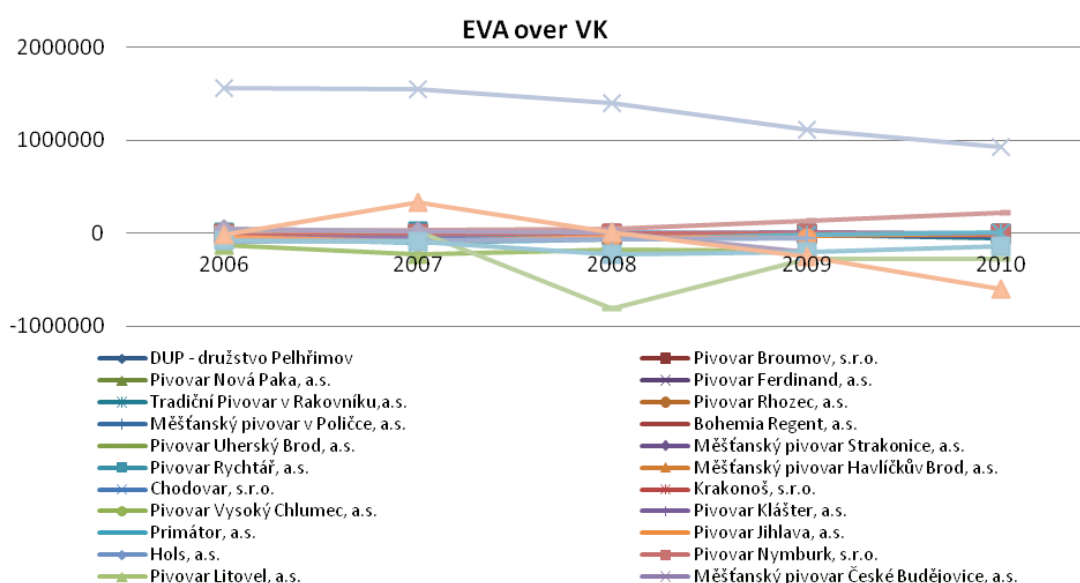
To evaluate the performance of brewing industry companies, a modified synthetic indicator of the EVA/VK pyramid was used, constructed as a residual profit allotted to one crown of capital contributed by owners. The relative expression of the indicator was chosen because of the mutual comparability of breweries. For comparison, a traditional performance indicator ROE is stated as well – the profitability of owned capital constructed as a ratio of net profits and the capital invested into the business by the owners. The indicator ROE is also one of the partial indicators of the proposed breakdown and thus one of the main

determinants of value creation in the framework of the Czech brewing industry. Figs. 2 and 3 show the development of both indicators at examined breweries between 2006 and 2010.

It is apparent from the development of the EVA/VK indicator, that most of the breweries do not attain a positive residual profit, with the exceptions being Plzeňský pivovar, a.s. and Pivovar Svijany, a.s. The value of the examined indicator at remaining breweries has mostly negative values. This finding is contradictory to the development of the second examined indicator, which, especially after 2008, has a positive value at most of the breweries. The reason of this discrepancy is that the book profits had been cleansed of the alternative cost of equity, which can be on the basis of this comparison identified as one of the significant factors of wealth creation for the owners of Czech breweries.

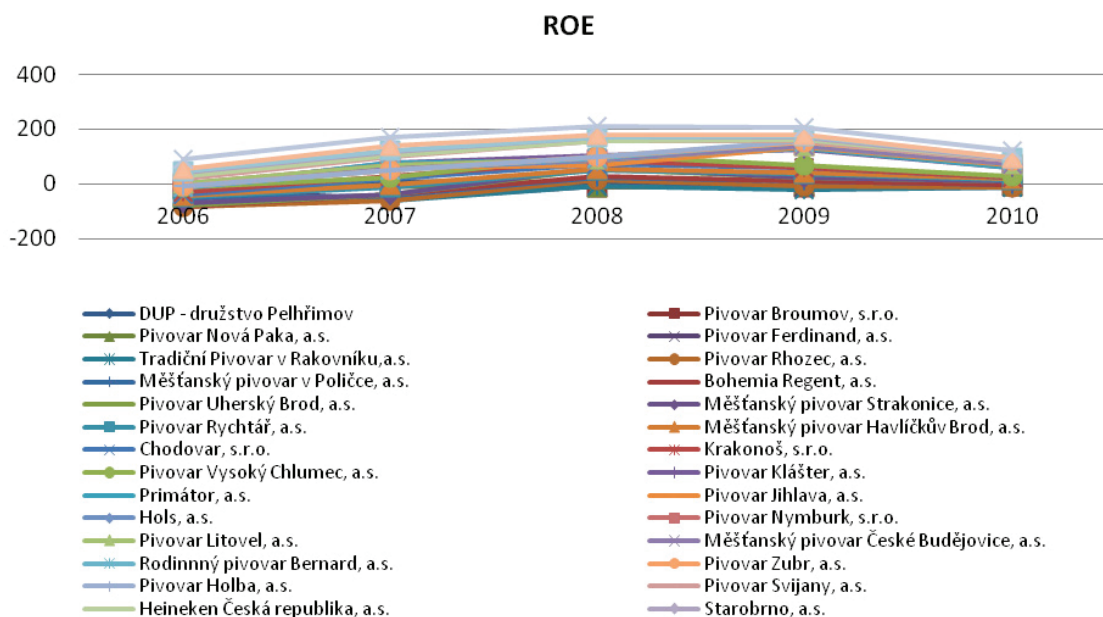
Financial generators of short-term performance of Czech brewing companies

To identify the financial generators, the first level of the multifactorial model for performance management was used, already mentioned in the methodology section of this paper. Each brewery was examined individually for five accounting periods and a logarithmic method or a method of gradual changes was used to identify the influence intensity of individual factors in the EVA indicator breakdown. The values of influence of individual factors were calculated only for breweries and for the period in which a positive economic value added was created. In Fig. 4 below are quantified individual factors at their average value for the examined period and sample of breweries.



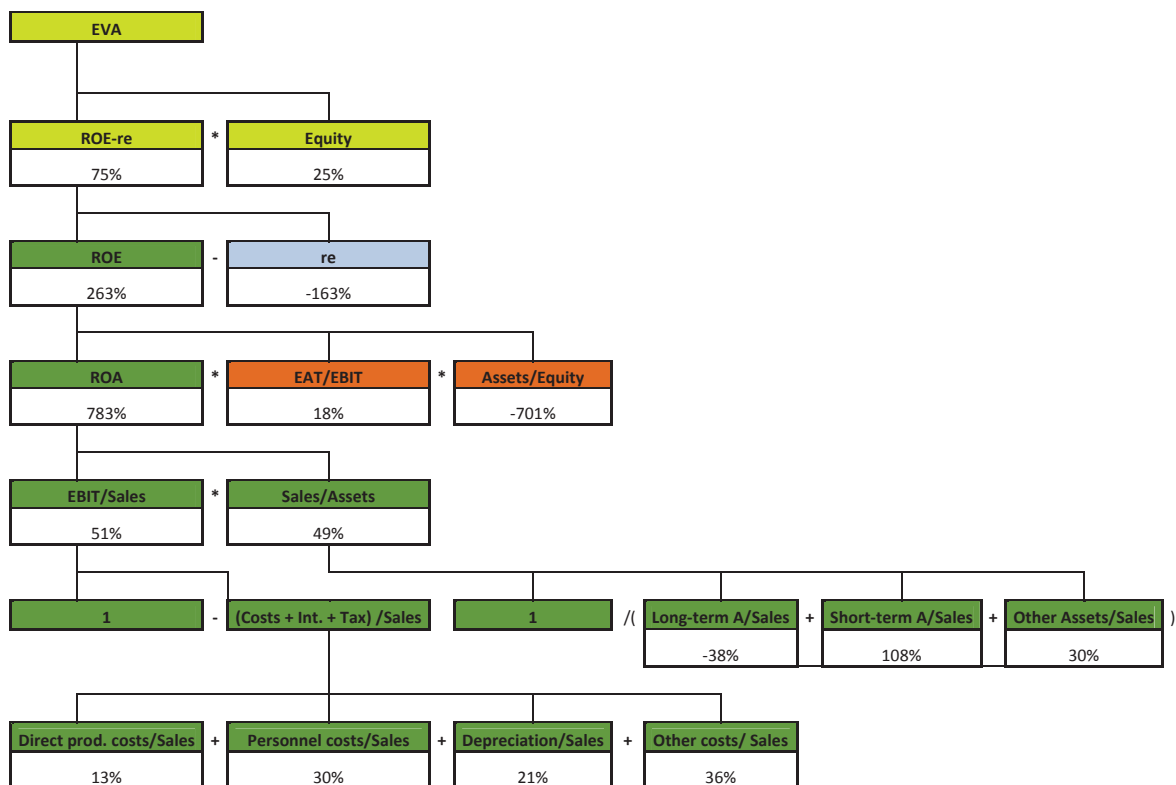
2: The development of the EVA indicator at chosen breweries in the Czech Republic between years 2006 and 2010

Source: Own calculations



3: The development of ROE indicator at selected breweries in the Czech Republic between 2006 and 2010

Source: Own calculations



4: Financial generators of short-term performance of the Czech brewing industry companies

Source: Own calculations

The INFA model is a map of connections of a company financial performance. Neumaierová (2005) divides them into three groups:

- criteria describing the way of company output creation and its ability to appreciate the total capital (marked with the green colour),
- criteria describing the way of dividing company output (marked with the orange colour),
- criteria of financial balance, in which the creation and division of a company output take place (marked with the blue colour).

It is apparent from the quantification of value generators, that the spread value (the difference between the actual and the required return on the owned capital) was positively influenced by the increase in the profitability of the owned capital and a negative increase of the risk level of investment in the shares of Czech breweries, reflected in the criteria of financial balance of the model. As a significant generator of wealth proved out to be the ability of Czech breweries to appreciate the total invested capital, which was documented by the ROA indicator. Other indicators reflecting the way of output division among company stakeholders had a negative or only insignificant influence. Profit margin and the turnover of total assets had an almost equal contribution to the creation of output from the total invested capital. The profit margin was on the increase owing to more effective expenditure of resources, especially in the area of personal expenses and depreciations. On the other hand, the utilization of long-term property had a negative influence on value creation, while the turn-over of liquid assets had a positive one.

Non-financial generators of performance of Czech brewing industry companies

The analysis of financial generators also proved the importance of non-financial influencers of economic value added. In the framework of the production perspective, the role of short-term property management efficiency proved out to be very important. So the criteria such as the length of an operational cycle or production range flexibility played a very significant role here. By contrast, the efficiency of production inputs utilization had the lowest impact on value creation among the expenditure items. On the other hand, the perspective of human resources offered a wide range of possibilities for effective cost management and the criteria such as work efficiency and the quality of work undoubtedly represented a significant contribution to the creation of economic value added during the examined period. A question remains whether in the process of cost reduction, generators in the form of employee training, schooling etc. were not overlooked.

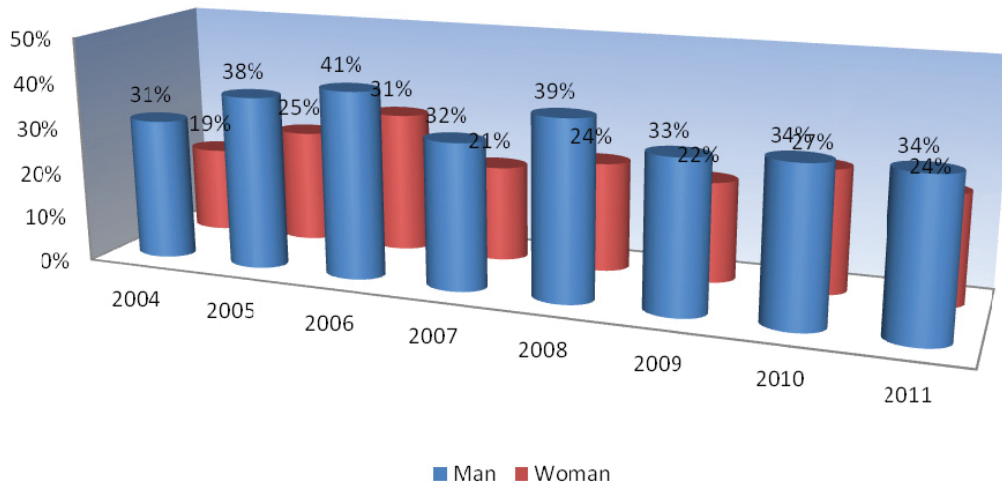
As it has been already mentioned, the transformation from financial perspective is accompanied by the loss of ability to define the relations between individual indicators algorithmically. Nevertheless, in spite of the loss of ability to quantify the relation between examined values precisely, it is the already mentioned knowledge of causality which is very important for value management. Because of the non-existent primary research in the area of employee and production perspective, it is not yet possible to quantify this causality, but it will be a subject of future research. As for the customer perspective, it was possible to determine it for chosen criteria. The scale of criteria was limited by the research conducted by the Department of Sociology at the

Academy of Sciences of the Czech Republic, focused on the consumer behaviour of beer consumers. Thus it was possible, from the customer perspective, to control the relation between the value and such criteria as market share, the place of production or taste.

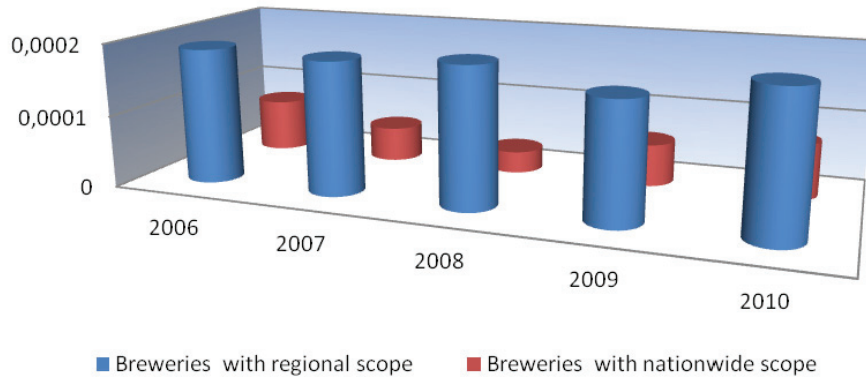
Among the traditional determinants of consumers' choice is the quality and price, but in case of beer, a relatively significant factor proved out to be the geographical location of the brewery or the brewery itself. From this point of view, the beer represents a special commodity whose consumers show elements of patriotic behaviour. These elements can have a significant impact on the wealth of owners of the respective breweries. According to Vinopal (2005), beer patriotism can be observed at two levels in Czech society – general level and local level. On general level, it is a certain national relation of Czech people to Czech beer. Vinopal (2005) states that Czechs are often connected with beer patriotism, or an extremely developed emotional relation to beer. This without any doubt stems from its deep and rich tradition in Czech culture and history. The Czechs are convinced that beer is the Czech national drink (93% of respondents of "Our society" survey 09/04 AV ČR gave this answer) and even that Czech beer is the best in the world (75% of respondents). The second dimension of beer patriotism is of local nature. In this framework, it is possible to observe a relation to beer brewed in the region of residence. The research proves that Czech consumers really are not indifferent to the beer origin. This fact is documented by Fig. 5.

Local patriotism is a phenomenon specific for certain commodities, such as – in our case – beer or football clubs. It can be presumed that in order to take advantage of it, the brewery does not have to make any expenses, it simply profits from the fact that the beer has regional character. On the basis of this presumption, it is possible to form a hypothesis that the breweries of local nature will tend to have better economic results than those with nationwide scope. Because of the multifactorial character of economic performance, it will be difficult to verify this presumption empirically. It is nevertheless possible to formulate a hypothesis, that the breweries with just local scope will attain better ratio between the profit margin and marketing costs, because the image of their brand is partially formed solely by the place of production, while the breweries with nationwide scope cannot make use of local patriotism effects. Such a hypothesis is confirmed by the development of the share of profit margin in total service costs observed in the two groups of breweries – with nationwide and regional scope, where the truly regional breweries can, in view of their expenses on services, set a higher profit margin (see Fig. 6).

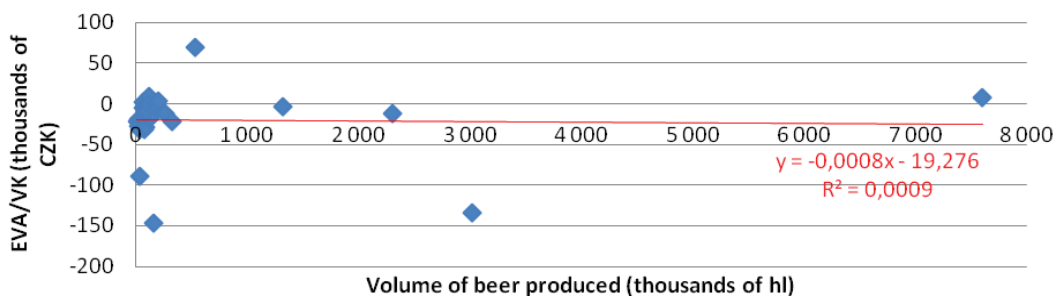
To document the influences of changes in the patriotic behaviour of Czech consumers, a regression analysis between the percentage of beer consumers preferring their own region and



5: The development of percentage of men and women who prefer beer from their own region
Source: Vinopal (2011)



6: The share of profit margin in services
Source: Own calculations



7: The relation between the performance of breweries and their size
Source: Own calculations

the development of profit margin to service costs ratio during the examined period for both groups of breweries. Again, in accordance with the above stated presumption that breweries with just local scope can take advantage of local patriotism, it is possible to form a hypothesis that the tightness of profit margin indicator to services and percentage of beer consumers preferring their own region will

show a higher level of tightness than breweries with a nationwide scope. The results of regressive analysis really proved a higher degree of tightness for breweries with local scope, where the coefficient of correlation was 0.42, while for the breweries with nationwide scope, it was 0.13. Both values were determined at the required significance level of 0.05.

The next non-financial determinant of Czech breweries definitely is the market share, which the individual breweries hold in the market. The volume of produced beer and the corresponding size of a brewery undoubtedly have an effect on its performance, but it is necessary to bear in mind that this influence has several dimensions. One of the best known and best described influences of company size on its economy is the concept of economies of scale, where the rising production is accompanied by savings in the form of a more efficient production, purchase of inputs and the distribution of outputs. This process is uniquely connected to the unification of production processes and merging distribution channels of input materials. This fact probably leads to the unification of beer taste, which the consumers might perceive as a negative aspect of such development. The question remains whether the size of a brewery has a definitely positive aspect on its performance. Fig. 7 documents the dependency of the relative performance of breweries, measured by the indicator EVA/VK, and their output.

From the chart is apparent a very low negative dependency of economic performance on the amount of produced beer, but the intensity of the tightness of relation reflected in the correlation coefficient is so low, that it is practically impossible to identify a dependency.

CONCLUSIONS

The aim of this paper was to identify and subsequently quantify the intensity of relation between the selected companies' values drivers from the Czech brewery sector and in doing so answer the question of what the significance level of partial factors influencing the creation of economic value added is. The analysis itself was preceded by the definition of the term "economic performance" and determination of the ways of measuring and managing this performance. On the basis of research

from literature dealing with different kinds of approaches to company performance management, a specific model for performance management in the brewing sector was proposed. This model was formed by the synthesis of pyramidal breakdown of economic value added and performance system Balanced Scorecard. The specific feature of this model is a certain degree of inconsistency between the individual elements of the system. While the typical features of the first part of the model are algorithmized relations and financial nature of the elements, the second part with non-financial elements loses the algorithmization ability and the connections are defined solely on the basis of causality. The proposed model made it possible to identify the most significant generators of value in Czech brewing industry. On the basis of the analysis, it is possible to include among the key financial influencers the production ability of a company measured by the return on total invested capital. Its two basic branches – the turnover of total assets and profit margin – played a similar role in the economic value added creation during the examined period. As a very significant generator proved out to be the efficiency of management of liquid assets and human resources. On the other hand, what had a very negative influence on the creation of value was the effect of the financial leverage and also the degree of risk reflected by the amount of return. Due to limited availability of data, only selected customer perspective indicators could be tested. In accordance with the theory of local beer patriotism, a positive causal relation between the regional scope of the brewery and the possibilities of setting the profit margin was identified. By contrast, no relation between the size of the brewery and its size was identified. The listed findings could serve as an important guideline for the management of breweries, because they offer a comprehensive overview of the most important generators of value and will enable the company managers to fulfil the goals of the owners more efficiently.

SUMMARY

The aim of this paper is to identify and subsequently quantify the intensity of relation between selected value drivers of Czech brewing industry companies and thus answer the question of what the significance level of partial indicators influencing the economic value added in the Czech brewing industry is. The aim was achieved by construction and application of multifactorial model for value generators explanation, which represents a synthesis of the INFA model and performance system Balanced Scorecard. The features typical for the first part of the model are algorithmized relations and financial character of the elements, while in the second with non-financial elements the ability of algorithmization is lost and the connection are defined solely on the basis of causality. This inconsistency also implied the difference in the character of analysis results. The proposed model made it possible to identify the most significant generators of value in Czech brewing industry. On the basis of the analysis, it is possible to include among the key financial influencers the production ability of a company measured by the return on total invested capital. Its two basic branches – the turnover of total assets and profit margin – played a similar role in the economic value added creation during the examined period. As a very significant generator proved out to be the efficiency of management of liquid assets and human resources. On the other hand, what had a very negative influence on the creation of value was the effect of the financial leverage and also the degree of risk reflected by the

amount of return. Due to limited availability of data, only selected customer perspective indicators could be tested. In accordance with the theory of local beer patriotism, a positive causal relation between the regional scope of the brewery and the possibilities of setting the profit margin was identified. By contrast, no relation between the size of the brewery and its size was identified. The listed findings could serve as an important guideline for the management of breweries, because they offer a comprehensive overview of the most important generators of value and will enable the company managers to fulfill the goals of the owners more efficiently.

Acknowledgement

This paper has arisen in the framework of the project: GA ČR (Czech Science Foundation) No. P403/12/P731 "Ohodnocování Dot-Com firm".

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