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## **ECONOMIC VALUE ADDED AS AN INSTRUMENT OF THE EFFICIENCY'S EVALUATION IN THE CONDITIONS OF THE CZECH CAPITAL MARKET**

**Key words:** economic value added, economic profit, book profit, costs of a shareholders's capital, profitability of a shareholders's capital, risk free interest rate

### **Abstract**

This paper defines economic value added as an instrument of the efficiency's evaluation in the Czech capital market. EVA is a new evaluation criterion of efficiency in the Czech Republic and in practice it is not much applied in the Czech companies. EVA is just used for big companies. Typical representatives of these companies are companies on the Prague Stock Exchange. The intention of this paper is to evaluate companies on the Prague Stock Exchange according to the way how they embody EVA and whether these companies have a larger ROE than the costs of equity.

### **Introduction**

The pivotal idea of the economic value added<sup>1</sup> is the fact that an investment creates to its investor a value only in the case when its expected rate of return exceeds its capital costs. The principle of the economic value added is to analyze the efficiency of a firm including the main factors affecting the efficiency; the objective is to influence the efficiency through the suitable instruments of financial management and to generate an economic profit in the form of EVA. In relation to the growing emphasis on the growth and a long-term existence of a firm, a deflection is also obvious from a classic objective in the form of an immediate profit realization to more long-term objectives based on the maximization of the future profits and a market value of a firm – i. e. the maximization of an economic profit.

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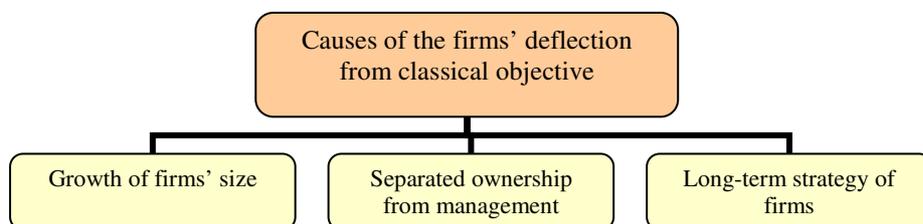
<sup>1</sup> Authors of EVA method are Stewart and Stern

## Economic value added

The economic value added is considered to be a value indicator, which measures a financial efficiency of a firm and represents a difference between the net operating profit and total costs to capital. The value approach is thus a representative of one from the alternative theories of a firm. The main objective of a firm is the creation of EVA, which is an expression of the firm's economic profit different from the book profit.

The book profit just appears in explicit costs and revenues. The economic profit definitely arises at the moment when the book profit exceeds classical costs as well as opportunity costs. At the first sight we could get the impression that we can achieve a higher economic value added by the utilization of debit financing, which is cheaper. However, the greater utilization of a debit increases a risk rate of an investment for shareholders who usually have aversion to risks. These will then request the increase of the investment's rate of profit. What unambiguously means that debit financing simultaneously increases the costs of the shareholders' capital. The economic profit is, besides others, influenced also by implicit costs, which are not really spent and thus are even not accountingly filed. The management of a value and EVA indicator is focused on the economic profit of a firm. The concept of the value takes into account the implicit costs (alternative costs of the shareholders' capital) and the traditional accounting model of a firm uses a resource for the expression of the economic model.

*Scheme nr. 1: Causes of the firms' deflection from the classical objective to economic objectives.*



Source: Own

The growth of the firms' size is a problem of the opinion on applying the classical financial analysis in the form of ratio indicators; account sheets are processed as consolidated for firms as a whole and from the investor's viewpoint the approach to particular sheets could be considered as a problem. From the investor's viewpoint more essential are greater positive market effects to be achieved than to monitor the strategy of a constant growth of the market value as well to monitor the effects as a whole and not only the particular accounting effects. The separation of ownership from management indicates that EVA, from the view of utilization at the present time, leads to great joint stock companies. It is also exercised in the same way in the Czech Republic. On the other hand, even limited liability companies can be found in the graph of firms creating the economic value added. That is proved by the table nr.1 from 2005. At the level of the separated ownership from management, the management is usually interested in the book profit (usually one of the conditions of the management's remuneration). Moreover owners put a long-term existence and a constant growth of their wealth on the first place. This approach to the evaluation and management of the firm's efficiency puts the interest of its owners on the first place. Moreover the creation of a value and wealth for the owners is considered as a main objective of a firm. The long-term strategy is a logical ending of the two previously mentioned reasons. At present, the most of firms are concentrated, from the objectives' viewpoint, on the maintenance of a market position, or on its strengthening.

*Table nr. 1: The order of firms at the first ten places creating the economic value added in 2005*

Rank	2004	Company	EVA (in mil. CZK)	EVA change (in mil. CZK)	WACC
1	13	ŠKODA AUTO a.s.	4485.9	3 729. 7	7.08%
2	-	ČEZ. a.s.	3555.2	10 580 .0	8.23%
3	1	RWE Transgas. a.s.	3161.6	248. 8	8.51%
4	3	Philip Morris ČR a.s.	2633.8	224. 0	9.18%
5	5	Plzeňský Prazdroj. a. s.	2297.1	826. 8	8.5%
6	4	T-Mobile Czech Republic a.s.	2123	-117. 9	9.13%
7	33	STROM telecom. a.s.	1984.9	1 636. 7	9.13%

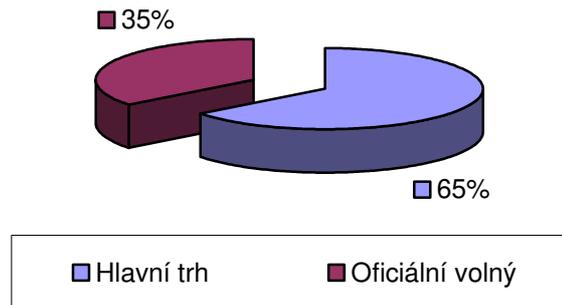
Rank	2004	Company	EVA (in mil. CZK)	EVA change (in mil. CZK)	WACC
8	6	JOHNSON CONTROLS A.S.. k.s.	1553.5	288. 4	8.66%
9	16	Moravské naftové doly. a.s.	1495.9	913. 1	7.68%
10	11	Zentiva a.s.	1158.5	318. 1	8.37%

Source: <http://www.cekia.cz/tiskove-zpravy.php?rok=2006#zprava-58> downloaded 5.5.2008

### **The evaluation of EVA in the conditions of firms traded at the Prague Stock Exchange**

Firms were included in the previous table though, which are not joint stock companies along with firms whose stocks are not traded on the public markets. In the analytical part, this paper will concentrate on the firms whose stocks are traded on the Prague Stock Exchange. Currently the stock market is divided into two markets – the main market and the official free market on the Prague Stock Exchange (hereafter PSE). The main market is intended for issues of firms willing to provide continuously information concerning their economic situation. The placing of an issue on these markets is a prestigious matter for an issuer. Twenty firms represent 65 % of the total amount of the traded stocks. This situation is apparent also from the graph. The official free market is intended for other firms, which want their stocks and bonds to be realized on the Stock Exchange. However, they do not fulfil the set requirements of the more prestigious markets so far; or they are not interested in other Stock Exchange markets. In this market of the PSE eleven firms trade, representing thus the remaining 35 % of the market. This situation is proved by graph nr. 1.

*Graph nr. 1: The allocation of firms in particular stock markets of the Prague Stock Exchange*



Source: Own and [www.pse.cz](http://www.pse.cz)

According to the number of traded firms (31 titles of stocks), it is possible to mark the PSE as a small market though. It is also possible to find among these stocks three foreign titles (PEGAS, NONWOVENS, ECM and Zentiva) as well as to state that the most of firms have also a strategic foreign partner. This influence of the strategic foreign partners expressed itself in the necessity of the efficiency's evaluation on the basis of classical ratio indicators but as well on the basis of EVA.

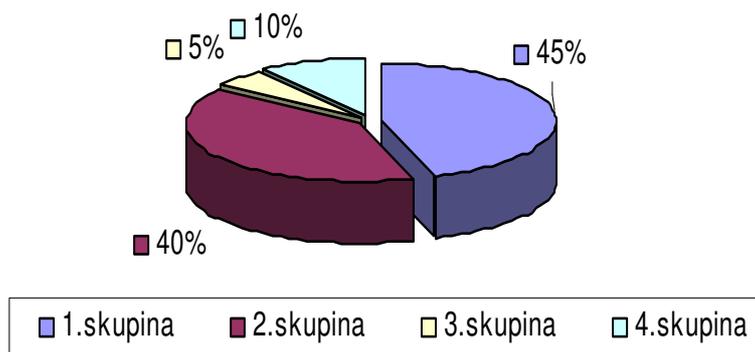
Throughout the evaluation of the economic value added, in the conditions of the Czech Republic, the model of the Ministry of Industry and Trade dividing firms into four basic categories is applied. This one takes into account particular parameters of the economic value added – the costs of the shareholders' capital, risk free interest rate and the parameter of the evaluation of the firm's efficient performance – the profitability of a shareholders' capital. Based on these criteria, the particular categories are as follows:

- 1<sup>st</sup> category represents firms creating the economic value added and values of their shareholders' capital profitability are higher than values of shareholders' capital costs.
- 2<sup>nd</sup> category represents firms whose ROE is not higher than the shareholders' capital costs though, but it is higher than the rate of profit of risk free asset;
- 3<sup>rd</sup> category are firms, which have a lower ROE than the rate of profit of risk free asset, yet they still show a positive ROE;

- 4<sup>th</sup> category represents firms whose profitability is negative, or they have a negative value of the shareholders' capital.

The inclusion of a firm into one of these categories itself indicates the level of the firm's economic situation. It is based on the proceeded calculations of the shareholders' capital costs and economic value added in particular firms for the business year 2006. The annual reports of all the firms with the stocks traded at the PSE were applied for the calculations. It was the calculation of the economic value added, which proved that the risk factor included in it in the form of shareholders' capital costs, could play a significant role during the evaluation of a firm. Not all the firms achieved the positive values of the shareholders' capital profitability in the final results among firms creating the economic value added. This means that the risk run by the shareholders of these firms did not always cover the risk related to their investment. The average costs of the shareholders' capital and the PSE were 12,46 % in 2006. This simultaneously meant that on average the risk of shareholders was evaluated at 8,76 %. As a result of the carried out analyses, the following division of the firms into particular groups in the particular markets of PSE was found out.

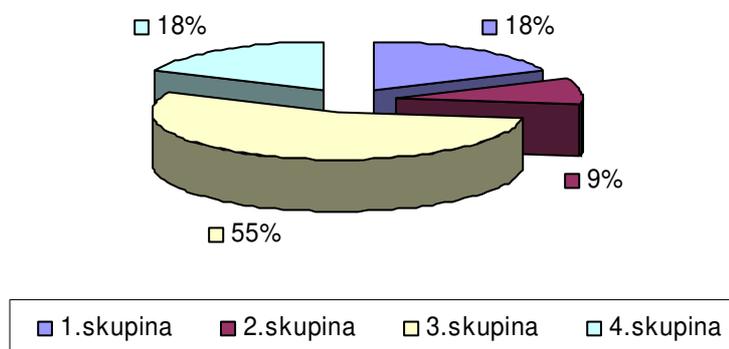
*Graph nr. 2: Division of firms in the main market of the PSE according to the methodology of the Ministry of Industry and Trade of the Czech Republic*



Source: Own calculations on the basis of annual reports of particular firms

It is evident from the graph nr. 2 that the situation in the prestigious market in the Czech Republic corresponds to the firms' representation in the particular groups. In the main market of the PSE, twenty firms are traded. Nine out of twenty firms, which have been analyzed, reached the economic value added and eight firms reached the values of the shareholders' capital profitability lower than the costs of shareholders' capital though. On the other hand, the level of the risk free interest rate in 2006 – i. e. 3,7 %<sup>2</sup> was higher. Slightly startling is the fact that in this prestigious market two firms appeared with a negative income from operations. This ranks them automatically into the group nr. 4. The firms' representation in particular groups in the second market of the PSE is significantly different than in the official free one.

Graph nr. 3: *The division of firms in the official free market of the PSE according to the methodology of the Ministry of Industry and Trade of the Czech Republic*



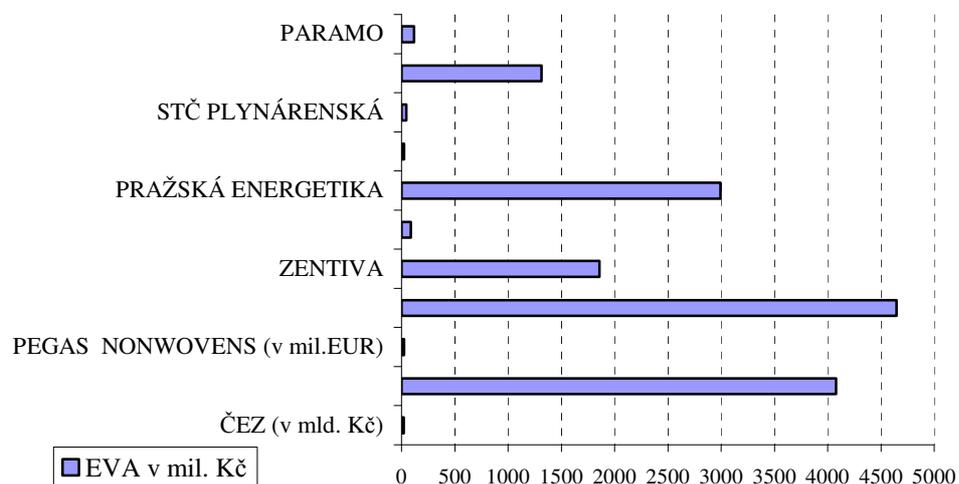
Source: Own calculations on the basis of annual reports of particular firms

It is evident from the Graph nr. 3 that in the official free market the most firms are represented in the third group. This is not a very positive statement. In the case of these firms their value of shareholders' capital profitability did not reach even the height of the risk free interest rate. Together with the fourth group, which shows a negative income from

<sup>2</sup> This appears from the interest rates of government bonds issued for the period from 10 to 15 years and information at [www.mfcr.cz](http://www.mfcr.cz)

operations, this part of a market represents firms being little successful (73 % of firms in this market is under the level of an efficient investment). This situation is even more surprising when we consider the fact that the Czech economy reached the economic growth in the amount of 6,1 %<sup>3</sup> in 2006. However, for the alleviation of the gloomy stance to this market it is necessary to mention that there are eleven firms represented.

Graph nr. 4: EVA values in firms (first group), traded at the PSE (values are in mil. CZK).



Source: Own calculations on the basis of annual reports of particular firms

In relation to the fact that in the main market twenty titles of stocks are traded, it is understandable that there are also more firms creating the economic value added. Out of the total sum of eleven firms creating EVA nine are from the main market and only two from the official free market. All firms from the Prague Stock Exchange in the graph creating EVA are included (what means that the value of their shareholders' capital profitability exceeds the value of shareholders' capital costs<sup>4</sup>). In addition to this, Philip Morris ČR, a.s. is ranked among the official free

<sup>3</sup> Source: Czech Statistical Office

<sup>4</sup> The calculation had been carried out on the basis of the methodology of the Ministry of Industry and Trade of the Czech Republic.

market figures, which is one of the ten most traded firms on the Prague Stock Exchange in the long-term. It is also the firm, which creates the economic value added in the long-term. What is interesting is the perspective of the collocation of the business branch in the successful firms. As it follows from the graph the greatest representation has energetics (45,5 % from the total sum of firms with EVA). At the first glance this could seem as the optimal investment in the Czech stock market. Unfortunately it is necessary to state that investing into the stocks of energetic firms shows that four out of our five energetic firms have a majority owner; such stock trading does not exist. However, the last from the five energetic firms – ČEZ – ranks in the long-term among firms with the highest trade volume.

## **Conclusion**

The use of the economic value added as an instrument of the efficiency's evaluation. It is advantageous namely from the shareholders' viewpoint as the shareholder gets a view of a comparison of the investment's risk rate with effects brought to him by an investment. In the costs of the shareholders' capital, the risk beyond the bounds of investment into the risk free stocks and bonds in the form of government's obligations issued for the time horizon of ten or more years are gathered. s. On the Prague Stock Exchange 35 % of firms from the total number of joint stock companies are ranked here seeing that trading creates the economic value added. Conversely to this, 32 % of the firms fall under the level of the risk free interest rate and 4 firms showed a negative income from operations in 2006. Average costs of the shareholders' capital at the Prague Stock Exchange amounted to 12,46 % in 2006. This simultaneously meant that on average the risk of shareholders was evaluated at 8,76 %. This is the value beyond the bounds of the risk free interest rate of 3,7 %. In the branch of energetics, a joint stock company ČEZ, created the highest added value, what seems the most effective from the viewpoint of the created economic value added.

## **Literature:**

1. RŮČKOVÁ, P. Finanční analýza. Distanční studijní opora. Karviná: OPF SLU 2005. 193 str. ISBN 80-7248-299-8

2. RŮČKOVÁ, P.: Finanční analýza, metody, ukazatele a využití v praxi. Praha: Grada Publishing 2007. ISBN 978-80-247-1386-1
3. RŮČKOVÁ, P. The Relationship of Management of Capital Structure and Ratios of Profitability in the Select Firms. In.: „*The 4<sup>th</sup> International Symposium ECONOMY & BUSINESS 2005: Economic Development and Growth*“. Bulharsko: Bulgarian Academy of Science, Union of Scientists in Bulgaria 2005. ISBN 954-9368-12-2
4. jednotlivé výroční zprávy akciových společností
5. [www.cekia.cz](http://www.cekia.cz) (downloaded 5.5.2008)
6. [www.mpo.cz](http://www.mpo.cz) (downloaded 21.3.2008)
7. [www.pse.cz](http://www.pse.cz) (downloaded 21.3.2008)
8. [www.czso.cz](http://www.czso.cz) (downloaded 21.3.2008)
9. [www.ranking.cz](http://www.ranking.cz) (downloaded 21.3.2008)
10. [www.mfcr.cz](http://www.mfcr.cz) (21.3.2008)

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